



State of New Hampshire

GENERAL COURT

CONCORD

DATE: November 1, 2022

TO: Honorable Chris Sununu, Governor
Honorable Sherman Packard, Speaker of the House
Honorable Chuck Morse, President of the Senate
Honorable Paul C. Smith, House Clerk
Honorable Tammy L. Wright, Senate Clerk
Michael York, State Librarian

FROM: Representative Rosemarie Rung, Chair

SUBJECT: Third Interim Report of the Commission on the Environmental and Public Health Impacts of Perfluorinated Chemicals, RSA:126-A:79-a (2019)

Pursuant to RSA:126-A:79-a (HB 737, Chaptered Law: 335:1 Laws of 2019) please find enclosed the third interim report of the Commission on the Environmental and Public Health Impacts of Perfluorinated Chemicals. If you have any questions or concerns about this report, please contact me.

I want to convey my thanks to those members of the Commission who were instrumental in this study. I would also like to acknowledge all those who testified before the Commission and its subcommittees and assisted in our work to date.

Members of the HB737 Commission:

- Rep. Rosemarie Rung, Chair
- Ms. Laurene Allen – Merrimack citizen representative
- Mr. Joseph Ayotte –U.S. Geological Survey
- Mr. Chris Bandazian - Bedford government representative
- Rep. Ralph Boehm
- Dr. Kathleen Bush – NH Department of Health and Human Services
- Sen. Sharon Carson
- Rep. Jacqueline Chretien
- Ms. Amy Costello – UNH
- Sen. Gary Daniels
- Rep. Tom Dolan – Londonderry government representative
- Mr. Ron Dunn – Londonderry citizen representative
- Rep. Bob Healey
- Hon. Richard Lascelles – Litchfield government representative
- Hon. Mindi Messmer

- Rep. Maureen Mooney
- Hon. Nancy Murphy – Merrimack government representative
- Mr. Don Provencher, environmental engineer
- Mr. Michael Strand, Bedford citizen representative
- Mr. Michael Wimsatt – NHDES
- Hon. Gary Woods - NH Medical Society

The Commission was not able to meet in person due to restrictions placed on the use of the Legislative Office Building. I want to express deep appreciation to the NH Department of Environmental Services (NHDES) and particularly Ms. Amy Rousseau, for facilitating remote public meetings for our Commission and its subcommittees. Without her gracious and efficient support, our work would have been severely limited.

Please note that members of the Commission on the Environmental and Public Health Impacts of Perfluorinated Chemicals agree to the filing of this interim report by the Chair. This action should not be construed in any way as adoption of any agency or organization positions.

Executive Summary

This report builds on information and findings documented in the first and second Interim Report¹ of the HB737 PFAS Commission. Please refer to those documents for historical and background information.

The number of households found with PFAS-contaminated wells continued to grow in 2022. At the time of this report, approximately 2,300 households in Merrimack, Bedford, Litchfield and Londonderry have private domestic well water that exceeds the Maximum Contaminant Levels for at least one PFAS. Saint-Gobain Performance Plastics (SGPP) has offered bottled water to a total of 1,012 residences inside the Outer Boundary, of which 76 were added in 2022 based on the ongoing sampling. Although SGPP is considered the primary source of this contamination, other industrial sources may also be contributors.

This year marks the fifth year that many residents with contaminated wells have been reliant on bottled water, however, a plan has been agreed upon by SGPP and NH Department of Environmental Services (NHDES) to transition homes to municipal water supply connections or point of entry (POET) systems. The April and June 2022 agreements between SGPP and NHDES provide alternate water remedies to 1,134 properties within the Consent Decree (CD) outer boundary, including connections to municipal water lines for 529 properties and the installation of POET systems at 605 properties. Design work and coordination of municipal water line connections are underway and Saint-Gobain indicated construction is expected to begin in 2023. Installation of POET systems is anticipated to start in the fall of 2022 and is estimated by Saint-Gobain to take approximately one year to complete. 782 wells located within four towns in areas that are outside the outer boundary of the Consent Decree have

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contamination above standards. Contamination of some of these wells is primarily attributable to other sources, but for many of these wells, the contamination is potentially attributable to SGPP's emissions. The CD agreement exempts SGPP from assuming mitigation of those wells unless the contamination level exceeds the EPA 70 ppt combined PFAS/PFOS limit established in 2016. In response, the State has established a Rebate Program to help fund installation of Point of Entry Treatment (POET) systems or connection to public water systems at these properties. This program is funded using a combination of funds from the Drinking Water & Groundwater Trust Fund and the PFAS Remediation Grant and Loan Fund Program (State general funds).

Mitigation of source contamination at SGPP progressed with the installation of a regenerative thermal oxidizer (RTO) in July 2021 with performance testing completed in September 2021. During 2022, the RTO experienced mechanical failures which temporarily shut down its operations on several dates, sending PFAS-containing emissions through a bypass stack and directly into the atmosphere.

The table below shows the dates of RTO bypass events and the total minutes during which emissions were released while the facility was safely shutting down production.

Date of RTO Bypass Event	Bypass Minutes
1/4/22	100
1/5/22	50
1/11/22	6
1/15/22	252
1/19/22	75
2/3/22	34
2/9/22	499
2/19/22	89
4/8/22	22
4/16/22	191
4/20/22	26
4/21/22	11
4/23/22	14
4/30/22	99
5/10/22	6
5/12/22	5
6/1/22	12
6/14/22	4
6/29/22	12
7/25/22	240
7/28/22	196
9/6/22	12
9/15/22	4

Although municipal water connections and POET systems supported by the Rebate Program will reduce the residential exposure to PFAS and provide some financial relief, it does not erase the long-term maintenance of POET systems, the bills for newly-connected municipal water, and the worry about health impacts from years of PFAS exposure. Granite State leaders and advocates must maintain a steadfast commitment to reducing and eliminating the threat PFAS poses to our health and environment.

This report includes updates to recommendations the Commission made last year, as well as recommendations we are making this year.

Background

Per- and poly-fluorinated alkyl substances (PFAS) are a class of synthetic chemicals used in a variety of industrial and commercial applications. They do not exist naturally and they are highly persistent in the environment. Termed “forever chemicals,” PFAS accumulate in nature and in physiological systems. They have been linked to many serious health concerns, including increased risk of kidney and testicular cancer, increased risk of high blood pressure or pre-eclampsia in pregnant women, decreased vaccine response in children, high cholesterol, and changes in liver enzymes.²

Following discovery of PFAS groundwater contamination from the SGPP facility, the NH Department of Environmental Services and SGPP entered into a Consent Decree³ to mitigate and remediate the contamination. In 2019, NH HB737 was passed into law to “establish a commission to investigate and analyze the environmental and public health impacts relating to releases of perfluorinated chemicals in the air, soil, and groundwater in Merrimack, Bedford and Litchfield.” The town of Londonderry, later identified as having PFAS contamination, was added to the Commission through legislation passed this year (HB256).

2022 Legislative Progress

The bills tracked in 2022, as well as their outcomes, are as follows:

- **HB 478**, an act relative to requiring SGPP to maintain the future operation and maintenance of treatment of PFAS contaminants in the drinking water at wells 4 & 5 of the Merrimack Village Water District. **Recommended for interim study.**
- **HB 1452**, an act renaming the department of environmental services the department of environmental protection and assigning the department oversight of private drinking water wells. **Recommended for interim study.**
- **HB 1618**, an act adding several perfluorinated chemicals to the list of per and polyfluoroalkyl substances with maximum contaminant levels and establishes a cumulative total for the maximum contaminant level of per and polyfluoroalkyl substances. **Recommended for interim study.**
- **HB 1602**, an act relative to perfluorinated chemicals in drinking water. **Recommended for interim study.**

² <https://www.atsdr.cdc.gov/pfas/health-effects/index.html>

³ <https://www4.des.state.nh.us/nh-pfas-investigation/wp-content/uploads/2018/03/final-cd-20180320.pdf>

- **HB 1185**, an act relative to treatment of water contaminated with perfluorinated chemicals. **Passed into law as amended.**
- **HB1167**, an act establishing a maximum contaminant level for perfluorinated chemicals in surface water. **Recommended for interim study.**
- **HB1547**, an act relative to per fluorinated chemical remediation in soil and procedures for certain hazardous waste generators. **Passed into law as amended.**
- **HB1440**, an act relative to surface water quality standards for perfluorinated chemicals. **Recommended for interim study.**
- **HB 1589**, an act prohibiting the sale of products containing intentionally-added PFAS. **Recommended for interim study.**
- **HB1546**, an act enabling the commissioner of the department of environmental services to adopt rules relative to airborne PFAS in certain circumstances. **Passed into law as amended.**
- **SB341**, an act relative to treatment of PFAS contaminants in the drinking water of the Merrimack Village Water District. **Laid on the table.**
- **HB1422**, an act requiring warning labels on consumer products containing perfluorinated chemicals. **Inexpedient to legislate.**
- **SB455**, an act requiring the commissioner of the department of environmental services to adopt ambient groundwater quality standards for certain per and polyfluoroalkyl substances. **Inexpedient to legislate.**

Progress on 2022 Non-Legislative Recommendations

1. Communication with impacted communities
 - a. An information session was hosted by the federal Agency for Toxic Substances and Disease Registry (ATSDR) on February 2, 2022, with support by NH's APPLETREE Program (ATSDR's Partnership to Promote Local Efforts to Reduce Environmental Exposure), regarding ATSDR's draft Health Consultation for PFAS in Southern NH. NH's APPLETREE program hosted a follow-up meeting on February 22, 2022 to help southern NH residents to understand the process for submitting comments on the draft.
 - b. NHDES hosted a Rebate Program information webinar on August 3, 2022 to prepare eligible property owners to apply for rebates. As part of this effort, NHDES provided outreach and education regarding the relative benefits and costs associated with public water system connections and POET systems. This program is in active implementation, with over 200 applications received so far.
 - c. NHDES hosted "Rebate Program Office Hours" in Londonderry from 2-7 PM on September 21, 2022 to assist property owners to apply for rebates.
 - d. Although specific summaries and monthly updates were not proactively submitted to local town councils, local government officials represented on the Commission were in a position to provide those updates.
 - e. A one-page fact sheet for each town on testing information, test results, and next steps, was not created as recommended last year.

2. A Londonderry citizen representative was added to the Commission as well as filling the second environmental scientist position.
3. An updated Merrimack Cancer Report was released in December 2021.
4. The following were not achieved: impact and soil testing of agriculture segments, labeling of PFAS-free water sources, requiring PFAS testing for real estate transfers.
5. HB 1569 to require NHDES to maintain a public registry of where certain fire suppressants have been used was not refiled.
6. Resubmission, development of provider PFAS education (2020 HB 1538) was not pursued as this legislation has been passed at the federal level.
7. Legislative proposal to create a chronic disease data dashboard was not pursued.
8. Resubmission of 2020 HB 1274 requiring bottled drinking water sold to the public meet the same maximum contaminant levels established for public drinking water was not done.
9. Resubmission, 2020 HB661 relative to claims for medical monitoring was not done.
10. Create a PFAS blood test registry was not done.

Investigative Summary - Environmental

The focus on statewide PFAS contamination risk identification, evaluation, and response to ensure safe drinking water has required significant NHDES time and resources. Elevated demands on the agency will persist well into the future, particularly as anticipated Federal drinking water standards are rolled out that may include the regulation of additional PFAS compounds, lower MCLs for regulated compounds, and combined limits.

Preliminary results of the NHDES-USGS soil study have become available, and although subject to ongoing verification, PFAS levels at some soil sampling sites have exceeded anticipated background levels. If confirmed, one implication is that the source of contamination may not be reasonably identifiable for certain locations. As important as it is to determine a contamination source for remediation and determination of legally responsible parties, the primary emphasis must always be on identification of locations at elevated risk of drinking water contamination, rapid notification to those at risk, and ensuring the availability of safe drinking water.

The Environmental Subcommittee also evaluated PFAS risks in commercial and home food production in New Hampshire. The sources of agricultural PFAS contamination are highly varied and include contaminated soil, irrigation with a contaminated water source, and application of PFAS-containing agricultural products. In some studies, elevated PFAS levels in agricultural products is linked to both industrial releases and the application of contaminated substances. A preliminary indication from the NHDES-USGS soil study is that contamination associated with the agricultural application of biosolids may be linked to additives rather than to the use of biosolids alone. Because of the variability in the causes of PFAS contamination in agricultural products and variability in the degree of risk, the Environmental Subcommittee strongly recommends the New Hampshire Department of Agriculture and/or the UNH Cooperative Extension develop and distribute information and guidelines concerning PFAS contamination in home and commercial food production.

Evaluation continues on the construction, operation, and maintenance of granulated activated carbon treatment of Merrimack Village District (MVD) wells. Monitoring of breakthrough of PFAS from the adsorbent media is providing insight to inform existing and future treatment measures and determine fiscal impacts, both to the MVD and other state systems. Regular testing of MVD wells has yielded data on increases in PFAS levels associated with increases in the volume of groundwater withdrawals and seasonal changes. These results emphasize the need for sampling and resampling of private wells and/or monitoring wells statewide under different seasonal conditions, and, if applicable, in the vicinity of areas of large groundwater extractions.

Testing of groundwater wells within the Consent Decree outer boundary remains incomplete, however, groundwater contamination attributed to SGPP air emissions is now evident in adjacent areas beyond the outer boundary. Through repeat sampling inside and outside the outer boundary, the dispersion of groundwater contaminants is being studied to obtain a better understanding of the dynamics of contamination. Outside the GMZ, the State is providing impacted property owners with notification letters, testing, and limited funding for the installation of permanent alternate water systems. The anticipated issuance of Federal PFAS MCLs may have profound impact on remediation efforts in areas contaminated by SGPP. Obtaining a better understanding of the influences is dependent upon the terms of the SGPP groundwater management permit currently under development.

The efficacy of the regenerative thermal oxidizer at the Merrimack SGPP facility continues to be an area of concern as well as the occasion when the bypass stack is employed. Priorities need to include SGPP's prompt notification to NHDES and the public of bypass use, data preservation, and qualitative and quantitative analysis by NHDES of the air release of PFAS compounds resulting from bypass use.

Finally, SGPP has failed to conduct testing of PFAS in stormwater and wastewater with the 2022 drought cited as a reason for the lack of data collection and analysis. Wastewater and municipal stormwater contamination is subject to Federal regulation under the Clean Water Act; compliance with which is under the authority of EPA Region 1. The State's role is to set surface water quality standards and to report when those standards are not met. The so-called 303(d) list of impaired waters, which is developed by the State and used by the EPA, does not presently include impairments due to PFAS contamination because the State does not have PFAS surface water quality standards. At such time as funding becomes available, we strongly recommend PFAS testing of stormwater when surface water contamination is suspected, and subsequent State updates to the 303(d) list if standards are not met.

Investigative Summary - Health

In January 2018, the DHHS released a report of their analysis of cancer incidence in Merrimack, which was completed in response to community concerns related to the detection of perfluorooctanoic acid (PFOA) drinking water contamination. This report showed that cancers associated with PFOA were not higher in Merrimack when compared with the rest of New Hampshire.

In December of 2021, DHHS shared the results of an updated analysis of cancer incidence in Merrimack which showed a statistically significant excess of kidney cancer cases in Merrimack, when compared to the rest of the state. Results of these analyses were shared with the Commission.

In December 2021, the DHHS began convening the Cancer Concern Review Team (CCRT) for the purpose of guiding next steps of an investigation into the excess of kidney cancer in Merrimack, NH. The CCRT has worked to complete additional data analysis to complete the assessment phase of the investigation. As these analyses are completed the CCRT will make a conclusion about whether to progress into determining the feasibility of conducting an epidemiological study. A draft report sharing the results of additional data analyses and decision-making is being reviewed internally and will be shared upon approval.

DHHS launched an updated website in May 2022. The new website includes a dedicated page for environmental health (including PFAS) with resources from both state and federal partners: [Poly- and Per-fluoroalkyl Substances \(PFAS\) | New Hampshire Department of Health and Human Services \(nh.gov\)](#)

Both HB737 Commission and the SB85 Commission on Environmentally-Triggered Chronic Illness identified the need for health provider education on PFAS. This training began with a presentation at the Northern New England Nurse Practitioners Conference on April 8 by Margaret DiTulio, DNP, APRN, MBA who is also a member of the SB85 Commission. It was supported, and in concert, with NHDES and NHDHHS.

Recently, towns with historical or known environmental exposures have received multiple communications regarding drinking water quality. To clarify the messages of multiple reports, written for distinct and separate purposes, APPLETREE engaged the Agency for Toxic Substances and Disease Registry (ATSDR) and these communities.

The ATSDR Health Consultation [Report](#) was released on December 18, 2021: “Evaluation of Per- and Polyfluoroalkyl Substances (PFAS) in Private Wells near the Saint-Gobain Site in Southern New Hampshire, Merrimack, New Hampshire” followed by a public meeting and comment period.

The following recommendations are made for NH Legislative actions:

1. File legislation to establish a PFAS Response Fund for scientific investigation, testing and monitoring of PFAS.
2. File legislation to create a state-wide registry to collect and monitor health impacts cited in scientific literature as being linked to PFAS exposure. The registry will not contain patient identifiers.
3. File legislation to create a feasibility study to understand how existing health data collection processes can be leveraged to collect data of PFAS-linked health impacts.
4. Resubmit legislation from 2017 requiring agencies to enter into a memorandum of agreement to enable cross-agency data sharing (this may also be a recommendation of the HB85 Commission).

5. File legislation to fund and conduct an evaluation and assessment of cancer rates, like the 2018 report delivered to this commission for the town of Merrimack, for all towns known to be impacted by SGPP emissions.
6. File legislation to amend real estate conveyancing information, disclosure by seller or seller's agent, and notification requirements to add:
 - a. PFAS contamination (to the list of contaminants currently specified – radon, arsenic, and lead).
 - b. The seller's receipt of a NHDES Notification of Groundwater Contamination within 500' of the subject real estate (not limited to PFAS contaminants).

The following non-legislative recommendations are made:

1. Evaluation of EPA Interim Health Advisory, anticipated EPA MCLs to issue in the next 12 months, and other scientific studies and standards to develop recommendations for MCL/AGQS standards for PFAS compounds in addition to PFOA, PFOS, PFHxS, and PFNA and or develop recommendations for aggregate MCL/AGQS standards for PFAS compounds.
2. Pursue stricter adherence to rainwater and stormwater testing requirements.
3. Evaluate anticipated EPA CERCLA hazardous substance designation for PFOA and PFOS.
4. Explore adoption of PFAS surface water standards, similar to HB1167 and HB1440.
5. Consider adoption of PFAS soil standards (per HB 1547) to include alteration of terrain and agricultural use of PFAS containing soil and biosolids.
6. Assess the efficacy of remediation efforts at the SGPP Merrimack facility with regard to airborne contamination, groundwater contamination, surface water contamination, wastewater contamination, and soil contamination.
7. Require SGPP to provide NHDES with well monitoring data for all GMZ residences where POET installation has been/will be implemented. This data should be in a format suitable for analysis and publication biannually.
8. Prepare a communications plan that considers the following: informing residents of EPA's new PFAS advisories, a protocol for prompt public communication of PFAS-release incidences at SGPP, website assessment, effective dialogue with residents, opportunities to inform all impacted community members of the extent of PFAS contamination.
9. Assess the implementation and efficacy and cost of MVD GAC treatment.
10. Evaluate private wells in the vicinity of MVD wells to determine the correlation between PFAS levels in private wells and MVD groundwater extraction.
11. Inform existing training of town health officers on PFAS health guidance.

Although HB737 limits our study to the region impacted by Merrimack's SGPP operations, we recommend the following:

- Federal legislation to study the labeling of PFAS containing products sold in NH to warn against environmental release of PFAS containing products, to warn of health hazards associated with PFAS containing products, and to provide instructions on proper precautions to undertake in the use and disposal of PFAS containing products. Consider adopting a voluntary labeling certification to indicate that a product is manufactured without the addition of PFAS compounds.

- Federal legislation to define essential use of PFAS to limit their distribution in the environment.
- Creation of a regional committee, including municipal, town and citizen representatives, to create and coordinate a 5-year plan to best utilize federal and state funds earmarked for PFAS impacted communities to ensure our communities fairly receive permanent infrastructure solutions for safe drinking water.
- Monitor and review statewide PFAS contamination of private and/or public drinking water associated with past or present industrial PFAS use.
- An inventory (pursuant to Env-SW 309.01 and otherwise) and map of other statewide sites at risk for PFAS contamination of groundwater and/or surface water consisting of active and inactive landfills, fire stations/fire training facilities, and airports that are or were in use from 1940 to the present. Examine existing test results of monitoring wells or private wells in the vicinity of each site. In the absence of testing, assign risk levels to each location to prioritize and perform testing for MCL/AGQS exceedance. Respond to exceedances with appropriate notifications, alternate drinking water, and monitoring.
- A review of wastewater treatment facility PFAS contamination data and research including with regard to influent, effluent, and the disposal/incineration/use of biosolids, and monitor EPA regulatory activity.
- A request of UNH Cooperative Extension and NH Dept of Agriculture to develop and provide information to the public on PFAS testing recommendations and best practices to avoid PFAS contamination of commercial and home food production including with regard to irrigation sources and application of products including commercially produced soil, compost, fertilizers, biosolids, herbicides, and pesticides.
- A funding source for remediation of PFAS MCL/AGQL exceedances in groundwater, stormwater, or surface water associated with municipal landfills and firefighting.
- Responsible parties reimburse the reasonable costs of privately paid PFAS testing, POET systems, and municipal waterline connections.
- PFAS testing of newly drilled wells and reporting of exceedances to NHDES.

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