



State of New Hampshire

GENERAL COURT

CONCORD

MEMORANDUM

DATE: November 1, 2023

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

FROM: Chris Bandazian, Chair

SUBJECT: Fourth Interim Report of the Commission on the Environmental and Public Health impacts of Per- and Polyfluorinated Chemicals
RSA 126-A:79-a (HB 737, Chaptered 335:1, Laws of 2019)

Pursuant to RSA 126-A:79-a (HB 737, Chapter 335:1, Laws of 2019), enclosed please find the Fourth Interim Report of the Commission on the Environmental and Public Health impacts of Per- and Polyfluorinated Chemicals.

If you have any questions or comments regarding this report, please do not hesitate to contact me.

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

Enclosure

cc: Members of the Commission

FOURTH INTERIM REPORT

COMMISSION ON THE ENVIRONMENTAL AND PUBLIC HEALTH IMPACTS OF PER- AND POLYFLUORINATED CHEMICALS

RSA 126-A:79-a (HB 737, Chapter 335:1, Laws of 2019)

November 1, 2023

Members

- Ms. Laurene Allen – Merrimack citizen representative
- Ms. Lea Ann Atwell – NH Department of Health and Human Services
- Mr. Joseph Ayotte –U.S. Geological Survey
- Mr. Chris Bandazian - Bedford government representative
- Senator Sharon Carson
- Ms. Amy Costello – UNH
- Representative Tom Dolan – Londonderry government representative
- Representative Ron Dunn – Londonderry citizen representative
- Representative Bob Healey
- Hon. Richard Lascelles – Litchfield government representative
- Hon. Mindi Messmer
- Representative Maureen Mooney
- Representative Nancy Murphy – Merrimack government representative
- Mr. Don Provencher, environmental engineer
- Senator Denise Ricciardi
- Representative Rosemarie Rung
- Ms. Amy Rousseau - NHDES
- Mr. Michael Strand, Bedford citizen representative
- Mr. Michael Wimsatt – NHDES
- Dr. Gary Woods – NH Medical Society

Commission Charge and Study Purpose:

To study environmental and public health impacts resulting from per- and polyfluorinated chemicals (PFAS) releases to the air, soil, and water in Merrimack, Litchfield, Londonderry, and Bedford

Process and Procedures:

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 Study Commission on the Environmental and Public Health Impacts of Perfluorinated Chemicals agree to the filing of this report by the Chair. This action should not be construed in any way as an adoption of any position by any individual commission member or state agency or organization they represent on any of the recommendations of the Study Commission.

Findings:

Executive Summary

This marks the fourth annual report of the 2019 HB737 Commission. The Study Commission's final report is to be issued on or before November 1, 2024, coinciding with the end of the current biennium. Unfortunately, the continuing environmental and health impacts resulting from PFAS contamination caused by the Saint-Gobain Performance Plastics (SGPP) Merrimack factory will persist far into the future.

At the present time, SGPP has not completed water sampling within the Consent Decree (CD) area delineated in March 2018. Just in 2023, 71 additional homes were discovered to have PFOA (the primary contaminant from SGPP) at levels higher than the Maximum Contaminant Level (MCL) set by the State.¹ Approximately 845² homes continue to rely on bottled water while awaiting municipal water connections, installation of a Point of Entry Treatment (POET) system, or laboratory confirmation that effluent from an installed POET is at the non-detect level for the four regulated PFAS contaminants.

Many properties with drinking water wells exceeding the MCL for PFOA lie just outside the CD boundary and beyond the financial responsibility of SGPP determined by the CD. The State funded and implemented a rebate program in 2023 to reimburse property owners for the cost of water line connections (up to \$10,000) and POET installations (up to \$5,000) for these properties. Federal income tax on these rebates leaves the property owners less than fully reimbursed.

PFAS air emissions from the SGPP factory have decreased substantially since a Reactive Thermal Oxidizer (RTO) became operational on July 14, 2021. After initial performance issues were resolved, stack testing in September 2022 and September 2023, which was conducted with two DES staff members on site, demonstrated acceptable performance of the RTO system. However, emissions continue to be permitted when the RTO is bypassed for circumstances detailed in SGPP's air permit. So far in 2023, there have been eleven occasions when the RTO has been bypassed totaling 3.5 hours. A final permit to operate was granted in June 2023 despite the opposition of many officials and residents raised during a public hearing and comment period. In August 2023, SGPP announced its intention to cease operations at the Merrimack factory in 2024. Unfortunately, years of SGPP air emissions and PFAS deposition over an area

¹49 of these homes initially tested below the MCL for PFOA; and the exceedance was discovered upon resampling, in many instances years after the initial test.

²As of September 29, 2023.

exceeding 64 square miles will continue to cause groundwater contamination in the region for the indefinite future.

In 2024, SGPP's Groundwater Management Permit is anticipated to be issued with a robust monitoring well program in part because a significant percentage of wells exceed MCL's on resampling that initially tested below MCL's. Despite the plant closure, monitoring and enforcement by the State will be required to ensure SGPP's compliance. In addition, remediation of contamination at the SGPP site itself is a concern with the decommissioning of the plant and reuse of the site.

The health impacts of PFAS exposure require continued evaluation and vigilance. Elevated rates of kidney/renal cancer in Merrimack have led to the approval this year of funds to conduct a Phase III Cancer Study. Pending legislation will allow expanded blood testing to collect more data for health impact assessment. Outreach to the medical community has advanced with the development of a fact sheet (*Per- and Polyfluoroalkyl Substances (PFAS): Guidance for New Hampshire Clinicians*)³ and a seminar presentation at the 2023 New Hampshire Nurse Practitioner Conference.

Investigative Summary - Environmental

Over the past year, the Study Commission has reviewed a substantial body of accumulating evidence demonstrating the persistence and breadth of PFOA contamination despite diminished use industrially and in consumer products. Concurrently, Federal health-based standards have progressed towards expected finalization in 2024 which will establish lower maximum contamination (MCL) levels for the four PFAS compounds currently regulated by the State of New Hampshire⁴ with the addition of MCL's for "GenX" (HFPO-DA) and PFBS. These developments will require a reassessment of the breadth of contamination and a recalibration of remediation responses.

With regard to the Saint-Gobain Performance Plastics (SGPP) site, the recently announced intention to close the Merrimack facility has raised additional concerns looking forward. In 2023, the stormwater study at the site that was delayed by drought was completed, regenerative thermal oxidizer performance and bypass operation (demonstrating a pattern of recurrence due to power failures) were monitored, the Air Permit for the facility was approved by NHDES, and the Site Remediation Plan is under negotiation. While closure of the facility may attenuate concerns for further burdening the region with PFAS contaminants, consideration should be given to whether "best available technology" should remain the standard that should be applied with environmentally and biologically persistent, accumulative contaminants. Closure of the facility also raises concerns arising out of future reuse of the site, safe decommissioning of the facility, the leaching of contaminants into the Merrimack River which serves as a drinking water source for hundreds of thousands of people downstream, and the efficacy of efforts to hold SGPP financially responsible for testing and remediation, particularly with regard to issues where SGPP has demonstrated resistance.

³ https://www.dhhs.nh.gov/sites/g/files/ehbemt476/files/inline-documents/sonh/medical-provider-pfas-factsheet-final_4.pdf

⁴PFOA, PFOS, PFHxS and PFNA.

In the region immediately impacted by the SGPP facility, 2023 also has seen the implementation of a number of remedial measures including the commissioning of granulated activated carbon (GAC) treatment at Merrimack Village District (MVD) wells 2 and 9 completing systemwide PFAS treatment, the start of POET system installation and additional water line extensions in the SGPP Groundwater Management Zone (GMZ), initiation of a SGPP rebate program for well owners in the GMZ who purchased their own POET systems and a State rebate program to reimburse⁵ well owners outside the GMZ for the cost of installing POET systems or connecting to existing water lines. Omitted from rebate eligibility are MVD customers who purchased treatment systems before MVD treatment came online. The anticipated Federal MCL's will require much broader implementation of remedial measures. This will be the third iteration of remedial measures and will warrant further study and monitoring.

As of September 29, 2023, a total of 3,845 properties in the CD area were identified for sampling. Of those responding, 2433 samples were collected with 1099 properties offered bottled water as a result of exceedance of the current New Hampshire MCL's. Since approval of the 2018 CD, 543 water line connections and 683 POET's have been proposed.

Also as of September 29, 2023, second samples were collected from 924 water supply wells in the CD area. Resampling studies of both private drinking water wells and of Merrimack Village Water District (MVD) raw well water continue to demonstrate variable groundwater contamination levels. 30% of the resampled private wells that initially tested slightly below MCL's have demonstrated contamination above MCL's on resampling. 10% of the resampled private wells that were initially tested at or slightly above non-detection levels have subsequently demonstrated contamination above MCL's. MVD raw water tests are similarly variable and continue to demonstrate a migration of PFAS contaminated groundwater that correlates with seasonal increases in pumping from MVD wells. While proximity to the SGPP facility, hydrogeologic, climatologic, seasonal, and other environmental factors likely play a role in the periodic exceedances of MCL's at any given location, site specific evaluation is of limited predictive value. Resampling studies have not demonstrated a reassuring trend, and isolated test result below MCL's should not be a cause for complacency. This is a concern that applies statewide.

Evaluation of GAC treatment of MVD well water has continued to provide insight on the efficacy of GAC treatment, operation and maintenance issues, potential treatment enhancements, and the ongoing and future financial impact of PFAS treatment. PFAS breakthrough and PFAS bumping (displacement of PFAS compounds from treatment media by PFAS compounds with greater molecular affinity for the treatment media) is demonstrated in data regularly monitored by MVD and informs the frequency of costly treatment media replacement. Enforcement efforts by the State to place responsibility on SGPP to provide for the long-term maintenance of MVD PFAS treatment of wells 4/5 has not been resolved. State efforts to ensure that financial responsibility for these measures is ultimately borne by SGPP rather than ratepayers are strongly supported.

⁵Unfortunately, recipients of State rebates incur Federal income tax liability reducing their net recovery below their remediation costs.

Unfortunately, the testing of groundwater wells within the Consent Decree outer boundary remains incomplete for another year. Progress in providing permanent alternate drinking water has been slow. POET installations have picked up in pace over the course of 2023; however, the construction of planned water line extensions and connections will take place in 2024 and likely 2025. The issuance of updated MCL's is expected to greatly increase the fiscal impact and timeline to provide permanent alternate drinking water. It is now generally accepted that PFAS groundwater contamination from SGPP air emissions extends beyond the outer boundary of the GMZ and encompasses additional private and public wells including MVD wells. The GMZ was negotiated at a time when the extent of PFAS use at the SGPP plant was not fully disclosed and when the need for more stringent MCL's was not appreciated. Avoidance of financial responsibility for addressing contamination of private, public, and MVD wells beyond the outer boundary has resulted in a windfall for SGPP and cost shifting onto individuals and taxpayers. A more equitable resolution is strongly urged.

The results of the NHDES-USGS soil study have progressed towards finalization. Sampling sites were selected to establish a background level of PFAS soil contamination statewide with avoidance of focal sources of contamination. Low levels of contamination in shallow organic soils were detected nearly universally, including in remote areas. The most likely mode of contamination is from air deposition but from unidentified or unidentifiable sources. Generally, contamination did not extend below surface soils at the sampling sites. However, mobilization of contaminants in surface soils may present a risk of drinking water contamination. This suggests the possibility of requiring PFAS testing in areas where a large alteration of terrain is contemplated with implementation of containment and remediation measures where indicated by test results. The impact of the application of biosolids continues to be evaluated.

PFAS contamination of wetlands, stormwater, and wastewater remains a largely unexplored Study Commission concern. Wetlands, in many instances fed by stormwater, play a major role in groundwater recharge. The U.S. Supreme Court decision in *Sackett v. EPA* in May 2023 now limits EPA oversight to open waters connected to navigable interstate waters and adjacent wetlands with a continuous surface water connection. This significantly reduces Federal authority to regulate wetland and stormwater contamination. Because of the recency of the *Sackett* decision, the Study Commission has not begun to consider the ramifications of the withdrawal of Federal oversight.

Investigative Summary – Health

On January 13, 2023, DHHS presented the findings and recommendations of the *Cancer Incidence Report, Merrimack NH*⁶ to the Study Commission. The study demonstrated a kidney cancer incidence rate in Merrimack that was 42% greater than expected based on cancer incidence data from 2009 through 2018. Surrounding municipalities did not demonstrate a similar increased incidence. It was not within the scope of the survey to determine whether there was a relationship between the elevated cancer incidence rate and the consumption of PFAS contaminated drinking water. Phase III funded by the Legislature will explore the feasibility of engaging in further study.

⁶ <https://www.dhhs.nh.gov/sites/g/files/ehbemt476/files/inline-documents/sonh/cancer-incident-report-merrimack-nh-january2023.pdf>

At this time, the most robust blood testing conducted by commercial laboratory assays approximately 0.5% of the known PFAS compounds. A smaller number still has been the subject of medical research that has led to the identification of health risks and enactment of MCL's for an even smaller number of PFAS compounds. In addition, the study of adverse health effects due to bioaccumulation, biomagnification, and combinations of PFAS compounds is in its infancy. Given the pervasive exposure of the public to PFAS compounds and the nascent study of the resulting health impacts, the Study Commission has maintained a focus on raising clinician and patient awareness of risk factors, screening, early diagnosis and intervention, and maintaining a disease registry to inform future epidemiologic and clinical research. To this end, 2023 marked significant first steps with the publication of *Per- and Polyfluoroalkyl Substances (PFAS): Guidance for New Hampshire Clinicians* and the seminar presentation at the Nurse Practitioner Conference. Coupled with these New Hampshire initiatives, the Agency for Toxic Substances and Disease Registry has published a fact sheet for patients, *Talking to Your Doctor about Exposure to PFAS*.⁷ The Study Commission encourages considerably more outreach to clinicians and patients of this nature and through public service announcements.

Legislative Update and Accomplishments

1. Legislation to expand the PFAS fund to address other mitigation needs, specifically testing, passed. This was a 2022 recommendation.
2. Legislation to fund a Phase III cancer study passed into law. This emerged from discussions around the 2022 recommendations to create a state-wide registry to collect and monitor health impacts and the recommendation to create a feasibility study.
3. Legislation to adopt PFAS surface water standards was not filed as EPA standards are in process and may impact state standards.
4. Legislation to adopt PFAS soil standards was not pursued as a soil survey of the State was on-going. Initial results of this survey found PFAS in 100 samples taken from around the State.
5. Legislation (HB 398) is currently pending. It would 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).
6. Legislation (HB 205) is currently pending to require PFAS testing of newly drilled drinking water wells and reporting of exceedances to NHDES.
7. Legislation passed to require agencies to enter into a memorandum of agreement to enable cross-agency data sharing.

Recommendations:

2024 Legislative Recommendations

Legislative Service Requests have been filed for the following:

⁷ <https://www.atsdr.cdc.gov/pfas/docs/TalkingToYourDoctor-Fact-Sheet-H.pdf>

- Urging for the compensation for injuries from PFAS and for the closure and cleaning of sites affected by PFAS.
- Relative to the statute of limitations on civil actions involving PFAS.
- Establishing a grant program to cover the cost of PFAS blood testing.
- Relative to prohibiting certain products with intentionally added PFAS.

Although HB 737 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 with consideration of a voluntary labeling certification to confirm that a product is manufactured without the addition of PFAS compounds.
- Federal legislation to limit the use of PFAS compounds to national security and public health and safety purposes 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.
- 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 party reimbursement of the reasonable costs of privately paid PFAS testing, POET systems, and municipal water line connections to include reasonable costs of securing a legal remedy.

Acknowledgments

The study commission thanks DES and DHHS staff for their dedication and assistance in our study of the environmental and health impacts of PFAS contamination in the State of New Hampshire, with special thanks and recognition to Dr. Kathleen Bush for her invaluable contribution to the study commission's efforts.

Respectfully Submitted,

A handwritten signature in blue ink, reading "Chris Bandazian". The signature is fluid and cursive, with a long horizontal stroke at the end.

Chris Bandazian, Chair