ATTACHMENT F

RESPONSE TO COMMENTS
NPDES PERMIT NO. NH0100447
MANCHESTER WASTEWATER TREATMENT FACILITY
MANCHESTER, NEW HAMPSHIRE

The U.S. Environmental Protection Agency's New England Region (EPA) is issuing a Final National Pollutant Discharge Elimination System (NPDES) Permit for the Manchester Wastewater Treatment Facility (WWTF) located in Manchester, New Hampshire. This permit is being issued under the Federal Clean Water Act (CWA), 33 U.S.C., §§ 1251 *et seq.*

In accordance with the provisions of 40 Code of Federal Regulations (CFR) §124.17, this document presents EPA's responses to comments received on the Draft NPDES Permit # NH0100447 ("Draft Permit"). The Response to Comments explains and supports EPA's determinations that form the basis of the Final Permit. From April 10, 2024 through June 10, 2024, EPA initially solicited public comments on the Draft Permit.

EPA received comments from:

- McLane Middleton on behalf of City of Manchester, NH, dated June 10, 2024
- Greater Lawrence Sanitary District, dated June 10, 2024
- City of Nashua, NH, Department of Public Works, dated June 10, 2024
- City of Lowell (MA) Regional Wastewater Utility, dated June 10, 2024
- New Hampshire Water Pollution Control Association, dated June 10, 2024
- Conservation Law Foundation, dated June 10, 2024
- Merrimack River Watershed Council, dated June 5, 2024

After the close of the comment period, EPA made a determination to revise the Draft Permit (Revised Draft Permit) in which a narrative provision in the Draft Permit requiring that discharges "shall not cause or contribute to violations of federal or state water quality standards" (and other similar narrative provisions from Part I.A.3-8 of the 2024 Draft Permit) would be removed, and several additional monitoring requirements would be incorporated into the permit. From December 18, 2024 through February 3, 2025, EPA solicited public comments on the Revised Draft Permit.

EPA received comments from:

- McLane Middleton on behalf of City of Manchester, NH, dated February 3, 2025
- Osprey Owl Environmental, LLC, on behalf of the City of Manchester, dated February 3, 2025
- Conservancy Law Foundation, dated January 30, 2025[1]
- Massachusetts Coalition for Water Resources Stewardship, dated February 3, 2025
- Andrea Amico, co-founder, Testing for Pease dated January 24, 2025
- Rebecca Backman, dated January 29, 2025

[1] Conservation Law Foundation also submitted an untimely comment latter dated April 4, 2025. See 40 CFR § 124.10. EPA reviewed these comments (which, if timely, would not result in any change to the Final Permit) but they are not reproduced in this Response to Comments document.

- Marc Feigl, dated February 3, 2025
- Written comments from individual commenters

EPA also held a public hearing on January 21, 2025, during which the following persons presented oral comments:

- Jillian Aicher, Conservation Law Foundation
- Lois Cote, volunteer with NAACP Manchester, NH branch/Environment and Climate Environmental Justice Committee
- Leslie Want, Resident of Manchester, NH
- Jose Tapia, Merrimack River Watershed Council
- Ricardo Cantu, Osprey Owl Environmental
- Hayley Jones, Slingshot
- Andrea Amico, Co-founder, Testing for Pease
- Colleen Naus, Citizen.

Although EPA's knowledge of the facility has benefited from the various comments and additional information submitted, the information and arguments presented did not raise any substantial new questions concerning the permit that warranted a reopening of the public comment period. EPA does, however, make certain clarifications and changes in response to comments. These are explained in this document and reflected in the Final Permit. Below EPA provides a summary of the changes made in the Final Permit. The analyses underlying these changes are contained in the responses to individual comments that follow.

A copy of the Final Permit and this response to comments document will be posted on the EPA Region 1 web site: at https://www.epa.gov/npdes-permits/new-hampshire-final-individual-npdes-permits.

A copy of the Final Permit may be also obtained by writing or calling Michael Cobb at (617) 918-1369 or Cobb.Michael@epa.gov.

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I. Summary of Changes to the Final Permit

1. The Adaptation Planning requirements have been removed from the Final Permit. See Response 3.
2. The aluminum limit in the Draft Permit is replaced with a twice per month monitoring requirement in the Final Permit. The associated compliance schedule in Part I.G.2 of the Draft Permit has been removed. See Response 11.
3. The ammonia limit in the Final Permit has been updated to only apply from June through September. See Response 16.
4. The automatic benthic survey requirement in Part I.G.5 has been revised to apply only based on any known or suspected detrimental impact to the benthic community. Also, "potential" and "from the discharge" have been added. See Response 71.
5. A provision has been added to Part I.G.4 that the WET re-tests must be conducted within 14 and 28 days "or as soon as possible thereafter based on factors outside the Permittee's control (*e.g.*, limited lab availability). The Permittee must document the justification for any re-tests conducted after these timeframes and submit the justification with the re-test results." See Response 72.
6. Table I.A. and footnote 14 – the reporting units for AOF have been changed from ng/L to µg/L. See Response 74.
7. The reference in Part I.A.1, footnote 13 and Part I.E.6 has been changed from Method 1633 to Method 1633A to reflect the most recent revision of Method 1633. See Response 74.
8. The second bullet under Part I.G.4.a has new language that the source "may have been due to the discharge" See Response 77.
9. The third bullet under Part I.G.4.a has been removed and a requirement under footnote 22 of Part I.A.1 has been added to immediately test for oil & grease if an oily sheen is observed. See Response 77.
10. Part I.H.2.b and c were revised to the following: "The discharge shall not contain color (unless naturally occuring), objectionable odor (unless naturally occuring), or visible floating materials such as foam, debris, or scum." See Response 80.
11. The second sentence in Part I.B.1 (Unauthorized Discharges) has been revised to indicate the following: "For any pollutant without an effluent limitation in this permit, any pollutant loading greater than the proposed discharge (the "proposed discharge" is based on the chemical-specific data and the facility's design flow as described in the permit application, or any other information provided to EPA during the permitting process) must be reevaluated, and the permit must be modified or reissued if the need for any new effluent limitations is identified." See Response 90.

II. Responses to Comments

COMMENTS 1 THROUGH 67 BELOW WERE RECEIVED AS PART OF THE PUBLIC NOTICE FOR THE ORIGINAL 2024 DRAFT PERMIT.

A. Comments from Gregory H. Smith, McLane Middleton, on behalf of the City of Manchester

Comment 1

Standard of Review

Under the Administrative Procedure Act ("APA"), an agency may not take actions, issue findings, or make conclusions that are:

(A) arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law;
(B) contrary to constitutional right, power privilege, or immunity;
(C) in excess of statutory jurisdiction, authority, or limitations, or short of statutory right;
(D) without observance of procedure required by law;
(E) unsupported by substantial evidence in a case subject to sections 556 and 557 of [the APA] or otherwise reviewed on the record of an agency hearing provided by statute; or
(F) unwarranted by the facts to the extent that the facts are subject to trial de novo by the reviewing court.

5 U.S.C. § 706(2). An agency action is considered arbitrary and capricious when that agency relied on factors that Congress did not intend, "entirely failed to consider an important aspect of the problem," explained its decision in such a way that is contradicted by the actual evidence or is "so implausible that it could not be ascribed to a difference in view or the product of agency experience." Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.¸463 U.S. 29, 43 (1983). In addition, "an error of law also constitutes an abuse of discretion." Yepes-Prado v. U.S. I.N.S., 10 F.3d 1363, 1366 (9th Cir. 1993).

EPA exceeds its legal authority, and creates undue burdens on the City, by including requirements in the Draft Permit that the City monitor for PFAS analytes in influent, effluent, and sludge.

The Draft Permit incorporates requirements that the City use EPA methods 1633 and 1621 to monitor for per- and polyfluoroalkyl substances ("PFAS"), and adsorbable organic fluorine ("AOF"), respectively, in its influent, effluent, and sludge. EPA cannot, as a matter of law, include requirements related to PFAS-monitoring in the City's final permit. The EPA lacks clear legislative authority to require PFAS monitoring for discharges to surface water.

Furthermore, any requirement that the City monitor for PFAS analytes will pose an undue financial burden on the City, without proper justification or legal basis, and without conducting a cost and benefit analysis.[1]

1 See infra Part III.D.

EPA does not have the authority to require PFAS monitoring absent clearly established water quality criteria. While EPA has the authority to regulate pollutants under the Clean Water Act, including the establishment of monitoring requirements, the lack of specific PFAS surface water quality criteria leave EPA devoid of any clear benchmark against which to assess the necessity of monitoring. EPA's recently established drinking water quality standards cannot serve this purpose. Drinking water quality standards and ambient groundwater quality criteria are entirely separate from surface water quality standards and have no legal or practical bearing on permitted discharges to the Merrimack River. The EPA has not demonstrated any evidence of adverse environmental impacts to the river, biota or fauna, nor has it found adverse human health effects in connection with PFAS compounds in surface waters. Therefore, EPA's demand for monitoring is entirely without basis.

Response 1

The comment indicates that EPA lacks legislative authority to require PFAS monitoring for discharges to surface water. Contrary to the comment and as illustrated in the Fact Sheet, "[M]onitoring data play a crucial role in fulfilling the objectives of the CWA and its implementing regulations." *In re Avon Custom Mixing Services, Inc.*, 10 E.A.D. 700, 708 (EAB 2022). More specifically, CWA § 308(a), 33 U.S.C. § 1318(a), authorizes EPA to require permittees to sample effluents and make reports when necessary to, *e.g.,* develop or assist in the development of any effluent limitation, or other limitation, prohibition, or effluent standard, pretreatment standard, or standard of performance under the CWA. Additionally, CWA § 402(a)(2), 33 U.S.C. § 1342(a)(2), authorizes EPA to prescribe permit conditions on data and information collection. *See also* 40 C.F.R. § 122.41(h) (permittees shall furnish "any information" needed to determine permit compliance); 40 C.F.R. § 122.44(i) (permittees must supply monitoring data and other measurements as appropriate); *see also*, *e.g*., *In re City of Moscow*, 10 E.A.D. 135, 170-71 (EAB 2001) (holding that EPA has "broad authority" to impose information-gathering requirements on permittees); *In re Town of Ashland Wastewater Treatment Facility*, 9 E.A.D. 661, 671-72 (EAB 2001) (holding that CWA confers "broad authority" on permit issuers to require monitoring and information from permittees).

Also contrary to the comment, EPA may require monitoring even when corresponding water quality criteria have not yet been established. *E.g. In re Town of Concord*, 16 E.A.D. 514, 541-542 (EAB 2014) (EPA may impose monitoring requirements "regardless of a pollutant's potential to cause or contribute to a water quality violation, and regardless of whether pollutant discharges are restricted by an effluent limit.").
In fact, Congress specifically contemplated that EPA would require monitoring to, among other things, "assist in the development" of standards and limitations under the Act. CWA § 308(a). To this end, data collected from a permit's monitoring requirements is often critical in future permit cycles in determining the need for effluent limitations and, if appropriate, calculating effluent limitations. It is reasonable to require monitoring when there is "little data" otherwise available. *In re Avon Custom Mixing Services*, 10 E.A.D. 700, 709 (EAB 2002).

Given the high level of activity associated with these pollutants (see EPA's *PFAS Strategic Roadmap – EPA's Commitments to Action 2021- 2024*[2]), it is likely that water quality standards for PFAS and/or AOF will be developed before the next reissuance of this permit. The permit's monitoring requirements are designed to ensure EPA has adequate information at that time to establish limits that may be necessary to protect all water quality standards. As described in the Fact Sheet, the purpose of the monitoring and reporting requirement is to better understand potential discharges of PFAS from this facility and to inform future permitting decisions, including the potential development of water quality-based effluent limits on a facility specific basis.

The comment asserts that drinking water quality standards and ambient groundwater standards have no bearing on permitted discharges to the Merrimack River. EPA disagrees and notes that there are drinking water intakes downstream which must also be protected. CWA § 302(a) specifically authorizes EPA to consider "public water supplies" when establishing water quality related effluent limitations. Additionally, EPA notes that a designated use for Class B waters, like the receiving water, is "after adequate treatment, . . . use as drinking water." RSA 485-A:8:II. As further described in Responses 53 and 54, a permit writer must consider designated use water quality standards when considering water quality based effluent limitations. Although, as also described in Responses 53 and 54, there is currently no PFAS standard to apply when determining the need for water quality based effluent limitations, the data gathered from the permit's monitoring conditions will assist EPA and the state in developing PFAS water quality standards, and will provide data for EPA, as permit writer, to determine the need for a water quality based effluent limit and calculate such appropriate limit in future permit renewals, once there is an applicable water quality standard. For further discussion of water quality standards with regards to PFAS, see Responses 51-56. EPA has finalized Maximum Contaminant Level Goals (MCLGs) for various PFAS compounds[3] and the monitoring in this permit may also provide information necessary to ensure that the discharge is not causing or contributing to any excursions of these MCLGs downstream.

EPA maintains that the monitoring frequency should be at least quarterly to ensure that there are adequate data to assess the presence and concentration of PFAS in facility discharges. These data will enable EPA to obtain comprehensive and representative information on the sources and quantities of PFAS discharges and EPA will use these data in the future to inform its actions. EPA also reiterates that the level of sampling is consistent with an EPA-issued memo on December 5, 2022 related to *Addressing PFAS Discharges in NPDES Permits and Through the Pretreatment Program and Monitoring Programs*. See Fact Sheet at 32-34.

Regarding the cost and benefit analysis, see Response 4.

[2] Available at https://www.epa.gov/pfas/pfas-strategic-roadmap-epas-commitments-action-2021-2024

[3] https://www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas

EPA assumes that the footnote in this comment referencing III.D. of the comment is intended to reference part III.C which refers to cost-benefit analysis (see Response 4).

Comment 2

Moreover, EPA's directive that the City utilize methods 1633 and 1621 to monitor for PFAS analytes and AOF is outside of the scope of the EPA's authority. EPA notes in the Draft Permit that there is no "final 40 C.F.R. § 136 method for measuring PFAS in wastewater and sludge." Draft Permit NH0100447 Fact Sheet, p. 34. Nonetheless, EPA seeks to require monitoring via Method 1633 which it states was "finalized" in January of this year. Respectfully, no analytical method is "final" for the purpose of NPDES permit monitoring, until promulgated via the notice and comment rulemaking process. Neither Method 1633 nor method 1621 has been properly promulgated by EPA. EPA's reliance on non-promulgated analytical methods contravenes the procedural requirements of the APA, section 503. See 5 U.S.C. §§ 553, 706(2)(D).

Finally, should the EPA include PFAS monitoring requirements in the City's Final NPDES Permit, mandating that the City use method 1633 and 1621 for monitoring PFAS analytes and AOF will create undue financial burdens on the City. The City anticipates that sampling via these methods will cost $1,245 per site and per sample, at a total of 50 sampling sites. The sampling will therefore impose an additional $62,250.00 per year in costs annually. These costs simply cannot be justified for PFAS sampling, as the EPA lacks any legal or factual basis to justify the necessity of the sampling itself.

Response 2

CWA §§ 301, 304(h), 307, and 501(a) authorize EPA to promulgate guidelines establishing test procedures for the analysis of pollutants. EPA has promulgated such guidelines at 40 C.F.R. Part 136. EPA has also promulgated a regulation specifying that: "In the case of pollutants or pollutant parameters for which there are no approved methods under 40 CFR part 136…, monitoring shall be conducted according to a test procedure specified in the permit…." 40 C.F.R. § 122.44(i)(v)(B); *see also* 40 C.F.R. § 122.21(e)(3)(ii) (in an application for discharge, "[if] no analytical method… has been approved under 40 CFR part 136… the applicant may use any suitable method…."). Consistent with these regulations, the permit requires the use of Methods 1621 and 1633 because there are not any relevant methods in Part 136. For further discussion regarding the development of Methods 1621 and 1633, including EPA's recent proposal to add Methods 1633A and 1621 to Part 136, see Response 74.

Regarding EPA's authority to require PFAS monitoring, see Response 1. EPA recognizes that PFAS monitoring entails an increased cost but has determined that this monitoring is necessary to ensure sufficient data are available in the future to protect all water quality standards that are likely to be in effect in the next permit reissuance.

The comment also mentions the cost associated with 50 sampling sites. Although it is not entirely clear which 50 sites this refers to, EPA presumes this may refer to the annual monitoring requirement for certain industrial users (as required in Part I.E.6 of the permit). EPA recognizes that permittees have other regulatory avenues to require

annual PFAS monitoring of its industrial users. Discharges to the wastewater collection system are controlled through local limits, pretreatment programs, industrial discharge permits, and sewer use ordinances. Thus, the Permittee may, as it deems appropriate, transfer all or part of the PFAS-associated monitoring cost to the industrial user through any of these regulatory avenues. For more discussion of cost, see Response 4.

Finally, the comment suggests that if the monitoring is included in the permit, EPA should not require Methods 1633 and 1621 specifically. EPA confirms that use of these methods is necessary to ensure consistent data to best inform future permitting decisions. In any case, EPA is not aware of any other analytical methods that can measure this suite of pollutants, so the Permittee would most likely have no other choice but to use these methods even if they were not specifically required in the permit. See also Response 74.

Comment 3

EPA exceeds its legal authority and creates undue burdens on the City, by including requirements in the Draft Permit that the City develop a climate Adaptation Plan.

The Draft Permit requires that the City develop a climate Adaptation Plan with respect to the WWTF's critical assets. The City appreciates EPA's intentions to proactively anticipate the impacts of climate change. However, the requirements included in the Draft Permit fall outside the scope of EPA's authority under the Clean Water Act's NPDES program, were included without any cost benefit analysis,[2] and create an undue burden on the City and its environmental justice communities.

2 See infra Part IV.C (Comment 4)

EPA erroneously bases its authority for requiring the Adaptation Plan on several grounds. First, the EPA states that the "Adaptation Plan permit conditions are necessary to further the overarching goal of the CWA 'to restore and maintain the chemical, physical, and biological integrity of the Nation's waters….'" EPA suggests that increased precipitation, floods, storm surges, and sea level rise associated with climate change could cause a failure of wastewater treatment facilities, and thereby threaten the Nation's waters. EPA confuses the overarching policy objectives of the Clean Water Act, with the Act's actual delegation of authority to the Agency under the NPDES program. EPA has authority under the Act to regulate the discharge of a pollutant by any person from any point source[3] to a navigable water. See 33 U.S.C. § 1342.

3. The term 'point source' means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural stormwater discharges and return flows from irrigated agriculture." 33 U.S.C. § 1362.

The Adaptation Plan requirements included in the Draft Permit extend well beyond these criteria. Nothing in EPA's Adaptation Planning requirements can reasonably be tied to a discharge from an actual point source and are therefore outside the scope of its authority. See Nat'l Pork Producers Council v. EPA, 635 F.3d 738, 751 (5th Cir. 2011) ("[T]here must be an

actual discharge into navigable waters to trigger the CWA's requirements and the EPA's authority"); Nat. Res. Def. Council, Inc. v. EPA, 859 F.2d 156, 170 (D.C. Cir. 1988) ("[C]ontrary to EPA's assumption, the CWA does not empower the agency to regulate point sources themselves; rather, EPA's jurisdiction under the operative statute is limited to regulating the discharge of pollutants. Thus, just as EPA lacks authority to ban construction of new sources pending permit issuance, so the agency is powerless to impose permit conditions unrelated to the discharge itself.").

Second, EPA argues its own regulations, namely 40 C.F.R. § 122.41(d) and (e), authorize the EPA to require Adaptation Planning within the scope of NPDES permits. Part 122.41(d) requires all permittees to "take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment." Part 122.41(e) requires permittees to "at all times properly operate and maintain all facilities and systems of treatment and control" to achieve compliance with the conditions of a NPDES permit. EPA argues that Adaptation Planning requirements constitute "reasonable steps to minimize or prevent" potential future discharges associated with a changing climate, and that the extensive and costly upgrades to critical WWTF assets constitute "proper operation and maintenance" of municipal wastewater facilities.

As to both arguments, EPA misinterprets its own regulations by extending their reach to encompass speculative future impacts associated with climate change. Although a changing climate appears inevitable, the precise storm patterns that will emerge, and the precise impacts of climate change on a given local facility are far too speculative to serve as a basis to assess either "reasonable steps to minimize" discharges, or "proper operation and maintenance." These provisions should not be stretched beyond their plain meaning to require facilities to undertake costly and burdensome upgrades based on uncertain future scenarios.

Furthermore, EPA's interpretation undermines 40 C.F.R. § 122.41(n)(1)-(4), providing a defense for "upsets" defined as "an exceptional incident" resulting in unauthorized discharges that are "unintentional and temporary beyond the reasonable control of the operator." Surely, the severe storm events associated with climate change are beyond the reasonable control of the City of Manchester. Holding the City responsible for preventing the harm borne by these catastrophic events belies the intent of EPA's own regulations. EPA's efforts to interpret the "duty to mitigate" and the duty to ensure "proper operation and maintenance" to guarantee against all possible speculative future upsets, effectively nulls Part 122.41(n) with respect to severe storm events.

Assuming ad arguendo that EPA has authority to require climate Adaptation Planning in the City's NPDES permit, compliance with the Adaptation Planning requirements, as proposed, is simply infeasible for the City of Manchester. In addressing climate change impacts on municipal WWTFs, it is crucial to ensure a fair and effective approach. The current approach encompassed in the Draft Permit risks overwhelming municipal permit holders with unrealistic timelines and financial obligations. EPA offers no assurance of financial assistance or support to aid WWTFs in meeting these obligations. Without adequate financial assistance, the proposed permit conditions place an undue financial burden on the municipality and could potentially

compromise critical wastewater treatment services. As written, the Draft Permit's development of the Adaptation Plan would require hundreds, or even thousands of staff hours, and significant engineering costs will be associated with identifying critical assets and assessing appropriate adaptive measures. The costs associated with developing and executing such an extensive plan would cost millions of dollars.

Additionally, the City urges EPA to consider the distinctive challenges that Manchester faces as an environmental justice community. Requiring a small, disadvantaged community to create an Adaptation Plan threatens to exacerbate existing disparities in the City. Without assurance of federal and/or State financial assistance or support from the EPA and/or NHDES, the financial strains associated with the Draft Permit conditions place additional strains on the financial and managerial capacity of the City's wastewater treatment services upon which our residents rely. Therefore, the City requests that EPA eliminate the Adaptation Planning requirements until it identifies an available funding source to support these efforts, in the City's final permit.

Further, the timeline proposed in the Draft Permit for compliance with Adaptation Planning requirements is not achievable, even with adequate funding. Compliance with all three components of the Adaptation Plan necessitates substantial financial investment and some operational disruption. The City conservatively estimates that fully developing a meaningful implementation schedule for its adaptation plan would require 5 to 6 years.

The City shares EPA's concerns over the threats of climate change and has already voluntarily taken proactive steps to guard against its impacts and protect the Merrimack River. Working closely with the City to establish realistic timelines and providing logistical and financial support will lead to the implementation of more effective long-term climate change adaptation measures and a stronger partnership between EPA and the City of Manchester.

Response 3

The proposed Adaptation Planning requirements have been removed from the Final Permit. In response to the concerns of this commenter (and other commenters below), EPA considered whether the aims of the proposed requirements could be satisfied without imposing new requirements in the permit and determined, as described below, that existing, non-permit programs will provide the Permittee opportunity to conduct a comparable assessment of their flood risks. To that end, EPA notes that the Permittee remains responsible for complying with all effluent limitations expressed in Part I.A.1 of the permit, even in the event of a major storm or flood.

On the federal level, for example, municipalities must engage in flood risk assessment when utilizing the Clean Water Act State Revolving Fund,[4] and the Federal Emergency Management Agency (FEMA) requires a hazard mitigation plan when municipalities apply for certain types of non-emergency disaster assistance.[5] At the State Level,

[4] *https://www.epa.gov/system/files/documents/2022-09/Federal%20Flood%20Risk%20Managment%20Standard%20.pdf.*

[5] https://www.fema.gov/emergency-managers/risk-management/hazard-mitigation-planning/requirements

NHDES' Resilience and Adaptation Program aids municipalities and utilities in identifying natural disaster and climate related vulnerabilities within their systems and assisting with corrective implementation measures.[6] Additionally, many municipalities and regional organizations have developed their own local flood risk tools and requirements.[7] As described in the Fact Sheet, the goal of the Draft Permit requirements was to reduce and/or eliminate noncompliant discharges that result from impacts of major storm and flood events through advanced planning and flood risk mitigation measures. EPA is persuaded that non-permit requirements, such as those described above, will provide permittees with a comparable assessment of their flood risks as the Draft Permit intended to generate and accordingly will accomplish the Draft Permit's objective of ensuring that effluent limitations are achieved even during major storm and flood events. EPA has thus decided to remove the Adaptation Planning requirements from the Final Permit to improve efficiency and reduce redundancy.

EPA's decision is consistent with the aims of Executive Order 14239, Achieving Efficiency Through State and Local Preparedness (March 18, 2025) ("Federal policy must rightly recognize that preparedness is most effectively owned and managed at the State, local, and even individual levels, supported by a competent, accessible, and efficient Federal Government"; "it is the policy of the United States that my Administration streamline its preparedness operations; update relevant Government policies to reduce complexity and better protect and serve Americans; and enable State and local governments to better understand, plan for, and ultimately address the needs of their citizens.").

As stated above, removal of these provisions does not alter the requirement for the Permittee to ensure compliance with the permit limits.[8] As detailed in the Fact Sheet, flood risk is a significant issue for POTWs in New England and the impacts in recent years are well-documented. It is EPA's expectation that municipalities will avail themselves of the various tools described above as well as available federal guidance[9] to ensure risks to their POTWs are mitigated to allow for permit compliance. Additionally, should circumstances change such that flood planning requirements outside the scope of the permit are insufficient to protect Water Quality Standards, EPA may propose additional operation and maintenance flood planning requirements in subsequent permits.

Comment 4

The EPA failed to perform a cost-benefit analysis to establish effluent limits for ammonia and aluminum, implement PFAS monitoring requirements, or mandate Adaptation Planning.

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[6] https://www.des.nh.gov/news-and-media/blog/providing-planning-synergy-integrating-resilience-adaptation-asset-management

[7] *See, e.g.,* City of Portsmouth, NH, Hazard Mitigation Plan Update 2024, https://www.portsmouthnh.gov/sites/default/files/2024-07/PortsmouthHazardMitigationPlanUpdate2024_DRAFT_w_maps.pdf.

[8] EPA notes that an "upset" "constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations [under certain circumstances]," but it does not apply to *water-quality* based permit effluent limitations. 40 C.F.R. § 122.41(n).

[9] For example: https://www.epa.gov/waterutilityresponse/flood-resilience-basic-guide-water-and-wastewater-utilities.

Considering the costs and benefits of agency actions has long been a guiding principle in pursuit of informed and prudential agency decision-making. In the context of the Clean Water Act, the EPA is authorized to weigh financial costs of a permit requirement, against the anticipated water quality benefits. Historically, EPA has conducted cost-benefit analyses under the Clean Water Act even in the absence of a clear legislative directive. In Entergy Corp. v. Riverkeeper Inc., for example, the United States Supreme Court upheld EPA's application of a cost-benefit analysis, finding that despite the statute's silence with respect the consideration of costs and benefits, "it was well within the bounds of reasonable interpretation for the EPA" to perform a cost-benefit analysis in setting effluent standards under the Clean Water Act. Entergy, 556 U.S. at 223; see also id. at 218 (agreeing with EPA's interpretation that the setting of effluent limits allows for the consideration of the costs of technology and the relationship between those costs and the environmental benefits produced). Consistent with the EPA's approach of considering costs and benefits when setting effluent limits under the Clean Water Act, EPA should conduct a proper cost-benefit analysis before setting effluent limits on ammonia and aluminum in the City's final permit.

Moreover, it is evident that the EPA's authority to perform cost-benefit analyses extends beyond effluent limits to encompass other permit requirements, including climate Adaptation Planning requirements, and PFAS monitoring. Given the extraordinary compliance costs to the City, the City requests that EPA perform a meaningful cost-benefit analysis before imposing the abovementioned effluent limits, Adaptation Planning requirements, or PFAS monitoring in the City's final NPDES Permit.

Response 4

As described in Response 3, EPA has removed the proposed Adaptation Planning requirements from the final permit. EPA recognizes that the other new requirements identified in the comment entail an increased cost to the Permittee. EPA's ability to consider cost varies based on the type of permit requirement.

Regarding the development of effluent limitations, the financial burden is not an appropriate consideration. Although EPA appreciates the commenter's financial concerns, it is well-established that CWA section 301(b)(1)(C) requires effluent limits to meet water quality standards, without exception for cost or technical feasibility. *Upper Blackstone Water Pollution Abatement Dist. v. EPA*, 690 F.3d 9, 33 (1st Cir. 2012), cert. denied, 569 U.S. 972 (2013) ("…cost considerations may not be considered by the EPA in the setting of permit limits to assure compliance with state water quality standards."); *In re City of Fayetteville, Ark.*, 2 E.A.D. 594, 600-601 (CJO 1988) ("The meaning of [CWA § 301(b)(1)(C)] is plain and straightforward. It requires unequivocal compliance with applicable water quality standards and does not make any exceptions for cost or technological feasibility."), aff'd sub nom *Arkansas v. Oklahoma*, 503 U.S. 91 (1992); *see also, e.g., In re Scituate Wastewater Treatment Plant*, 12 E.A.D. 708, 734 (EAB 2006).

Regarding PFAS monitoring, EPA did consider cost in setting appropriate monitoring requirements but must also ensure that sufficient data will be available in the future to

establish appropriate effluent limits to protect water quality. In this case, the quarterly PFAS requirement is consistent with EPA guidance (see Response 1) in order to adequately characterize the discharge and identify potential sources of PFAS. EPA considers this level of monitoring to be a minimum at this time given that this is a new requirement and PFAS levels have never been characterized in the past. In other words, the permit could have required much more frequent PFAS monitoring without any consideration of cost but only requires quarterly monitoring to limit the cost.

Comment 5

The Draft Permit contradicts numerous provisions of the 2020 Consent Decree negotiated in good faith between the City and the EPA related to the City's CSO system.

In 1999, the City entered a Compliance Order with the EPA, marking the commencement of the first phase of its comprehensive CSO abatement control efforts ("Phase I"). Over a 10-year period, the City fulfilled its obligations under Phase I, investing $58 million to completely eliminate thirteen CSO outfalls, implement sewer separations, and implement various other abatement control measures. These efforts resulted in a remarkable 99% reduction in CSO discharges to the Merrimack River from the outfalls on the west side of the River, from approximately 53.2 million gallons to a mere 0.2 million gallons annually. Following the successful completion of Phase I, the City was effectively capturing and treating around 83% of its annual wet weather combined sewage by volume.

The subsequent 2020 Consent Decree encompassed an agreement between the City and EPA, for the City to implement the second phase of the City's CSO abatement efforts ("Phase II"). Phase II comprises of a comprehensive set of further corrective measures to the City's sewer system, including additional WWTF upgrades, sewer separation projects, and further abatement controls. The 2020 Consent Decree was the result of several years of negotiations between the City and the EPA. Unfortunately, the Draft Permit ignores several provisions included in the carefully negotiated agreement.

The City strongly urges the EPA to reconsider terms included in the Draft Permit, which contradict the terms of the 2020 Consent Decree, currently in effect. The decree, lodged with the U.S. District Court for the District of New Hampshire, is "binding upon the United States and the State, and upon the City and any successors, assigns, or other entities or persons otherwise bound by law." 2020 Consent Decree ¶ 3. Thus, the agreement is not only binding upon the City, but upon EPA as well. Further, the "Consent Decree resolve[d] the civil claims of the United States and the State for violations alleged in the Complaints filed in this action through the date of lodging." 2020 Consent Decree ¶ 62. To the extent the Draft Permit contradicts the Consent Decree, the Draft Permit cannot be sustained.

The 2020 Consent Decree is a product of years of good faith negotiations between the City and the EPA. It represents a comprehensive and mutually agreed-upon framework for responsibly managing and monitoring the City's CSO outfalls. Deviating from the terms of the Consent Decree undermines the substantial investment of time, resources, and goodwill made by all parties involved and the sound decision to balance the schedule for improvements with fiscal

consideration. To the extent that the 2020 Consent Decree and the Draft Permit are contradictory or otherwise inconsistent, the EPA must harmonize the terms of the Draft Permit to meet the negotiated terms of the 2020 Consent Decree. Should the EPA fail to update the Draft Permit in this manner, the City must resolve any ambiguity regarding which legal standards and obligations apply, in favor of the 2020 Consent Decree approved by the Court.

For example, consistent with the terms of the 2020 Consent Decree, the City has used continuous flow devices to directly monitor six of the City's fifteen CSO outfalls, 044, 031A, 050, 052, 047, and 046. See Consent Decree ¶ 19 ("[T]hese six CSO outfalls are estimated to be more than 99% of all of the City's total CSO discharge volumes."). However, EPA's Draft Permit requires the City to quantify and record all discharges from combined sewer outfalls via direct measurement, for each discharge event, for all fifteen of the City's CSOs. See Draft Permit Part I.H.3.e. Not only does the Draft Permit directly contradict the 2020 Consent Decree, undermining several years of collaboration, cooperative efforts, and joint decision-making between the City and the EPA, but it is altogether arbitrary to require the City to directly monitor an additional nine outfalls, which combined constitute a de minimis amount of the City's total CSO discharges.

Response 5

As noted by the commenter, the 2020 Consent Decree ("CD") resolved the United States' and the state's civil claims of violations *through the date of lodging* (emphasis added). That is: the CD contemplates mutually agreeable resolutions for past violations, it does not contemplate permit terms in future permit renewals. In fact, EPA is not able to reach agreements with permittees or any other outside parties about the terms of any future permit, as doing so would violate, for example, the notice and comment requirements of 40 C.F.R. § 124.10. Although the terms of the CD do not limit the terms EPA may include in this permit renewal, EPA acknowledges and appreciates the effort the parties undertook to reach the CD agreement and also acknowledges the significant CSO abatement control efforts undertaken by the City since 1999 and the significant reductions in CSO discharges that have occurred since that time. EPA also recognizes that the City continues its efforts under the CD. EPA Region 1's Water Division has consulted with Region 1's Enforcement and Compliance Assurance Division about the perceived conflicts between the Consent Decree and the draft permit terms and offers the following responses.

The commenter characterizes the permit's requirement to quantify and record discharges for all combined sewer outfalls as a direct contradiction to the CD, which requires monitoring for just six outfalls. EPA disagrees. The CD requirement to directly monitor six CSO outfalls is duplicated in the Draft Permit. The requirement to directly monitor the other nine CSO outfalls is an additional requirement and, as described above, the terms of the CD do not limit any additional permit terms EPA may include in future permit proceedings.

Regarding the commenter's assertion that the other nine CSO outfalls constitute a *de minimis* amount of the City's total CSO discharges, EPA notes that discharges through

these outfalls is expected to be less frequent. Therefore, EPA will allow the Permittee to have the option of direct measurement or estimation to quantify the discharges from these other nine outfalls. This approach is adequate to characterize the continued effectiveness of the City's CSO abatement program and to ensure public notification includes accurate information to ensure the protection of public health. Part I.H.3.e of the Final Permit has been changed to allow for estimation of flows from the other nine CSO outfalls.

Comment 6

Additionally, the NPDES Draft Permit includes lengthy requirements for the City to follow a Public Notification Plan concerning discharges from the City's CSOs. The 2020 Consent Decree, however, includes its own public notification plan already approved by EPA, and followed by the City. The 2020 Consent Decree and the Draft Permit require different dates and frequencies for publishing CSO notifications. Compare Consent Decree ¶ 19(c) ("By no later than March 15th, annual notification of the locations of CSOs, a summary of CSO activations and volumes, and the status and progress of CSO abatement work shall be posted by the City…."), with Draft Permit Part I.H.5. ("For each combined sewer overflow outfall listed in Part 1.H.1 of this permit, Permittee must monitor the following which shall be reported in *each monthly* DMR for each outfall.") (emphasis added). Consistent with the Consent Decree, the City respectfully reiterates[4] its request to submit CSO notifications on an annual basis on March 15 of each year.

4. See E-mail Correspondence from Fred McNeill to Robin Johnson and Hayley Franz (Feb. 2, 2024) (requesting that the deadline for the CSO DMRs submittals be changed from January 15 to March 15). This change, in part, was requested because a January 15 deadline makes it very difficult to obtain the flow metering data and run the SWMM Model to estimate CSO discharges since the DMRs for December are not completed until early January. A March 15 deadline will allow the City sufficient time to gather all of the fl w information, analyze it, and complete our model runs before officially submitted.

Response 6

As described in Response 5, the terms of the CD do not limit the terms EPA may include in this permit renewal. This comment appears to express concerns relating to several distinct reporting requirements in the permit. First, the comment suggests that the annual March 31 reporting deadline required by Part I.H.3.g.4 of the permit is in conflict with the annual March 15 CSO reporting deadline in the CD. EPA does not consider the annual March 31 reporting deadline to be in conflict with the March 15 due date in the CD and notes that it alleviates the concern raised in footnote 4 of the comment regarding a due date of January 15. Based on footnote 4, EPA considers that the City has sufficient time to submit the annual report required by the CD by March 15 and to subsequently post the annual report online based on the permit requirement by March 31. Additionally on March 31 each year, Part I.H.4 of the permit requires "a summary of CSO outfall monitoring data required by Part I.H.5 of this permit" whereas the CD requires "a summary of CSO activations and volumes." Although the language between the permit and the CD may differ, EPA does not consider these terms to be in conflict and notes, again, that the terms of the CD do not limit the terms EPA may include in this permit renewal.

Another concern raised in this comment is that the permit requires monthly reporting in addition to the annual report. See Permit Part I.H.5.c. The lack of a monthly reporting requirement in the CD does not preclude EPA from including one in the permit. EPA also notes that paragraph 19.B.iv of the CD does require the Permittee to provide data on the volume of a CSO discharge within 14 days after the City has become aware of the termination of any CSO discharge; this data may be useful in complying with the permit's monthly DMR reporting requirement. Importantly, the monthly DMR submittals are not due until the 15th day of the following month, so the flow data included in these monthly DMR submittals as required by the permit would never be due before the flow data would be due based on paragraph 19.B.iv of the CD. In complying with the permit terms, the Permittee can duplicate any relevant portions of the CSO Discharge Monitoring and Notification Program required in the CD but must also capture any additional items required by the Permit that are not included in the CD. Notably, the permit at Part I.H.3.g.(2) & (3) includes initial notification and supplemental notification for each CSO activation, the requirements of which are largely duplicated in Section F of the CD.

Comment 7

Additionally, while the 2020 Consent Decree requires the City to notify the public and other potentially affected parties of probable CSO activation "no later than, four (4) hours after the City has become aware, by monitoring, modeling or other means, that a CSO discharge has occurred," the Draft Permit imposes a more stringent two-hour time window. Compare Consent Decree ¶19(a), with Draft Permit Part I.H.3.g.2. The City respectfully requests that the Draft Permit be modified so that it is consistent with the Consent Decree.

Response 7

EPA acknowledges that the Draft Permit establishes a shorter initial notification period than the CD. As noted in Section 5.6 of the Fact Sheet, the Draft Permit includes more specific notification implementation level requirements which reflect advances in technologies to ensure that the public receives adequate notification of CSO occurrences and CSO impacts. For example, metering of CSO outfalls can provide timely notification to the City of overflow activity, which can in turn allow the City to provide its required notification more quickly to the public. EPA considers that expedited notification is a critical component necessary to improve the protection of public health related to CSO discharges. As described in Response 5, the terms of the CD do not limit the terms EPA may include in this permit renewal. EPA additionally notes that compliance with the permit terms will not create a barrier to compliance with the CD – in fact, compliance with the permit's 2-hour initial notification requirement will necessarily ensure compliance with the CD's 4-hour initial notification requirement.

Comment 8

Finally, the Draft Permit requires the City to develop an infiltration and inflow ("I/I") program for preventing I/I in the City's sewer system to prevent unauthorized discharges. The City again urges EPA to consider the binding 2020 Consent Decree currently in effect. Under this agreement, the City is expected to remove 95% by volume of the City's annual wet-weather

combined sewage (approximately 1.5 out of the City's 1.6 million gallons) by the year 2030. Additional WWTF treatment upgrades and abatement controls are expected to reduce the City's remaining CSO discharge volume by an additional 74%, at a cost of $271 million, by the end of Phase II. This enormous undertaking requires the City to perform construction work, which will necessarily remove I/I. The City's entire CSO system is undergoing massive abatement, spanning a decades long effort to reduce I/I. Therefore, the requirements outlined in the Draft Permit are redundant and unnecessary in light of the City's longstanding commitment and significant investments in CSO abatement.

Response 8

See Response 5.

The permit requires the Permittee to continue to implement an I/I program that was required in the 2015 Permit. EPA recognizes the significant CSO abatement efforts being done by the City and the impact that such work will have on preventing I/I. EPA agrees that the CSO abatement work described in the comment is likely to largely satisfy the I/I reduction requirement and the City can cite its ongoing CSO abatement efforts to satisfy much of this permit requirement for areas of the collection system that are undergoing CSO abatement work. However, EPA does not consider this requirement to be redundant given that certain areas of the collection system may still be subject to excessive I/I even after CSO abatement activities are completed in a given area of the collection system. For example, the CSO abatement work in certain areas of the collection system may have been completed many years ago and any new sources of I/I in those areas must continue to be prevented. Therefore, EPA finds that this requirement is necessary to ensure that an I/I program is maintained through the life of the permit throughout the collection system.

Note: Comments 9 through 20 below were attached to McLane Midleton's submittal and are from Jeffrey Pinnette, P.E. of Wright-Peirce on behalf of the City of Manchester

Wright-Pierce has reviewed the draft permit (NPDES Permit No. NH0100447) for the City of Manchester, New Hampshire's (City) Wastewater Treatment Facility (WWTF). To support the development of these technical comments, we reviewed and analyzed the draft Permit, Fact Sheet and backup calculations used to derive new effluent limitations. We have discussed the key issues with City staff and developed the following comments on behalf of the City for submittal to EPA:

Comment 9

Effluent Flow – Part I.C.3.f – "If the monthly average flow exceeded 80 percent of the facility's 34 MGD design flow (27.2 MGD) for three consecutive months in the previous calendar year, or there have been capacity related overflows, the report shall include:

- Plans for further potential flow increases describing how the Permittee will maintain compliance with the flow limit and all other effluent limitations and conditions; and

- A calculation of the maximum daily, weekly, and monthly infiltration and the maximum daily, weekly, and monthly inflow for the reporting year

The City disputes this provision in the permit because the City already has a High Flow Management Plan in place as required by EPA which requires and promotes treating as much flow as possible. The monthly flows treated by the WWTF routinely exceed 80 percent of permitted flow particularly during winter/spring months and driven by extended wet weather events (refer to monthly flow data in Appendix A of the Fact Sheet). This criterion could be exceeded in any given winter/spring. The City has developed plans for addressing the noted concerns including:

- The City has a Long-Term Control Plan (CDM-Smith, 2010) in place and is currently making a major investment to separate Cemetery Brook from the collection system. This alone will decrease flows to the WWTF by 12% on average and peak flows by up to 55 MGD.
- The City completed its most recent facility plan update for the WWTF in 2010 (AECOM) and is currently following that plan and intends to update the plan every 20 years with the next facility plan update intended to be finalized by 2030.

Request 1: The City requests that EPA remove or revise Part I.C.3.f to be consistent with the City's actual flows in relation to the permit flow as the City has the potential to exceed this criteria and the fact that long-term plans are already in place to address these concerns.

Response 9

This effluent flow planning requirement is in place to ensure that a comprehensive assessment can be made with respect to the capacity and operation of the collection system and the POTW treatment facility and that a comprehensive scheme is in place for addressing issues which can adversely affect treatment plant operations and lead to adverse impacts on water quality. The comment suggests that it is very likely that this condition would be triggered during the permit term (driven by extended wet weather events) and that a High Flow Management Plan is already in place to address these concerns.

EPA agrees that the information in the City's High Flow Management Plan will likely fulfill much of this requirement with respect to wet weather and, therefore, this provision will not result in a significant additional burden on the City to develop an alternate plan for addressing wet weather. However, EPA also clarifies that this provision may also be triggered due to an increase in baseflow (*e.g.*, due to growth) resulting in a need to plan for the potential expansion of the treatment capacity of the WWTF. Given that this provision may trigger such planning which is distinct from wet weather events or the High Flow Management Plan, EPA finds that this permit provision is necessary and must be maintained in the Final Permit. For clarity, EPA notes that I/I values reported under this provision may be based on estimates, and any of this information that has been previously collected for other reporting purposes may also be used in satisfying this requirement.

Comment 10

Total Aluminum The City takes exception to the proposed aluminum limit for the following reasons: Unreliable ambient river data Anomalous effluent results Pending change to EPA's Aluminum Calculator Ambient River Results – WET versus Clean Sampling The ambient river level for aluminum was determined to be 130 µg/l for the reasonable potential to exceed analysis based on Manchester's WET testing data from December 2018 through September 2023. This ignores past clean sampling results from Manchester as well as important information presented on aluminum levels in the Merrimack River in the comments for the most recent NPDES permits for the City of Lowell and Greater Lawrence Sanitary District (GLSD). These analyses have demonstrated the inadequacy of WET testing for determining river aluminum levels. Clean sampling techniques and testing via EPA Method 1669 for aluminum are critical. Another is the relationship of metal levels with river flow, especially for an element as abundant as aluminum. High river flows result in sediment scour that elevates the resulting ambient concentration in the river. Figure 1 below was developed by Osprey Owl Environmental, LLC (OOE) and shows the results of clean sampling conducted by Manchester as part of their 2008/2009 study self-performed by the City and led by Rick Cantu, who now is the chief investigator for OOE. The results (reproduced with permission from OOE) are shown versus river flow for sampling at the Queen City Bridge upstream of the Manchester WWTF outfall. A detailed interpretation of the chart can be provided if desired, but a key issue is that scouring of aluminum particles is understood to occur at river water velocities of 7,000 cfs and greater.

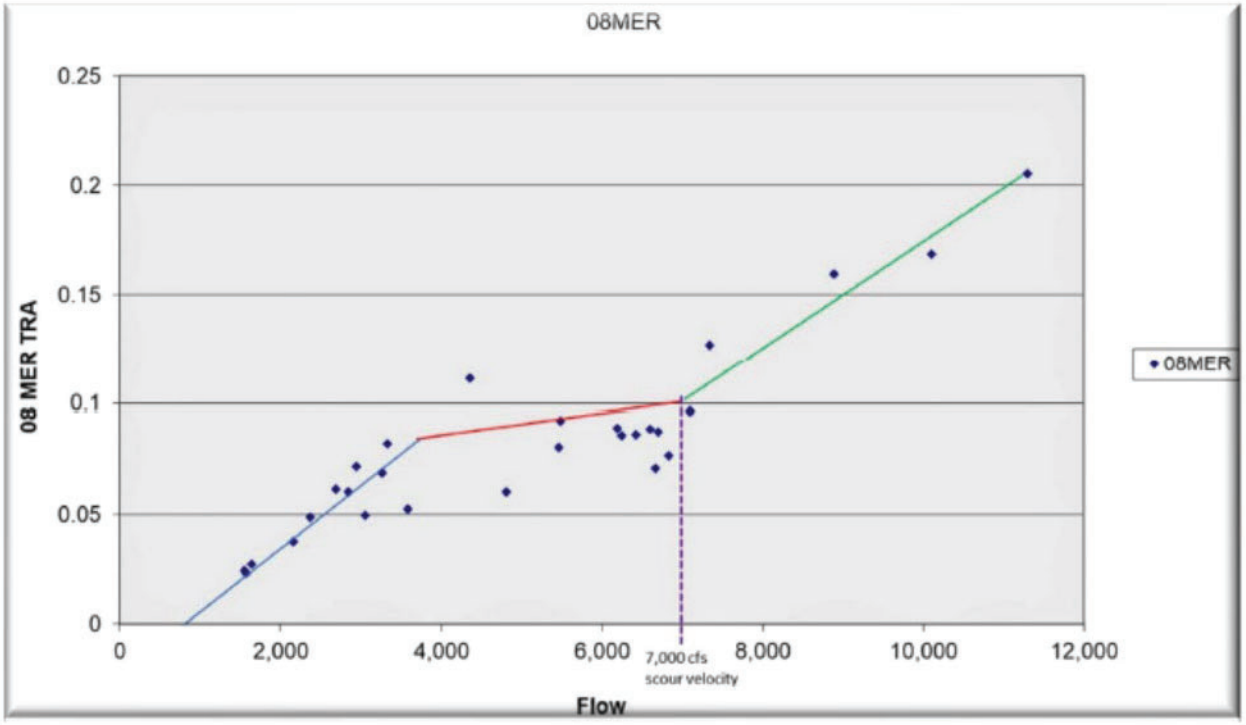


Figure *1* 2008/2009 Aluminum Clean Sampling Results in the Merrimack River Just Upstream of Manchester WWTF Outfall vs. River Flow

It is notable that at river flows below 4,000 cfs, the river concentration is less than the 87 µg/l chronic criteria for aluminum in the river and well below the adjusted value of 105.8 µg/l for total recoverable aluminum. For comparison, the City's recent WET test results for the ambient river concentration are plotted along with river flow in Figures 2a and 2b. The ambient river concentrations show very strong correlation to river flow as was also found in the City's 2008/2009 study. For reference, the annual mean flow for the Goff's Falls monitoring station is 5,504 cfs (USGS web site), 4,284 cfs for the monitoring period, and the current 7Q10 flow is 676 cfs. The strong correlation between river concentrations and river flow is extremely well documented both from the 2008/2009 data set and the more recent WET test data. As discussed further below, concentrations that are representative of low flow conditions should be used in the reasonable potential to exceed analysis.

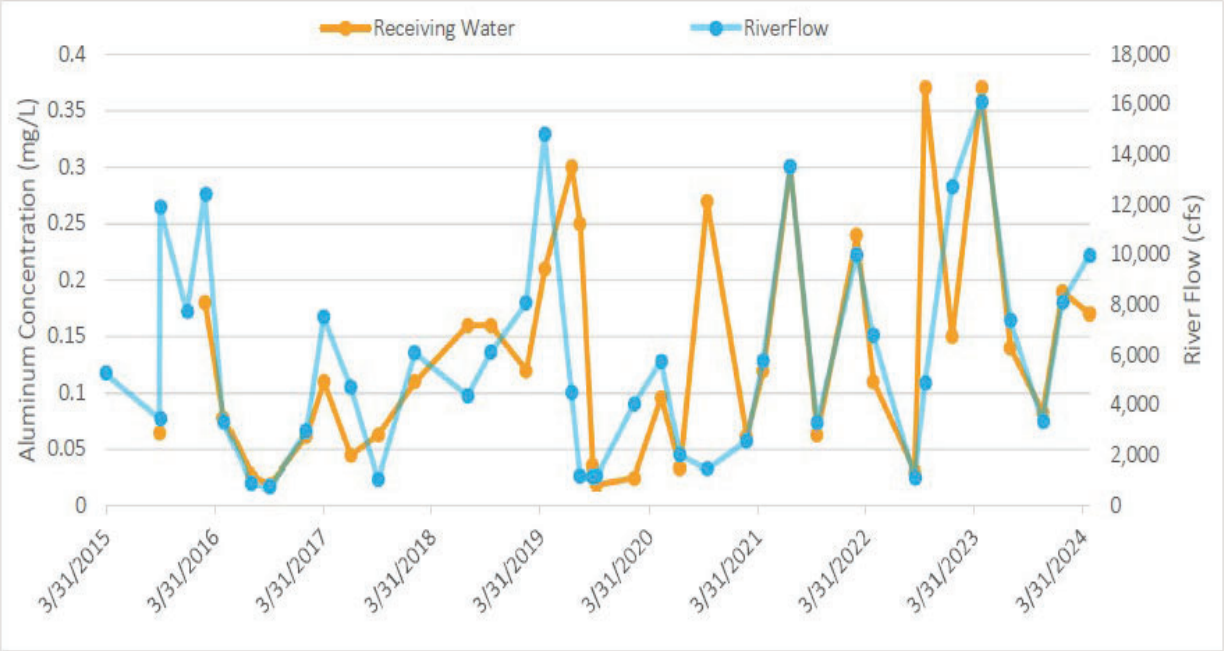


Figure 2a Manchester Aluminum WET Testing Data (2015-2024, in mg/L, Left Column), Ambient Merrimack River Just Upstream of Manchester WWTF Outfall and River Flow by Date (in cfs, right column)

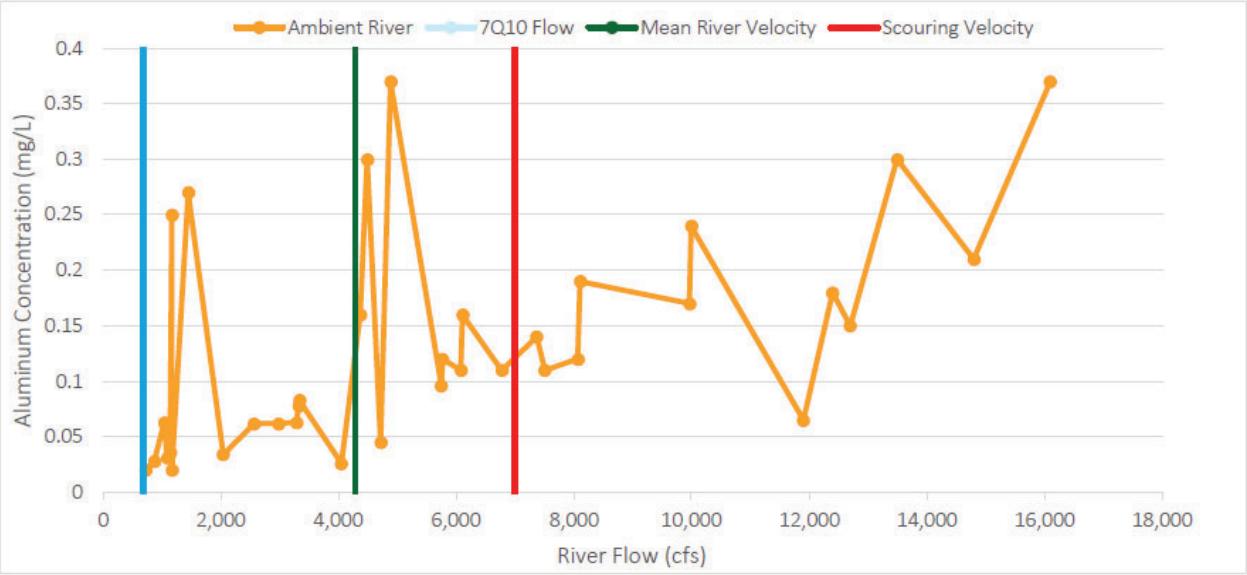


Figure 2b Manchester Aluminum WET Testing Data (2015-2024, in mg/L, left column), Ambient Merrimack River Just Upstream of Manchester WWTF Outfall Versus River Flow

The City's WET test results in Figure 2 above show scatter similar to that demonstrated by GLSD WET testing as noted in their comments on their most recent permit as shown in Figure 3 (reproduced with permission). Based on the information provided in their comments to their draft permit, GLSD's ambient concentration was reduced from a median value based on WET testing of 112.5 µg/l to 80.0 µg/l based on the clean sampling data. It is notable that GLSD clean sampling occurred at mean to moderately high flows.

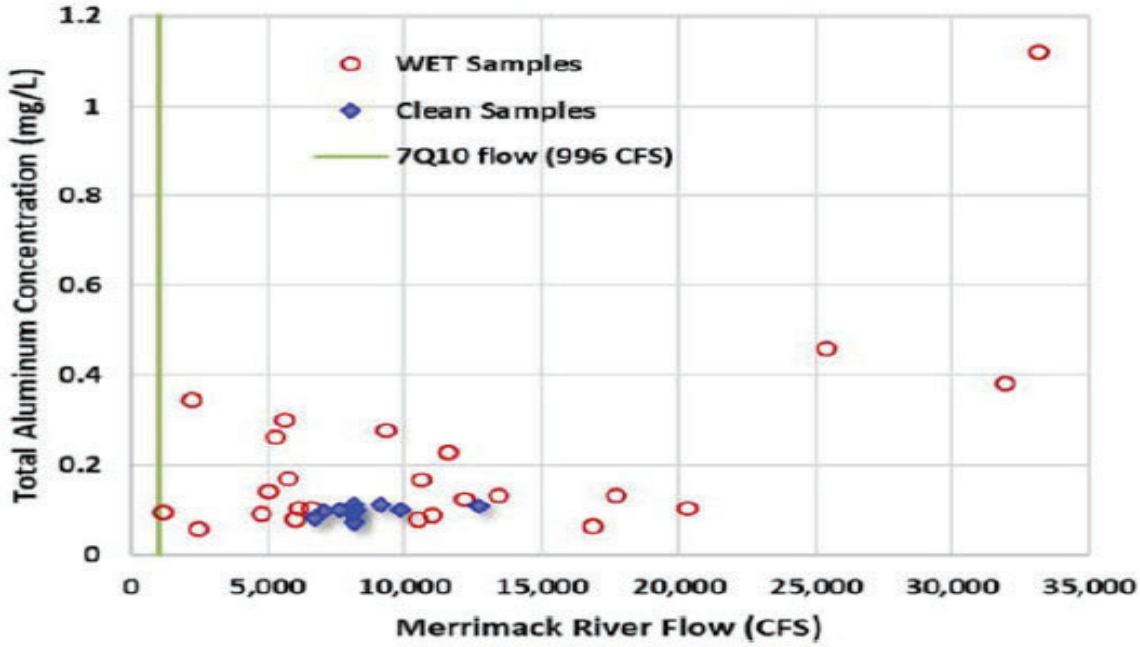


Figure 3 GLSD Aluminum WET & Clean Sampling Data for Merrimack River Just Upstream of GLSD Outfall (Downstream of Manchester) and River Flow

The City of Lowell provided the clean sampling data in Table 1 to support its most recent 2019 NPDES permit that allowed a reduction of the river concentration to 35 µg/l from WET test results with a median level of 140 µg/l. It should be noted that while there is significant additional flow to the Merrimack River between Manchester and Lowell, there is not enough dilution to account for the difference between a proposed ambient concentration of 130 µg/l for Manchester and 35 µg/l at Lowell even if there was no aluminum in the additional flow. It is notable that the Lowell sampling occurred predominantly during lower flow conditions.

Table 1 – Lowell Clean Sampling Aluminum Data

Sampling Date	River Flow, cfs	Aluminum, µg/l
7/11/2016	1,650	41
10/3/2016	1,010	18
11/8/2016	2,750	64
9/28/2017	1,980	35
10/18/2017	1,780	23
10/25/2017	4,490	21
7/30/2018	6,210	100

Recent clean sampling conducted by OOE for the Town of Merrimack (slightly downstream from Manchester) is presented in Table 2. These results are representative of the reach that the Manchester WWTF outfall discharges to and includes the impact of the discharge. The results also show the same correlation with river flow.

Table 2 – Merrimack, NH Clean Sampling Aluminum Data

Sampling Date	River Flow, cfs	Aluminum, µg/l
10/7/2021	8,640	95
10/19/2021	3,250	88
8/17/2022	815	31

The City's request for additional time for commenting was not approved by EPA, so the City is unable to complete additional clean sampling results for the river concentration. Nevertheless, the City will be having OOE conduct both an audit of its sampling techniques, sampling location and an intensive round of sampling that we are confident will show that clean sampling results are generally in conformance with the results from the City's 2008/2009 study as shown in Figure 1. The City requests that EPA leave this docket open and refrain from issuing a final permit until this issue has been resolved.

The changes in ambient concentration with flow in the river are a challenge for interpreting EPA's intent in the reasonable potential to exceed analysis. The goal of the reasonable potential

to exceed analysis is ostensibly related to ensuring concentrations do not exceed applicable criteria during the 7Q10 low flow conditions that the analysis is conducted. At the current 7Q10 flow of 676 cfs, the river concentration should be less than 50 µg/l as shown in Figure 1 above for Manchester's 2008/2009 study. The recent clean sampling results for Merrimack on August 17, 2022 at a river flow of 815 cfs with a concentration of 31 µg/l is further supporting data. The Lowell data also supports this clearly. As discussed further in comment 2.c., once the State of New Hampshire approves EPA's recommended Aluminum Calculator, the discussion will be moot, because the aluminum criteria will be much higher than actual river concentrations at any flow.

In summary, the WET test results are an inappropriate basis for establishing ambient aluminum concentrations. Moreover, there is a very clear relationship of ambient river concentration to flow. The City requests the resulting downstream concentration be re-calculated to use an ambient concentration characteristic of low river flow conditions. The City will be moving forward to audit their procedures for clean sampling and updated testing of the actual clean sampling river aluminum concentration at lower flows, characteristic of the reasonable potential to exceed analysis. The City requests using the clean sampling results for ambient data from the City's 2008/2009 study using data representative of low flow conditions. Alternatively, the City asks EPA to hold the docket open and refrain from issuing a final permit until the City has time to collect new clean sampling ambient data. In any case, the data is compelling that river concentration will vary with river flow. Concentrations representative of low flow conditions should be used in the reasonable potential to exceed analysis. There is already extensive clean sampling data that indicates the river concentrations at lower flow conditions are less than 50 µg/l. See Fact Sheet pages 29-33 and Appendix B for EPA's discussion of applicable aluminum criteria, reasonable potential analysis and proposed limit derivation, and Whole Effluent Toxicity (WET) testing.

Response 10

As discussed in Response 11 below, EPA has decided to replace the aluminum limit proposed in the Draft Permit with a twice per month monitoring requirement in the Final Permit. This comment objects to the derivation of the aluminum limit based on a claim that the ambient river data used in the analysis were unreliable. The assertions in this comment did not, alone, persuade EPA to replace the proposed aluminum limit with a monitoring requirement, for the reasons described below.

First, the comment demonstrates that the ambient aluminum concentration decreases as river flow decreases resulting in a much lower ambient concentration under low flow conditions. Figures 1, 2a and 2b all demonstrate this same trend. EPA acknowledges this trend and agrees that ambient aluminum levels in the receiving water are typically lower under low flow conditions. Based on this information, EPA must conduct two separate reasonable potential analyses (*i.e.*, one during low flow conditions and another during higher flow conditions) to determine whether the discharge has the reasonable potential to cause or contribute to an excursion of water quality standards. In the Draft Permit, EPA evaluated the WET data taken during the 5-year review period (under all flow conditions) and determined the median ambient concentration to be 130 µg/L.

Based on the trends presented in the comment, parsing these data based on river flow would result in a lower value under 7Q10 conditions and a higher value under high river flow conditions. Even if the low flow analysis were to demonstrate no reasonable potential, the higher flow analysis would be even higher than EPA's analysis (*i.e.*, still well above the criteria) and would still result in the need for a limit under "non-7Q10" conditions. EPA notes that this analysis must be done using a higher ambient flow value than the 7Q10, but since the ambient concentration is above the criterion, there is no assimilative capacity and a limit at the criterion (118 ug/L) would be required no matter what river flow value is used in the calculation. For these reasons, EPA disagrees that the correlation in aluminum to river flow would result in any change to the Final Permit.

Second, the comment suggests that the ambient data used by EPA are invalid based on the sampling method being inferior to clean sampling. The comment compares a variety of data taken at different locations of the Merrimack River in different years, under different river flows and using different sampling techniques in supporting its claim that the WET test data are flawed. In summary, the comment presents the following ambient aluminum data: 2014-2018 WET data upstream of GLSD (median 112.5 µg/L) 2019 clean data upstream of GLSD (median 80 µg/L) 2014-2018 WET data upstream of Lowell (median 140 µg/L) 2016-2018 clean data upstream of Lowell (median 35 µg/L) The comment notes that clean sampling in GLSD and Lowell resulted in lower effluent results and then presents 3 results from October 2021 and August 2022 showing lower aluminum results just downstream of Manchester.

Finally, the comment indicates that Manchester will be pursuing additional clean sampling and requests that the permit not be finalized presumably until that data can be collected and considered by EPA. See Response 14 (discusses how EPA must use all available data and make many reasonable assumptions to ensure WQS are protected under critical conditions, even when additional or better data may become available in the future).

As for comparisons to GLSD and Lowell, "'a disparity in [permit] requirements is… legally irrelevant' to a permit challenge because 'permits are issued on an individual basis, taking into account individual differences where appropriate.'" *In re Springfield Water and Sewer Commission,* 18 E.A.D. 499, n. 31 (EAB 2021) (citations omitted). EPA notes that certain material circumstances in the GLSD and Lowell permits were different.

In the case of GLSD, the Permittee submitted a detailed description of their previous testing method which included a rope and a metal bucket, identifying several sources of likely contamination. While EPA required the Permittee to correct their deficient WET sampling technique, this information justified use of only the clean sampling data.

In the case of Lowell, the Permittee presented data demonstrating that certain WET samples and clean samples were taken concurrently showing that their clean sampling technique resulting in much lower values. Similarly, EPA was able to justify using only the clean sampling data in the analysis.

In the case of Manchester, the Permittee has not identified any specific sources of contamination, nor have they taken any WET and clean samples concurrently. Without these additional proofs, EPA is unable to determine whether the prior WET data are flawed or if any differences in aluminum can simply be attributed to differences in the actual aluminum levels in the Merrimack River based on a variety of potential factors. Given this uncertainty, the best EPA can do is to combine the WET and clean sampling data into one larger dataset. Given that only 3 clean samples have been submitted (resulting in only 2 monthly average values), this update does not have any impact on the resulting limit. Applying the updated ambient data submitted in Comment 78 below (using monthly averages) also does not have any impact on the resulting limit.

Although the comment also requests that the Final Permit not be issued until additional clean sampling results could be included in the analysis, EPA finds this unnecessary based on Response 11 below regarding the change in aluminum requirements in the Final Permit. However, EPA appreciates the City's efforts in collecting additional ambient data (including additional data submitted in Comment 78 below) and notes that any such data may be used by EPA in the next reissuance of the permit.

Comment 11

Anomalous Effluent Results The aluminum levels in the effluent from the reasonable potential to exceed analysis was based on WET testing data collected by the City during the monitoring period from December 2018 to November 2023 as shown in Figure 4. With the exception of 2 data points, which are 5 times higher than the average value of the rest of the data set (0.24 and 0.26 mg/l compared with the average of all other data 0.048 mg/l), the City's discharge is well below the proposed limit. These 2 consecutive data points skew the 95th percentile used in the potential to exceed calculation higher than it would be otherwise. The 3 most recent WET testing concentrations for aluminum in the WWTF effluent for 4th quarter 2023, 1st quarter 2024, and 2nd quarter 2024 (not included in the draft permit), are 0.036, 0.052 and 0.032 mg/l, respectively and further show the anomalous data points are not representative of the actual WWTF effluent aluminum concentration. Figure 5 shows WET testing results from 2015 through to the most recent, with the two anomalous data points circled in red. The average aluminum concentration in the expanded data set is 0.060 mg/L for the WWTP effluent. The 4 most recent results have been back in the historic range. While the City makes every effort to maintain clean sampling techniques, it is highly probable that the protocol was compromised during those two tests in the first and second quarter of 2023. This is much more likely than the alternative hypothesis that there were unusual discharges to the collection system for the period of the two elevated results. The City will be proceeding with an audit of its effluent sampling methodology by OOE to ensure that there are no future problems, but as noted above and shown in Figure 5, the 4 most recent results are back at historic levels. The City requests these 2 anomalous data points be removed from the WET testing data set and the potential to exceed be recalculated.

Aluminum
Daily Max
(mg/L)
Report
0.026
0.26
0.0485
N/A
0.043
0.068
0.042
0.044
0.042
0.026
0.028
0.069
0.052
0.053
0.045
0.059
0.03
0.059
0.042
0.077
0.036
0.24
0.26
0.054

Figure 4 – Manchester Effluent Aluminum WET Data in Permit

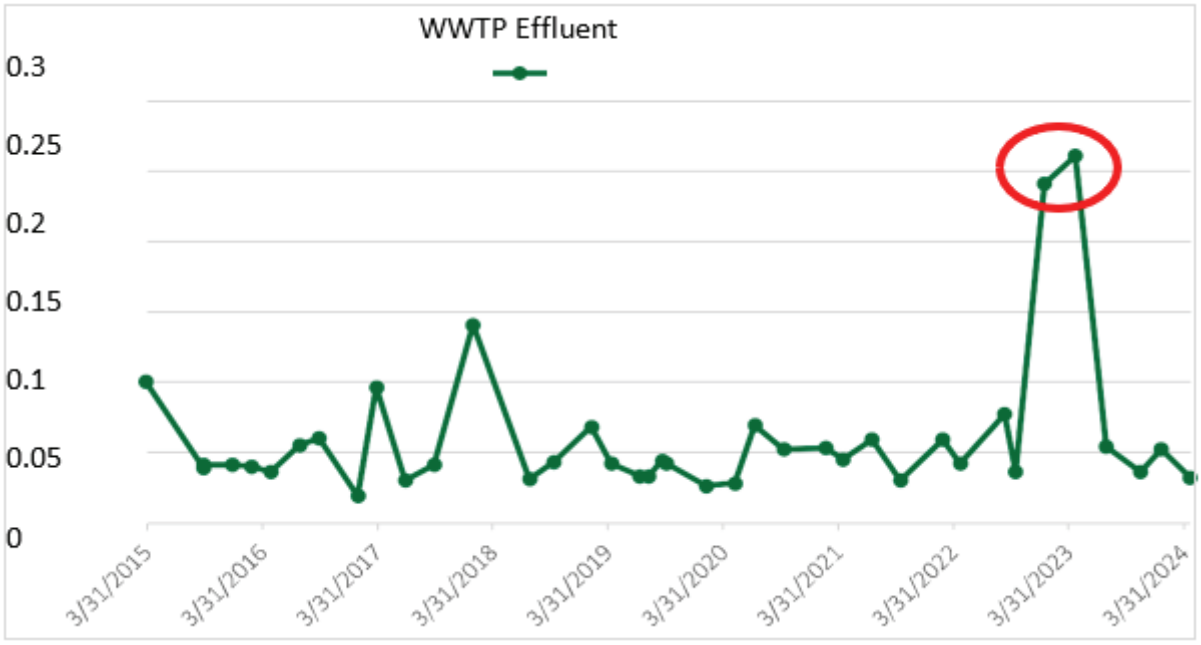


Figure 5 - Manchester Effluent Aluminum WET Testing Data from First Quarter of 2015 to Second Quarter of 2024

Response 11

Given that the historic aluminum levels show relatively consistent results, EPA agrees that these two data points in early 2023 appear to be outliers. In contrast to the ambient data discussed in Response 10 (which are quite variable), these effluent data are quite consistent (except for the two outliers in early 2023) indicating that the effluent generally has very low variability as measured throughout the permit term. This observable consistency both before and after early 2023 makes it easier to flag these as outliers rather than potential increasing trends in aluminum in the effluent. Based on this comment, EPA has re-evaluated the data and determined that the limit was only triggered based on these two data points which are much higher than the long-term average both before and after these two samples were taken.

Further, as noted in the comment, the source of this short-term spike is unknown, is potentially due to sampling error and/or contamination and appears to have been resolved. Given that removal of these two outliers would result in a finding that the aluminum limit is unnecessary because the discharge would not have reasonable potential to cause or contribute to a violation of applicable water quality standards, EPA considers that it would be more appropriate to better characterize the discharge rather than establishing a limit based on two anomalous and likely unrepresentative effluent samples. Therefore, EPA has decided to replace the limit proposed in the Draft Permit with a twice per month monitoring requirement in the Final Permit. These more frequent data will allow EPA to perform a more robust reasonable potential analysis in the next permit reissuance.

Given the potential contamination of both the ambient and effluent aluminum samples flagged by the Permittee in Comments 10 and 11, EPA highlights that the Permittee must improve its sampling methodology to ensure that future results are representative, and all such data can be used in future permitting decisions.

Comment 12

Aluminum Calculator The State of New Hampshire has presented draft changes to Env-Wq 1700 Aluminum Criteria that will allow the Aluminum Calculator provided by EPA to be used. The calculator requires Dissolved Organic Carbon (DOC), Total Hardness, and pH data. The Fact Sheet indicates a representative pH for the Merrimack at the Manchester WWTF outfall of 7.5 and a total hardness value of 15.8 mg/l. The City has not conducted DOC testing to date. However, OOE has conducted recent testing for the Town of Merrimack for DOC downstream of Manchester as summarized in Table 3. Table 3 – Merrimack, NH Dissolved Organic Carbon Data

Sampling Date	River Flow, cfs	Dissolved Organic Carbon, mg/l
10/7/2021	8,640	5.9
10/19/2021	3,250	4.9
8/17/2022	815	3.4

Using the calculator, a sensitivity analysis was completed with the best available data as shown in Figure 6. The results show acute and chronic criteria values far higher than the current chronic criteria of 118 µg/l in the Fact Sheet (105.8 µg/l after the 90% factor in the reasonable potential to exceed analysis). The limiting chronic criteria is in the range of 708 µg/l for DOC of 3.4 mg/l, total hardness of 15.8 mg/l and pH of 7.5.

ENTER DATA HERE					ACUTE	CHRONIC
SiteName	DOC (mg/L)	Total Hardness (mg/L as $CaCO_3$)	pH	FAV	CMC	CCC
	0.5	15.8	7.5 #	1284.88	640	430
	1.0	15.8	7.5 #	1857.84	930	540
	1.5	15.8	7.5 #	2266.7	1100	610
	2.0	15.8	7.5 #	2587.34	1300	650
	2.5	15.8	7.5 #	2851.66	1400	680
	3.0	15.8	7.5 #	3076.66	1500	700
	3.5	15.8	7.5 #	3272.63	1600	710
	4.0	15.8	7.5 #	3446.26	1700	730

Figure 6 - Aluminum Calculator Sensitivity Analysis

In fact, OOE also conducted pH and total hardness testing at the same time on 8/17/2022 for the Town of Merrimack with the acute and chronic criteria results shown in Figure 7.

	DOC	Total Hardness			
Site Name	(mg/L)	(mg/l as CaCO3)	pH	CMC	CCC
8/17/2022	3.4	18	7.45	1600	680

Figure 7 – Aluminum Calculator Results for 8/17/2022 Data

The City requests that the Aluminum Calculator results for the river be recognized as valid and

demonstrating that the current chronic (and acute) criteria for aluminum are excessively low by EPA's own best science. The City plans to move forward with collection of site specific DOC, total hardness and pH data for use with the calculator.

Response 12

As noted in Response 11, there is no aluminum limit established in the Final Permit. In the next permit reissuance, EPA will determine whether any limits are appropriate based on the WQS in effect at that time and the sampling results collected pursuant to the monitoring requirements in this permit.

Although this permit does not establish an enforceable effluent limit for aluminum, EPA responds to concerns raised in this comment to support the public's understanding of how EPA is required to derive effluent limits. The data and calculations presented in this comment apply an approach to developing site-specific aluminum criteria based on EPA's most recent aluminum criteria recommendations. Although EPA has promulgated these aluminum criteria recommendations, "[s]tates are not required to adopt [recommended] criteria and may, with approval, incorporate adjusted criteria or rely on other scientifically defensible methods to protect designated uses" when setting or revising their WQS. *In re City of Keene*, 18 E.A.D. 749, n. 22 (EAB 2022); 40 C.F.R. § 131.11(b).

Furthermore, even if a state does wish to incorporate the recommended criteria, the state must complete the process laid out in 40 C.F.R. Part 131, Subpart C to update its WQS. This process includes EPA review and approval of the proposed new standards. 40 C.F.R. § 131.21. "[U]ntil such time as the State modifies its water quality standards and the Region approves those modifications, the existing standards remain in effect" and EPA must rely on the existing standards when calculating effluent limits. *Keene*, 18 E.A.D. at 752; *see also id.* ("…the Region is required to devise effluent limits to comply with existing state water quality standards, even if those state standards may be revised at some point in the future to incorporate updated recommendations by the Agency."). Although the State of NH has submitted revised aluminum criteria to incorporate EPA's criteria recommendations, EPA has yet to approve these revisions to the NH WQS. EPA appreciates the instream sampling that the City of Manchester has cited which may be used to support future aluminum criteria, if approved in the future. If the updated aluminum WQS are adopted by the state and approved by EPA by the permit next reissuance, then EPA will apply those WQS at that time. "Until that time, the Region is bound by New Hampshire's existing water quality standards." *Keene*, 18 E.A.D. at 751.

Comment 13

Compliance Schedule

In Part I, Item G.1 of the draft permit, EPA has proposed a compliance schedule of 12 months. The City requests the compliance schedule be increased to 60 months if a limit is included in the permit. This will allow further data to be collected and the WQS revisions proposed by NHDES to be implemented. This compliance schedule for aluminum will allow the City to collect

additional effluent and ambient aluminum data using clean sampling techniques and will also allow the City to begin collecting DOC, total hardness and pH data for use with the EPA aluminum calculator. The City requests that the aluminum compliance schedule be extended to 60 months if a limit is included in the final permit. The City requests that if during the compliance period, should the data or WQS revisions support an elimination of the proposed limit, the EPA shall modify the permit.

Response 13

As discussed in Response 11, the Final Permit has established an aluminum monitoring requirement in lieu of an effluent limit. Therefore, the associated compliance schedule has also been removed.

Comment 14

Ammonia Nitrogen

The City takes exception to the proposed ammonia limit for the following reasons:

- Inadequate notification of pending limit means the City does not have the funding capacity.
- Inadequate ambient temperature data to determine appropriate shoulder season limits.
- Inadequate ambient pH characterization.
- Extended compliance schedule needed.

Inadequate Notification
The implementation of a new permit limit for ammonia has major capital improvement implications and no identified source of funding. The City is operating under a Consent Decree that requires major investments in both the collection system and the WWTF. At the WWTF, the City has an existing Capital Improvements Plan that includes critical infrastructure upgrades over the next 5 to 10 years, including new emergency generators; the complete renovation of the Crescent Road (main) Pump Station delivering all flows to the WWTF; and emergency secondary clarifier renovations. If the EPA had intended to implement an ammonia limit in this next permit, it should have been part of the discussions for the current Consent Decree.

An ammonia limit will also create new difficulties in permit compliance related to the total phosphorus effluent limit which became effective under the Consent Decree this past April. The City resolved to meet this limit using enhanced biological phosphorus removal (EBPR). Critical components of this plan were completed and brought online in late 2023. It is unreasonable of EPA to require a new permit parameter like ammonia that has major ramifications on compliance with a recently promulgated parameter like total phosphorus without greater notice and ability to plan.

There is a long-standing precedent for EPA to require monitoring of a pollutant regulated under the Clean Water Act for at least one permit cycle before a set limit is put into the NPDES permit. Such a monitoring requirement provides the time to gather a data set for a defensible limit for each WWTF. While the City has conducted supplemental ammonia sampling that was supplied

to EPA to better characterize effluent ammonia levels, we categorically object on behalf of other WWTFs along the Merrimack that will be facing a limit without anything more than quarterly WET testing. This is significant both for the reasonable potential to exceed analysis and for the specific WWTF to be able to determine how to comply. More significantly for the City of Manchester, the 5-year permit cycle would allow collection of river temperature data to better characterize when and what permit limits are actually needed, especially during the shoulder seasons when an ammonia limit will be most difficult to comply with. This is particularly relevant in light of EPA's response to the City of Fitchburg Comments from Mark McNamara dated January 29, 2024 on the lack of adequate temperature data used to establish new ammonia limits in its draft permit. In its response, EPA placed the burden of proof on the permittee to show that lower temperatures were applicable to shoulder months. This will be discussed further in our Comment 16 below. However, it is unreasonable for EPA to propose a limit that will be based on an educated guess of the applicable temperature without giving the potential permittee reasonable notice and opportunity to collect the appropriate data set. That opportunity would typically be provided by making a pending permit limit parameter a report requirement in the permit cycle prior to actual implementation.

By making ammonia a report parameter for this permit cycle, it would also allow EPA sufficient time to provide adequate and appropriate guidance related to the total nitrogen monitoring requirement, which may result in a future total nitrogen limit. It would be a significant aid to utilities such as Manchester if EPA was able to provide greater guidance on whether a total nitrogen limit will actually be necessary for WWTFs discharging to the Merrimack River and what specific limits might be applicable in determining the most appropriate means to comply with an ammonia limit. For example, to comply only with an ammonia limit, Manchester might choose to nitrify without any meaningful denitrification and thus need significant alkalinity addition both to avoid pH violations and to maintain the pH in the ideal range for EBPR. Conversely, if a future total nitrogen limit is also anticipated, it may be more cost effective to move forward with denitrifying process modifications to reduce or eliminate the need for alkalinity addition. In the latter case, it also would be critical to have guidance on the anticipated effluent limits for total nitrogen. Both alternatives will still require consideration of additional provisions for the current EBPR process and the implications of elevated nitrate levels. Also, nitrification, and total nitrogen removal, can significantly impact secondary system capacity. The City believes that much better planning for more cost-effective facilities can be conducted once EPA is able to provide better guidance.

Response 14

Given that the need for a new ammonia limit was not identified until the development of the Draft Permit began in early 2024, the Permittee could not have been given advanced notice that this limit may be necessary in the next permit reissuance. In fact, every permit reissuance has the potential to trigger the need for new limits without any means to provide advanced notice prior to the development of the Draft Permit. By providing public notice and opportunity to comment on the Draft Permit consistent with 40 C.F.R. §§ 124.10 and 124.11, EPA has given the Permittee and other interested parties the requisite notice of the proposed limit.

This comment suggests that only robust datasets taken over a full permit term should be used to establish permit limits and that EPA should not use limited datasets or assumptions. EPA disagrees. Although it is true that in some, appropriate instances EPA will impose a monitoring requirement in one permit cycle to collect sufficient data to determine whether an effluent limit is necessary and, if so, what that effluent limit will be in a subsequent permit cycle, in other instances, such as this one, EPA already has sufficient data to make those determinations and therefore delaying imposition of a limit for the sole purpose of collecting five more years' worth of data would run contrary to EPA's obligation to "establish [permit] conditions, as required on a case-by-case basis, to provide for and ensure compliance with all applicable requirements of CWA and regulations." 40 C.F.R. § 122.43. Based on an analysis of the available data and reasonable assumptions drawn therefrom – described in Section 5.1.8 of the Fact Sheet – EPA has determined that the Ammonia Nitrogen limit is necessary to ensure compliance with WQS.

The First Circuit has affirmed that EPA must use all available data and make reasonable assumptions to ensure WQS are protected under critical conditions, even when additional or better data may become available in the future:

> neither the CWA nor EPA regulations permit the EPA to delay issuance of a new permit indefinitely until better science can be developed, even where there is some uncertainty in the existing data…
>
> In almost every case, more data can be collected, models further calibrated to match real world conditions; the hope or anticipation that better science will materialize is always present, to some degree, in the context of science-based agency decisionmaking. Congress was aware of this when it nonetheless set a firm deadline for issuing new permits.
>
> As in many science-based policymaking contexts, under the CWA the EPA is required to exercise its judgment even in the face of some scientific uncertainty. The Supreme Court has recognized this dimension of EPA decisionmaking in the context of the Clean Air Act [by reasoning that] the EPA cannot "avoid its statutory obligation by noting the [presence of] uncertainty." (citation omitted).

Upper Blackstone Pollution Abatement District v. EPA, 690 F.3d 9, 19-20 (1st Cir. 2012).

EPA also notes that the commenter's preferred approach of requiring a full permit term's worth of monitoring data would require EPA to impose robust monitoring requirements for a wide range of pollutants in every permit to ensure that any potential limit in the future would be based on a robust 5-year dataset. Rather than taking this approach (which would be quite costly and burdensome to the regulated community), EPA has chosen a more pragmatic approach to require minimal monitoring for a wide variety of pollutants (*e.g.*, chemical specific analyses as part of the quarterly WET tests, or the annual pollutant scan requirements in Parts I.A.1 and I.A.2 of the Permit) and uses

reasonable assumptions and/or statistical evaluations to model or project a worst-case scenario as part of the reasonable potential analysis.

The comment requests that EPA provide better guidance on future permit limits for total nitrogen to plan for the best approach to meet the ammonia limit. EPA notes that the total nitrogen analysis is distinct from most other pollutants of concern because the impacts of total nitrogen are not seen until reaching the marine portion of the Merrimack River. Therefore, the total nitrogen load from the entire watershed must be evaluated and impacts far downstream must be considered. This is different than pollutants such as aluminum or ammonia which are evaluated for toxic impacts in the immediate vicinity downstream of the discharge. More work needs to be done before total nitrogen limits (if any are required) can be allocated to the various POTWs and other sources in the watershed. EPA acknowledges that this makes the decision regarding treatment process changes to achieve the ammonia limit more challenging but is not able to provide any guidance at this time. To the extent EPA is able to provide guidance in the future, it will endeavor to do so.

Comment 15

Effluent Ammonia – Warm Season

Using the full data set for ammonia (both WET and supplemental data) in the Fact Sheet for the warm season period as shown in Table 4, our determination of the 95th percentile value does not match the value presented in the reasonable potential analysis in Appendix B of the Fact Sheet. Using the Excel percentile function (.inc version), the 95th percentile value is 18.25 mg/l rather than 21.8 mg/l. Using this revised value for C_e for Ammonia (warm), the C_d value is reduced to 1.48 mg/l. This has important implications for the need for a limit during the shoulder months as discussed further in Comment 16 below.

Table 4 – Manchester Effluent Ammonia Data

Date	Effluent Ammonia, mg/l	Date	Effluent Ammonia, mg/l
WET Tests:		City Supplemental:	
12/31/2018		5/1/2020	11.5
3/31/2019		5/1/2021	18.0
6/30/2019	13.0	5/1/2022	16.0
9/30/2019	13.0	5/1/2023	14.0
12/31/2019		6/1/2020	17.0
3/31/2020		6/1/2021	16.0
6/30/2020	12.0	6/1/2022	14.0
9/30/2020	19.0	6/1/2023	12.5

12/31/2020		7/1/2020	12.1
3/31/2021		7/1/2021	5.3
6/30/2021	13.0	7/1/2022	8.6
9/30/2021	4.1	7/1/2023	9.0
12/31/2021		8/1/2020	3.6
3/31/2022		8/1/2021	11.0
6/30/2022	13.0	8/1/2022	6.2
9/30/2022	1.2	8/1/2023	6.4
12/31/2022		9/1/2019	15.0
3/31/2023		9/1/2020	19.0
6/30/2023	7.8	9/1/2021	6.8
9/30/2023	9.0	9/1/2022	3.7
		9/1/2023	4.0
		10/1/2019	8.7
		10/1/2020	8.3
		10/1/2021	4.9
		10/1/2022	15.0
		10/1/2023	7.3

Response 15

As noted in Appendix B of the Fact Sheet, the 95th percentile calculation was based on the approach used in EPA's guidance document called the Technical Support Document (TSD) for Water Quality Based Toxics Control[10] and not Microsoft Excel's built-in percentile function. This accounts for the difference in the results described in the comment.

As shown in Appendix E (Table E-3) of the TSD, EPA recommends that the monthly average water quality-based limits be based on the estimates of the 95th percentile of the distribution of the average of the daily effluent values. For sample sizes of greater than 10, the averages (represented by random variable X_n) are assumed to be normally distributed. As presented in the TSD, the following formula is used to calculate the 95th percentile value:

$$E(X_n) + 1.645[V(X_n)]^{1/2}$$

Where:

X_i = daily pollutant measurement i
Y_i = $\ln(x_i)$
K = sample size of data set
$\mu y = \Sigma (Y_i)/k; \quad 1 \leq i \leq k$

[10] EPA TSD, EPA/505/2-90-001; March 1991; see Appendix E.

$\sigma_y^2 = (SUM[(y_i - \mu y)^2]) / (k-1);\ 1 \leq i \leq k$
$E(X) = \exp(\mu y + \sigma_y^2)$
$V(X) = \exp(2\ \mu y + \sigma_y^2)[\exp(\sigma_y^2) - 1]$
$E(X_n) = E(X)$
$V(X_n) = V(X)/n$
$cv(X_n) = V(X_n)^{1/2}/X_n$

EPA acknowledges that the dataset used in the Draft Permit was based solely on the City's supplemental data (resulting in a 95th percentile value of 21.8 mg/L). EPA did not include the WET data since most of the WET data were taken in the same months as the supplemental data and, if the WET dataset were combined, EPA would need to average multiple results in the same month to determine the monthly average values. Having said that, EPA added the WET results simply to determine any impact on the analysis for comparison purposes only. The resulting 95th percentile of the combined dataset, using the TSD method, resulted in a higher value of 24.5 mg/L and would not have any impact on the resulting limit.

In any case, the comment simply suggests that a revised 95th percentile may impact the analysis of the shoulder months. Based on Response 16 below, noting the removal of the ammonia limit in May and October, EPA notes that the changes proposed in Comment 15 are unnecessary to achieve the requested result.

Comment 16

Ambient River Temperature

The City objects to the lack of ambient temperature data provided to support the proposed ammonia criteria. EPA has assumed a flat 25°C temperature for the permit limit months of May to October. The derivation for the temperature parameter is not defined in the Fact Sheet, and it does not appear that an adequate current temperature monitoring database exists for the Merrimack River. Because the water quality criteria for ammonia can vary significantly with temperature, the City requests the opportunity to collect further ambient temperature data to be used to derive the acute and chronic criteria. The City is particularly concerned about the temperatures used during the "shoulder" period months of May, June, September and October, when river temperatures are likely to be significantly lower. If an ammonia limit is not needed in these shoulder periods, it will simplify operations as the plant is seeking to comply with its phosphorus limit through enhanced biological phosphorus removal (EBPR) and could result in major cost savings to comply with any necessary future ammonia limit.

The EPA has not defined in the Fact Sheet the applicable temperature as the mean, median, or 95th percentile for determining the criteria. In the EPA response to comments by the City of Fitchburg dated January 29, 2024 noted above in our Comment 14, the EPA maintained that the maximum temperature for a particular month was the appropriate temperature parameter for determining the water quality criteria. There is probably a reasonable case to be made for this position regarding the acute criteria, which is not the limiting criteria in the reasonable potential to exceed analysis, but the 95th percentile value would also be a consideration. The

NH Env-Wq 1700, 1703.26(c) indicates that the chronic criteria should be based on a 30-day averaging period, which suggests that a monthly average temperature is applicable. The ideal data set would probably include multiple years of monthly average data and might use the highest of the monthly average values.

A search was conducted for available temperature data for the Merrimack River, particularly data applicable to the reach of river that Manchester discharges. Temperature data for the Goffs Falls USGS gauge from 1951 to 1998 is the primary data set that was found for the Merrimack River in its entirety. It is fortunate that this is the most applicable gaging station located just upstream of the Manchester WWTF outfall. Table 5 summarizes all of the USGS data available for May through October and specifically for each month.

Table 5 – Historical Merrimack River Temperature Data, Goffs Falls USGS Gage

Date	All Data	May	June	July	August	September	October
	Temp ℃						
5/7/1952	10.5	10.5					
5/12/1953	16.5	16.5					
8/13/1953	21.5				21.5		
5/6/1954	9	9					
8/13/1954	21.5				21.5		
10/6/1955	15						15
5/7/1956	8	8					
8/3/1956	21				21		
10/3/1956	12						12
5/3/1957	13	13					
7/10/1957	23.5			23.5			
8/23/1967	23.5				23.5		
9/8/1978	8					8	
11/1/1979	5						5
8/6/1980	28				28		
9/16/1980	24					24	
10/23/1980	10						10
6/16/1981	21		21				
8/5/1981	24				24		
9/15/1981	15					15	
10/27/1981	7						7
5/25/1982	14	14					
7/2/1982	17			17			
8/17/1982	22				22		
10/27/1983	9.5						9.5
5/8/1986	11	11					
6/19/1986	20		20				
8/13/1987	20				20		

5/23/1989	16	16					
7/12/1989	24			24			
7/17/1990	25			25			
9/5/1990	22					22	
6/9/1993	18.5		18.5				
6/28/1995	25.2		25.2				
6/30/1995	26.6		26.6				
8/21/1995	26.5				26.5		
10/10/1995	17.1						17.1
8/12/1996	25.4				25.4		
10/2/1996	17.9						17.9
7/7/1997	25			25			
6/17/1998	20.1		20.1				
Average	18.0	12.3	21.9	22.9	23.3	17.3	11.7
Min	5.0	8.0	18.5	17.0	20.0	8.0	5.0
Max	28.0	16.5	26.6	25.0	28.0	24.0	17.9
Count	41	8	6	5	10	4	8

The City maintains that this data set is inadequate, but it does illustrate the importance of this issue and the inadequacy of EPA's educated guess on temperature for the shoulder periods. In Table 6 below, the applicable chronic criteria was determined based on the average and maximum monthly temperature values from the USGS database in Table 5 above and assuming a pH of 7.5. To reiterate, the City maintains that the monthly average temperature is the appropriate temperature parameter to use for the chronic criteria. For reference, 90% of the chronic criteria in the reasonable potential to exceed analysis for the warm weather period from May through October was 0.91 mg/l based on an assumed temperature of 25°C and a pH of 7.5. The estimated downstream river concentration, Cd, for ammonia was 1.74 mg/l for the warm season, and as noted in Comment 3.b, our determination indicates a slightly lower value of 1.48 mg/l. In Table 6, any time the 90% of the chronic criteria is greater than the downstream concentration, there would be no need for a permit limit. This is illustrated by the highlighted cells (yellow if less than EPA determination of 1.74 mg/l, green if less than 1.48 mg/l).

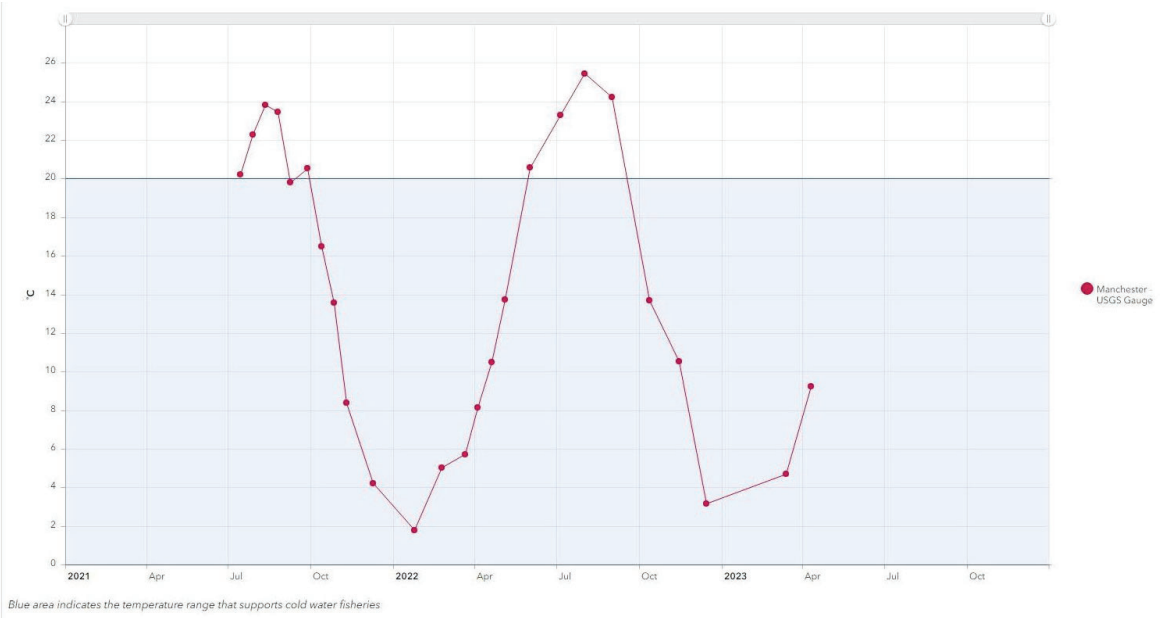
Table 6 – Chronic Criteria Based on Average and Maximum Monthly Temperatures

Temperature Condition	All Data	May	June	July	August	September	October
	Chronic Ammonia Criteria, mg/l						
Average		2.3	1.2	1.15	1.13	1.68	2.4
Maximum		1.75	0.90	0.98	0.83	1.1	1.6
	0.90*Chronic Ammonia Criteria, mg/l[a]						
Average		2.1	1.08	1.04	1.102	1.51	2.16
Maximum		1.58	0.81	0.72	0.75	0.99	1.44

Notes: a. Yellow highlighting indicates chronic criteria exceeds EPA's calculated downstream ammonia concentration of 1.74 mg/l. Green highlighting indicates additional conditions that comply based of the revised downstream concentration of 1.48 mg/l from Comment 3.b.

This limited data set suggests that monthly temperature data does not support an ammonia limit in May, September, and October. More extensive monitoring may show June to be a possibility, though the current data set does not support this. The possibility of a different lower pH value would also increase the chronic criteria as discussed further in Comment 17 below. One additional source of temperature data was found. The Merrimack River Watershed Council (MRWC) collects and reports on a number of water quality parameters including temperature both on their website and in annual reports. The MRWC has been collecting data at several monitoring locations with data collection on a roughly monthly basis starting in 2021 for most stations. One of the stations is the USGS station at Goff's Falls and the published data is presented in Figure 8 below (MRWC web site). This data was not integrated with the above USGS data due to the limited time provided by EPA to respond but can easily be added to improve the data set.

Figure 8 – MRWC Merrimack River Temperature Data at Goff's Falls Gauging Station



In summary, EPA has assumed a flat 25°C temperature for the permit limit months of May to October. While an adequate long-term monitoring data set is not available, a small data set was found that indicates that the shoulder seasons in this area do not approach 25°C for a river temperature. Moreover, the City maintains that the applicable temperature parameter for the chronic criteria is the monthly average temperature. Because the water quality criteria fluctuate greatly with temperature, the City requests a separate and revised temperature be used to evaluate requirements for May, June, September and October – and the City requests adequate time to collect the necessary temperature data.

Response 16

This comment requests that the temperature assumption be revised throughout the year (especially during the months of May, September, and October) to account for lower temperatures in those months. The comment also provides some historic data to support this request.

EPA acknowledges that the ammonia criteria are based on temperatures which change throughout the year. Given the lack of temperature data available in each receiving water throughout the year, EPA must make reasonable assumptions (rather than necessarily requiring robust monitoring, as described in Response 14) regarding temperature to ensure the permit is protective under reasonable worst-case conditions. Having said that, EPA is amenable to revising those assumptions when presented with reasonable temperature data (even if those data are somewhat limited). In this case, the permit provides a summary of historic data from 1952 through 1998.

The comment indicates that "The ideal data set would probably include multiple years of monthly average data and might use the highest of the monthly average values." EPA agrees that this would be ideal and given that most months include only one temperature value, EPA considers that the temperatures in Table 5 represent the monthly average. Therefore, consistent with the comment, EPA considers that the maximum value of these monthly average temperatures for each month represent a reasonable worst-case assumption for use in deriving the chronic ammonia criterion for each month. These temperatures are 16.5°C in May, 24.0°C in September and 17.9°C in October. However, EPA also recognizes that these data are over 25 years outdated. Therefore, EPA has also included a safety factor and has rounded up to 20°C in May, 25°C in September and 20°C in October.

EPA has updated its analysis for May and October using the default temperature of 20°C in these months. (September was already based on 25°C so an updated analysis is not warranted.) Based on this updated analysis, EPA found that there is no reasonable potential to cause or contribute to an excursion of water quality standards in May or October and a limit is not necessary in those months. Therefore, the ammonia limit in the Final Permit has been updated to only apply from June through September.

Finally, regarding the commenter's request for adequate time to collect the necessary temperature data, EPA refers to Response 14 and additionally notes that the Permittee is welcome to collect additional data and provide it for use in the future. Given that it would be considered "new information" that was not available at the time of permit issuance and would have justified a lower limit at that time, it would likely satisfy the anti-degradation exception regarding "new information", meaning that the limit could permissibly "backslide", if justified by the data and legal standard. *See* 33 U.S.C. § 1342(o)(2)(B)(i).

Comment 17

Ambient River pH

The City objects to the limited database for ambient pH in the determination of the applicable ammonia criteria. The limit derivation for pH is noted as being based on WET testing data collected by the City for upstream ambient water quality and plant effluent, which is a very limited data set. For example, the Merrimack River Watershed Council (MRWC) is also monitoring for pH and their available data for the Goff's Falls station is shown in Figure 9. There is unexplained variability in the pH primarily during the cold weather season, but for the warm season months the pH has varied from 6.9 to 7.4. Because the water quality criteria for ammonia can vary significantly with pH, the City requests adequate time to collect additional ambient pH data to be used to determine the applicable acute and chronic criteria.

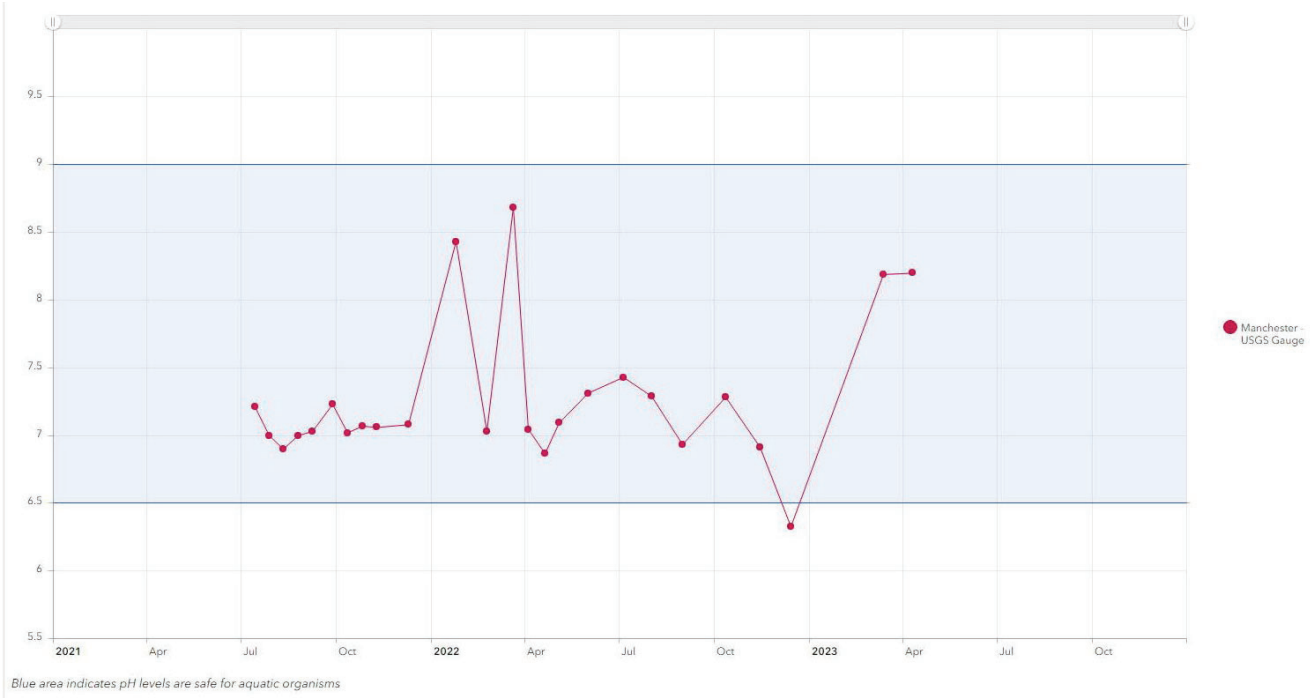


Figure 9 – MRWC Merrimack River pH Data at Goff's Falls Gauging Station

Response 17

As described in Response 14, given the lack of pH data available in each receiving water throughout the year, EPA may make reasonable assumptions rather than requiring robust monitoring regarding pH data to ensure the permit is protective under reasonable worst-case conditions.

Also see Response 16, noting that the Permittee may collect additional data to inform the development of alternative ammonia limits in the future.

Finally, EPA notes that this comment simply requests time to collect additional pH data and does not request that EPA apply the data in Figure 9 to update the analysis from the Fact Sheet. In any case, EPA notes that the pH data in Figure 9 is similar to the data used by EPA in the development of the Draft Permit. While this data covers approximately 2 years and appears to be monthly samples, the data used by EPA covers 5 years of quarterly samples. The median of the data used by EPA was 7.5. Although the data presented in Figure 9 appears to have a slightly lower median, EPA considers that the full 5-year dataset is more representative of long-term conditions and this comment does not result in any change to the Final Permit.

Comment 18

Salmonids

The acute criteria values vary with the presence of salmonids. There are reports that indicate salmon cannot tolerate water temperatures over 20℃ and will seek colder tributaries (See Figure 8, Merrimack River Watershed Council 2021 Water Quality Report, New Hampshire Fish and Game Fact Sheet, and MassDEP Surface Water Quality Standards). Based on this, it is incorrect to use a river temperature of 25℃ to calculate water quality standard criteria, while simultaneously assuming salmonids are present. As such, the acute criteria should be revised and the limit recalculated.

Response 18

The Essential Fish Habitat (EFH) designation for the Merrimack River and its tributaries is to protect Atlantic salmon habitat. The habitat must still be protected even if the species itself is not present during a given season. Therefore, the data referenced by the Commenter indicating that salmonids do not tolerate temperatures above 20°C is not sufficient to demonstrate that EPA's assumption of 25°C for certain months is unreasonable or erroneous. Therefore, this comment does not result in any change to the analysis or the Final Permit.

Comment 19

Compliance Schedule

Finally, should a limit be maintained in the final permit, the City requests the following changes to the compliance schedule:

- 60-month period to conduct river temperature and pH monitoring to determine the appropriate values to use for analysis to determine whether shoulder periods of May, June, September and October require a permit limit at all, and if so, whether a higher limit would be applicable. It is presumed that after 48 months of monitoring, the City would report on the findings for the applicable river temperature and pH, and an updated analysis of the reasonable potential to exceed on a monthly basis to confirm whether limits can be eliminated for some of the shoulder months.

- Concurrent 60-month period to optimize the existing treatment process for phosphorus removal and conduct operational monitoring and trials related to nitrification for ammonia removal. This optimization period will allow the City to understand the performance of their EBPR system with the improvements that were just brought online in December of 2023. Of critical importance are the early spring months prior to and during compliance season to better define the extent of the existing system's ability to remove ammonia while maintaining EBPR. This period will also be used to trial process modifications (with advanced notice and concurrence of EPA and NHDES) to promote nitrification and better understand overall impacts. The City may also choose to pilot test new systems/technology to make better decisions on the longer-term capital improvements required for ammonia compliance. This optimization period will allow the City to understand the implications of meeting the ammonia limit in relation to the total phosphorus limit, and provide a subsequent report on the optimization efforts

- 12-month period to prepare planning level report for ammonia removal. The planning level report would summarize the findings of process optimization efforts to determine the capability of the existing treatment process and evaluate alternatives for the needed upgrades to the secondary treatment process to achieve concurrent EBPR and ammonia removal with the possibility of utilizing a nitrogen removal configuration that would incorporate both nitrification and denitrification. Previous upgrades focused on EBPR, which, as constructed, will require changes to allow both EBPR and nitrification simultaneously to ensure permit compliance for both.

- 24-month period to design upgrades needed to meet ammonia limit.

- 30-month period to construct upgrades needed to meet ammonia limit.

- 12-month period to start-up, troubleshoot, and optimize new process to attain compliance. Overall, a 138-month compliance schedule is requested.

Response 19

Federal regulations at 40 C.F.R. § 122.47(a)(1) require that "Any schedules of compliance under this section shall require compliance as soon as possible…." EPA does not consider a 138-month compliance schedule to be "as soon as possible" under the present facts and circumstances. The request for a 60-month (*i.e.* 5-year) period to monitor temperature and pH is akin to the request in Comment 14 to impose monitoring for a full permit cycle (5 years) before imposing an enforceable effluent limit. Consistent with the rationale in Response 14, EPA does not consider it appropriate to delay implementation of effluent limits for the purpose of collecting this additional data. Additionally, EPA highlighted the change in season of the ammonia limit described in Response 16 and notes that this change is expected to expedite the Permittee's ability to come into compliance. The 24-month compliance schedule in the Draft Permit is based on an assumption that compliance may be achieved through optimization without the need for a major facility upgrade. Given that the comment confirms that optimization alone may be effective in achieving the limit, EPA considers that any

schedule longer than 2 years would not be "as soon as possible." Therefore, the compliance schedule has not been changed.

However, if the initial 12-month optimization study results in a finding that a major facility upgrade is necessary, the Permittee may contact EPA's Enforcement and Compliance Assurance Division (ECAD) to discuss the timing of such an upgrade. Any request for an extended compliance schedule must be accompanied by a financial analysis consistent with EPA's Clean Water Act Financial Capability Assessment Guidance (Revised March 2024).[11]

Comment 20

Part I. A.1, Footnote 16 - Dilution Water for WET Testing

The City has previously communicated with EPA on the issues found with river water quality for WET testing. Email communication was sent on February 2, 2024 to EPA and NHDES requesting a change in dilution water. This request stems from historical, re-occurring issues with *Ceriodaphnia dubia* and *Pimephales promelas* test failures with Aquatec Environmental, Inc, which is the laboratory the City uses for the analysis. In a letter from Aquatec, dated December 29, 2023, the lab director explains that the test failures are likely caused by variable river water quality and they recommend changing to the lab's water for dilution water. The City requests this change to the use of the lab's water for dilution water be accepted.

Response 20

EPA has reviewed the City's request and has granted the use of alternate dilution water for this permit term. This does not result in any change to the Final Permit, but the Permittee will be notified in writing separately regarding this allowance, consistent with the 2015 Final Permit's whole effluent toxicity testing protocols in Attachments A and B, and EPA Region 1's Self-Implementing Alternative Dilution Water Guidance, dated March 2007.

B. Comments from Cheri Cousins, P.E., Executive Director, Greater Lawrence Sanitary District

Due to the inclusion of a significant change to an effluent limit and condition established within the Draft Permit, GLSD recognizes that this modification will evolve into potential operational implications and impacts to a demanding and continuing capital investment schedule and an inability to immediately achieve compliance with the new permit limitations that will result in additional constraints to service affordability for each of the permitted activities within the Merrimack River watershed. GLSD respectfully submits the following comments that were prepared in partnership with our consultants, Kleinfelder.

As documented below, it is hoped that EPA and NHDES will consider these comments and amend the Draft Permit to reflect parameters that can be achieved through compliance

[11] Available at: https://www.epa.gov/waterfinancecenter/clean-water-act-financial-capability-assessment-guidance

measures that remain protective and result in improvements in water quality for the Merrimack River watershed. Being similarly situated as MWTF, GLSD recognizes that instituting the total ammonia nitrogen (TAN) permit limit will potentially result in GLSD being unable to achieve compliance with future permits issued for our operations and require exorbitant capital investment that may not achieve the water quality goals.

Comment 21

GLSD requests that EPA and NHDES remove the TAN limit from the Draft Permit this time but continue the monitoring requirements so that sufficient data can be obtained to establish equitable and achievable effluent permit limits that are protective of the Merrimack River.

Part I.A of the Draft Permit imposes a new average monthly effluent limitation of 10.4 mg/l for TAN. Prior to the issuance of the Draft Permit, Merrimack River NPDES permit holders were not notified of the inclusion of new criteria being utilized to establish new permit limits for TAN for the protection and propagation of fish and shellfish. By contrast, MWTF's 2015 NPDES permit and GLSD's 2019 NPDES permit utilize the revised 1999 freshwater criteria that re-examined the temperature and pH relationships and established criterion continuous concentration (CCC) with unionized ammonia and not TAN.

Inadequate Site-Specific Data to Determine Total Ammonia Nitrogen (TAN) CCC

In establishing the new monthly average TAN limit of 10.4 mg/L (May through October) in the Draft Permit, EPA's rationale incorporated the revised 2013 *AQUATIC LIFE AMBIENT WATER QUALITY CRITERIA FOR AMMONIA – FRESHWATER*[1] recommended criteria. The 2013 CCC is dependent on ambient pH and temperature and includes the evaluation of data for several sensitive freshwater species that had not previously been tested. The results of the revised evaluation established a chronic criterion magnitude that is 2.4-fold lower than the 1999 chronic criterion, which impedes the Permittees' ability to immediately comply with the new effluent limitation.

Furthermore, based upon the Draft Permit's Fact Sheet, EPA assessed that the MWTF discharge has a reasonable potential to cause or contribute to excursions above the instream water quality criteria for ammonia and used a mass balance equation to project the ammonia concentrations downstream of the discharge and to determine necessary permit limits (Appendix B). However, EPA does not document that it has obtained sufficient warm weather data on pH and temperature for calculation of CCC. Without proper justification, EPA assumes both factors to be accurate and utilizes an assumed warm weather (May through October) temperature of 25° C and a cold weather (November through April) temperature of 5° C for the mass balance calculation.

GLSD objects to the incorporation of the new TAN limit without sufficient site-specific data and establishing permit limits that impede the permittees' ability to comply; hence, establishing an unfounded "two-year compliance schedule to allow for optimization of the treatment processes to meet the proposed limit." The new TAN effluent limit, if applied to GLSD's pending NPDES permit, will yield similar results which will impede GLSD's ability to adequately comply with the

new TAN limit that is 2.4-fold lower than the 1999 chronic criterion and require the establishment of a compliance schedule for which GLSD could not achieve under a similar two-year compliance schedule due to the complexity of improvements and investment needed to achieve this requirement.

If EPA establishes the 2013 chronic criterion as the basis for TAN effluent limits with assumed ambient pH and temperature (Highest 7-Day Average of Daily Maximum (7- DADMax) Temperature (or MAX(T, 7)), GLSD and many other Merrimack River water communities will be unable to comply with the TAN permit limits. Furthermore, GLSD's current NPDES permit has nominal ammonia monitoring requirements and limited datasets to characterize or establish defensible TAN limits that are pH and temperature-dependent.

Response 21

Regarding the commenter's request for a monitoring requirement to collect sufficient data, assertion that there is inadequate site-specific data to support the limit, and assertion of insufficient notice prior to the issuance of the Draft Permit, please refer to Response 14.

The basis for the permit's ammonia limits is described in the Fact Sheet on pages 23-24 and Appendix B. The comment explains that the ammonia limit is based on EPA's recommended 2013 aquatic life ambient water quality criteria for freshwater. EPA clarifies that the limit is based on the applicable, numeric state Water Quality Standard developed and approved by EPA under the process laid out in 40 C.F.R. Part 131, Subpart C. Although the applicable, numeric WQS was based on the 2013 recommended criteria, it is most accurate to say that the permit's effluent limit is based on the WQS, not on the recommended criteria. This distinction is consistent with 40 C.F.R. Part 122 and EAB case law. 40 C.F.R. § 122.44(d)(1)(vii)(A) ("When developing water quality-based effluent limits… the permitting authority shall ensure that… the level of water quality to be achieved… is derived from, and complies with all applicable water quality standards"); *see e.g.*, *In re City of Keene*, 18 E.A.D. 749, 755-756, n. 23 (EAB 2022) ("New Hampshire incorporated EPA's… recommended criteria into its water quality standards and the Region approved those standards. The Region is required to establish effluent limits based on those standards."). For additional explanation of the distinction between EPA recommended criteria and effective state WQS, please refer to Response 12.

The commenter also notes that the previous permit's limits were based on different standards. EPA is required to derive limits based on currently-effective WQS, not those that were in effect in the past or that may be in effect in the future. *See Keene*, 18 E.A.D. at 752.

Regarding temperature and pH, see Responses 16 and 17, respectively. Additionally, this comment repeats EPA's default temperature assumption but says it is "without proper justification." While the comment does not explain why these assumptions are unjustified, EPA notes that these values are the standard assumption for all POTW permits in NH based on EPA's assessment of the typical water temperatures in NH under

reasonable worst-case conditions. Notably, the comment does not provide any evidence that these assumptions are incorrect but simply suggests that more data is necessary. As described in Response 14, EPA may take a permitting action even if additional data may become available in the future.

Regarding the compliance schedule, see Response 23 below.

Regarding the commenter's concerns that this permit limit and possible similar limits in other permits in the future impede permittees' ability to comply, EPA notes that in future permit proceedings, a permittee (or other interested party) is always encouraged to submit pertinent public comments, and EPA will take such comments into appropriate consideration. Similarly, to the extent GLSD is concerned regarding its future permit reissuance and a potential TAN limit, EPA notes that GLSD is welcome to begin to collect additional pH, temperature and/or ammonia data to ensure that EPA has a more robust dataset for the District's next permit reissuance.

Comment 22

Error in Determination of 95th Percentile or Maximum Effluent TAN

Permit factsheet Appendix B – Reasonable Potential and Limits Calculations include effluent TAN concentration (C_e) of 21.8 mg/L that represents the 95th percentile (for n ≥ 10) or maximum (for n < 10) concentrations from the DMR data and/or WET testing data during the review period. However, the calculation of 95th percentile TAN concentration is greater than the maximum value of 19 mg/L during the warm weather period based on 10 WET testing data between 12/31/2018 and 9/30/2023 included in Appendix A. It is unclear how EPA calculated this value as it is incorrect based on either normal distribution or lognormal distribution.

Request: EPA includes a detailed description of the calculation for the 95th percentile effluent TAN concentration.

Response 22

See Response 15.

Comment 23

Inadequate Documentation of a Compliance Schedule

EPA acknowledged that the total ammonia nitrogen limits cannot immediately be achieved with the issuance of a Draft Permit and has prescribed a two-year compliance window that appears to be a woefully insufficient allotment of time to achieve compliance. While GLSD strongly opposes the inclusion of an effluent limitation for TAN, in the event EPA adopts a Final Permit that does, in fact, contain an effluent limitation for TAN, GLSD requests that a compliance schedule be included in the permit to allow a reasonable opportunity to attain compliance.

If EPA contends to utilize the 2013 criteria to establish TAN limits and includes TAN limits in each NPDES permit issued within the Merrimack River watershed, GLSD anticipates that many

communities within Merrimack River watershed will be unable to comply without major upgrades to the plant's secondary processes. These upgrades often require significant capital investment and are subject to public funding and bidding requirements that are time-consuming; therefore, they are impossible to comply with if subjected to a similar compliance schedule. For example, GLSD operations currently run in an anaerobic-oxic (AO) mode for biological phosphorus removal (BPR). The current BPR mode prefers conditions that are incapable of achieving permit.

TAN limits. To remove both total phosphorus (TP) and ammonia, the plant will require a major process upgrade to an anaerobic-anoxic-aerobic (oxic) (A2O) process configuration, which would require internal mixed liquor return and likely result in the need for more blower capacity to oxidize ammonia to meet effluent TP and nitrogen limits. These endeavors will require large capital investment and introduce additional operational complexities to cycle between the anaerobic and aerobic environments to achieve compliance. Such an upgrade would be at considerable expense and a significant length of time (without proven environmental benefit). Hence, GLSD envisions the inclusion of a compliance schedule in future NPDES permits if EPA does not alter the implementation of TAN limits and such compliance schedule would abide with 314 CMR 4.03(b) when a permittee: *"…cannot comply with such permit requirements or limitations, or there is insufficient information available to determine whether the permittee can comply with such permit requirements or limitations."*

GLSD foresees a compliance schedule including:

EDP+ 2 years: The Permittee shall undertake an engineering analysis and alternatives study of the WWTP to determine the most cost-effective treatment methods available to consistently achieve compliance with the water quality-based effluent limitation for TAN contained in future permits. This alternatives analysis shall utilize a statistically defensible data set of current plant performance and receiving waters over a number of months and seasons and shall recommend treatment methodologies that will provide for compliance over a range of conditions, including wet weather events, projected future flows to the facility (up to the permitted flow), and a range of temperature conditions.

EDP+ 4 years: Permittee shall secure all necessary approvals and future funding commitments for the required upgrade project. Permittee shall also complete the design and prepare the Request for Proposal.

EDP+ 5 years: Permittee shall advertise for bids for improvements necessary at the WWTF to achieve consistent compliance for the total nitrogen effluent limitation.

EDP + 6 years: Permittee shall select the contractor and award the project.

EDP+ 9 years: Permittee shall complete construction and place into operation improvements at the WWTF, as noted above.

EDP+ 10 Years: Permittee shall evaluate performance of the WWTF improvements and request

an extension to the compliance schedule if necessary.

EDP+ 12 years: Based on the performance evaluation, the Permittee shall achieve compliance with the TAN water quality-based effluent limitation.

Response 23

GLSD proposes a longer compliance schedule for their own facility based on a potential ammonia limit in a future permit reissuance. EPA recognizes that the operational changes and associated timing necessary to achieve a facility-specific limit will likely be different for each facility. Therefore, EPA does not consider that this proposed schedule applies to Manchester or the current permit proceeding, and it does not result in any change to the Final Permit.

For a discussion of Manchester's compliance schedule, see Response 19.

Comment 24

As requested above, GLSD believes that EPA and NHDES should revise and re-issue the Draft Permit, allowing for public comment on the significant changes proposed herein. GLSD looks forward to working with EPA and NHDES to resolve the above issues and develop a final permit that is protective of the Merrimack River and sustainable for the permittee, its member communities, and the ratepayers, including the environmental justice communities that it serves.

Response 24

On December 18, 2024, EPA issued a Revised Draft Permit and held a second public comment period from December 18, 2024 – February 3, 2025. Additionally, EPA exercised its discretion under 40 C.F.R. § 124.12 to host a public hearing on January 21, 2025.

The Revised Draft Permit included new proposed monitoring requirements for effluent characteristics and ambient characteristics. See Response 80 for more details about these new requirements. Because no comments received during the first public comment period appeared to raise substantial new questions concerning the permit, EPA did not propose any other changes in the 2025 Revised Draft Permit. However, to further promote public participation in the permit process and because EPA exercised its discretion to hold a public hearing,[12] EPA accepted comments on all aspects of the draft permit during the second public comment period. EPA has considered all of the comments from both comment periods (including the public hearing) in finalizing the permit.

C. Comments from David L. Boucher, Superintendent, City of Nashua, NH, Department of Public Works

[12] "The public comment period under § 124.10 shall automatically be extended to the close of any public hearing under this section." 40 C.F.R. § 124.12(c).

Comment 25

Section I. G.2, Compliance Schedule

The City of Nashua, NH notes that the Manchester, NH WWTF is not designed for ammonia removal and has recently (December 2023) brought online a new enhanced biological phosphorus removal (EBPR) process. Manchester has not been allowed the opportunity to capture an appropriate quantity of ammonia data with that process online, especially regarding optimizing the system during critical seasonal cycles, as well as not having the opportunity to collect appropriate ambient river data. There is a necessity for a significant amount of data to be collected first, during critical periods of operation, to determine what level of ammonia reduction is routinely achieved by the Facility, with the EBPR online. Following data collection, process modeling and the plant's potential capacity to remove ammonia must be determined, an upgrade has to be designed, and finally constructed, prior to compliance being possible.

The time period necessary for the planning and implementation of any ammonia removal capability will extend well beyond the proposed compliance period allowed within this permit. The approach currently required in the draft permit is inconsistent with the way EPA has approached this issue in the past and creates an unreasonable time schedule for the City of Manchester to achieve compliance. The City of Nashua requests a reasonable compliance schedule to be allowed to be developed for the City of Manchester.

Response 25

See Responses 19 and 23.

D. Comments from Aaron Fox, Executive Director, City of Lowell (MA) Regional Wastewater Utility

Comment 26

Effluent Ammonia Limit: LRWWU strongly disagrees with the proposed implementation of an ammonia limit in this permit, and the potential for a similar approach in the next permit for the Duck Island WWTF. Our objections to the implementation of an ammonia limit are based on the following:

WWTFs discharging to the Merrimack River received a total phosphorus limit in the most recent permit cycle. Like the City of Manchester, LRWWU has focused on meeting its total phosphorus limit via enhanced biological phosphorus removal (EBPR). LRWWU's new total phosphorus effluent limit becomes effective in April 2025 under the compliance schedule of our current permit. A requirement to remove ammonia would typically require the secondary system to be operated to nitrify. This will inhibit the EBPR process and thus cannot be implemented easily. Nitrification also will likely cause impacts on capacity, potentially increasing CSO volumes, due to the need to operate at higher sludge ages. The changes necessary will require very careful study and planning including input from MassDEP and EPA. This will require better characterization of a number of parameters including ammonia, pH and alkalinity levels across

the WWTF. The long-standing practice of including a monitoring requirement for multiple permit cycles provides time to initiate these efforts.

Response 26

See Responses 14 and 19. Regarding the commenter's concerns about a future permit for a different facility, see Response 21.

Comment 27

The EPA has proposed an ammonia limit based on an assumed temperature for the Merrimack River of 25°C for the period from May through October. EPA responses to comments on other permits indicate that this temperature has been assumed based on professional judgment by EPA staff without any actual monitoring data. LRWWU has concerns about the lack of adequate river temperature data on which to determine if permit limits might be needed throughout this entire period particularly for May and June, but also for September and October. We are aware that there is some data for temperature on the Merrimack River and it does not support the temperature assumptions by EPA. We also understand that there are questions about the appropriate temperature parameter to use for the acute and chronic water quality criteria determination, and that different temperature parameters might be appropriate for each – for example a 95th percentile value for acute and a monthly average value for chronic. We also understand that in recent permit comment responses (e.g. Fitchburg), the EPA has sought to place the burden of collecting appropriate ambient data on the permittee. While we question whether this is appropriate, it is certainly unreasonable to expect a permittee to collect the data without adequate notification of a pending pollutant limit as would typically be provided.

Response 27

See Response 16.

As for the burden of collecting ambient data, EPA is not in a position to collect samples for each facility that it permits. Consistent with its obligations under the CWA, regulations, and applicable guidance, EPA reviews all of the applicable data in the administrative record when it makes permitting decisions. In this instance, as described in the Fact Sheet and elsewhere in this RTC, EPA has determined it has sufficient data and information to determine there is reasonable potential for the discharge to cause or contribute to a violation of the applicable water quality standard and to derive the Total Ammonia Nitrogen effluent limit. The Permittee or another interested party is welcome to submit additional data, should it become available in the future, and EPA will consider it, as appropriate. The fact that additional information might become available in the future does not preclude EPA from acting now, as further described in Response 14.

Although in certain instances EPA may exercise its discretion to provide advance public notice ahead of a draft permit issuance, EPA has provided adequate notification of the pending pollutant limit by providing notice and opportunity for public comment consistent with 40 C.F.R. § 124.10.

To the extent Lowell is concerned regarding their future permit reissuance and the TAN limit that may be included, EPA notes that Lowell is encouraged to begin to collect additional pH, temperature and/or ammonia data to ensure that EPA has a more robust dataset for its next permit reissuance.

Comment 28

EPA is requiring monitoring of total nitrogen through monitoring of TKN, Nitrate and Nitrite for both the current Lowell permit and as a new requirement within the City of Manchester draft permit with a goal as stated both in the current Lowell Fact Sheet and the City of Manchester Fact Sheet of collecting sufficient data to assess the impact of nitrogen on the Merrimack River estuary. This assessment and the potential need to plan for a future total nitrogen limit will have major ramifications on the most appropriate approach for meeting an ammonia limit, while concurrently maintaining effective removal of phosphorus. By making ammonia a monitored parameter, it will provide EPA with time to be able to report on at least its preliminary findings and the anticipated magnitude of any proposed effluent limit. This will have major implications on the most cost-effective means to implement the process changes needed for ammonia removal.

Response 28

As noted in the Fact Sheet, EPA is requiring total nitrogen monitoring to provide information on the fate of nitrogen through the treatment process and the impact to the Merrimack River in the estuary at the mouth of the river. At this time, it is not known whether there will be a total nitrogen limit established in the next permit. At the time of the next permit issuance, EPA will review available effluent data in the Merrimack River and determine whether a limit is required and, if warranted, allow for a compliance schedule to meet such a limit. The public will have an opportunity to comment on any such future permit proceeding consistent with regulations.

To the extent this comment requests the ammonia limit to be changed to a monitoring requirement, see Response 14.

Comment 29

Finally, providing a monitoring requirement also provides a small window of time for permittees to adjust our Capital Improvement Plans to account for the major capital improvements required with no identified source of funding. LRWWU, similar to the City of Manchester, is under a Consent Decree to make a major investment in its collection system to reduce combined sewer overflows. Under the Consent Decree, the LRWWU's capital improvement capacity is already to the limit of the community.

Response 29

Regarding the consideration of cost in setting effluent limits, see Response 4. Regarding possible conditions of permits other than the one that is the subject of this permit proceeding, see Response 21.

Comment 30

For these reasons, the LRWWU requests that EPA remove the proposed ammonia limit from the City of Manchester permit and substitute a monitoring requirement. We would also note that even after a permit cycle of monitoring, EPA should anticipate the need for a much, much longer compliance schedule than the 24 months included in the current draft for the City of Manchester. As noted above, there will be extensive planning, design, construction and operational requirements to achieve concurrent ammonia removal and phosphorus removal.

Response 30

See Responses 14, 19, and 23.

Comment 31

Adaptation Planning: LRWWU agrees that adaptation planning for potential storm damage to infrastructure located in flood prone areas should be encouraged, but we do not believe that EPA has the authority to include these planning requirements on the permittee and co-permittees in a NPDES permit particularly without an identified source of funding. Our objections to the inclusion of Adaptation Planning in NPDES permits are based on the following:

The permit requires three major components to be completed over a 48-month timeline including Identification of Vulnerable Critical Assets within 24 months; an Adaptive Measures Assessment within 36 months; and an Implementation and Maintenance Schedule within 48 months of the permit effective date. This timeline is not practical given the scope of these studies and the number of stakeholders that should be included in such a planning effort. Furthermore, the cost of these studies will be considerable and therefore will require time to identify funding sources and assess the impact of these costs to rate payers. The LRWWU will also need to develop the staff capacity to manage and implement these efforts. Additional time is required to properly plan and execute studies of this scale and importance.

Response 31

See Response 3.

Comment 32

Climate change adaptation is a critical issue that requires a regional planning approach with the utility serving as one of several stakeholders in the planning process, and the funding and execution of such a planning process should not be the sole responsibility of the utility. The task of planning for and adapting to extreme storm and flood events under multiple climate change scenarios should be a collaborative effort that involves relevant local, state, and federal government departments and agencies; placing this requirement in a NPDES permit places an unreasonable burden on the utility and restricts the ability of relevant stakeholders outside of the utility to participate in the planning process.

Response 32

See Response 3.

Comment 33

This is a five-year permit for wastewater infrastructure that is typically renewed on a 20 to 30-year cycle. Planning for storm and flooding events that may occur during the useful life of facilities (20 to 30 years) will be challenging and planning for longer-term scenarios (25 to 70 years) may not be practical given the variability of long-term climate change models. While longer-term scenarios should not be ignored, decisions about infrastructure investment should focus on meeting projected climate change conditions within the useful life of the infrastructure given the uncertainties involved in this planning and the impact of capital investments on rate payers.

Response 33

See Response 3.

Comment 34

For these reasons, the LRWWU requests that EPA remove, or at a minimum modify, these provisions from the draft City of Manchester permit. If the EPA chooses to modify the provisions, we suggest that the permit timelines be extended significantly to reflect an appropriate planning and implementation period that accounts for the myriad of funding, coordination, and implementation challenges involved in meeting these permit requirements, especially considering the importance of engaging with local, regional, and federal stakeholders to develop and implement an effective regional approach to climate mitigation planning.

Response 34

See Response 3.

Comment 35

PFAS Testing: There are several issues of concern regarding PFAS testing requirements. PFAS testing methods are still evolving, with a limited number of labs prepared to conduct these tests, and available testing is costly. Utilities need the flexibility to adopt the latest and best PFAS testing approaches as these protocols further evolve. The need for additional research regarding PFAS impacts, the lack of a testing method that has been fully vetted by EPA, and the scarcity of labs able to perform this testing should be reflected in any new permit requirements.

Response 35

Regarding lab availability, EPA is aware of several labs throughout the country that conduct PFAS testing and expects that more labs will become equipped as more permits require use of this method. Given that dozens of permittees in MA and NH have been collecting and reporting PFAS data since late 2023, EPA does not anticipate issues related to lab availability for Manchester.

Regarding cost, see Response 2.

Regarding PFAS testing methods, see Responses 1 and 74.

E. Comments from Michael Theriault, P.E., President, New Hampshire Water Pollution Control Association

Comment 36

Total Ammonia Nitrogen

Please remove the effluent limit on this permit and change to "report" results. Imposition of a numeric limit without adequate supporting or comparative data from other WWTFs or discharge sources is inconsistent with other permits. It has been a standard that EPA require monitoring of a pollutant for at least one permit cycle before a set limit is put into the NPDES permit. This approach places and undue burden on Manchester and results in permits limits issued based on limited (inadequate) sampling data sets.

Ammonia nitrogen monitoring was not a requirement of the 2015 NPDES permit, except as reported quarterly in the WET testing results. Delaying a numeric limit until the next permit cycle evaluations will allow for more information gathering prior to establishing a limit.

Response 36

See Response 14.

Comment 37

Total Ammonia Nitrogen

Criteria values can vary significantly with pH and temperature. Further ambient pH and temperature data should be collected and used to derive the acute and chronic criteria.

The limit derivation for pH is based on WET testing data collected by the City for upstream ambient water quality and plant effluent, which is a limited data set.

The limit derivation for temperature is not defined in the Fact Sheet. EPA has assumed a flat 25℃ temperature for the permit limit months of May to October. The shoulder seasons in this area do not approach 25℃ for a river temperature. The acute criteria should be revised assuming a flat 20℃ temperature for the warmer months and the limit recalculated. The acute criteria values vary with the presence of salmonids and reports that indicate salmon cannot tolerate water temperatures over 20℃ and will seek colder tributaries (See Merrimack River Watershed Council 2021 Water Quality Report, New Hampshire Fish and Game Fact Sheet, and MassDEP Surface Water Quality Standards).

Response 37

See Responses 14 (regarding limited data collection), 16 (regarding temperature), 17 (regarding pH), and 18 (regarding salmonids).

Comment 38

Permit factsheet Appendix B – Reasonable Potential and Limits Calculations include effluent Ammonia concentration that represents the 95th percentile from the DMR data and/or WET

testing data during the review period. Based on a review of WET testing data included in Appendix A the 95th percentile value appears to be 18.25 mg/l rather than 21.8 mg/l proposed. It is unclear how EPA calculated this value as it appears incorrect.

Response 38

See Response 15.

Comment 39

Total Ammonia Nitrogen - Inadequate Compliance Schedule

EPA acknowledged that the total ammonia nitrogen limits cannot immediately be achieved with the issuance of a Draft Permit and has prescribed a two-year compliance window. Based on our discussions with Manchester and the experience of other organization members this is an insufficient allotment of time to achieve compliance. The Compliance schedule should be removed. in the event EPA adopts a Final Permit that does contain an effluent limitation for Total Ammonia Nitrogen, the compliance schedule must be significantly increased to allow a reasonable opportunity to attain compliance.

Response 39

See Response 19.

Comment 40

Total Aluminum

Please remove the effluent limit on this permit.

The State of New Hampshire is in the process of drafting changes to the WQS (similar to MA) that allow the aluminum calculator provided by EPA to be used. The calculator requires Dissolved Organic Carbon and Total Hardness data.

Response 40

See Responses 11 and 12.

Comment 41

Total Aluminum- Inadequate Compliance Schedule

EPA acknowledged that the aluminum limit cannot immediately be achieved with the issuance of a Draft Permit and has prescribed a 12-month compliance window. Based on our discussions with Manchester and the experience of other organization members this is an insufficient allotment of time to achieve compliance. The Compliance schedule should be removed. In the event EPA adopts a Final Permit that does contain an effluent limitation for Aluminum, the compliance schedule must be significantly increased to allow a reasonable opportunity to attain compliance.

Response 41

See Responses 11 and 13.

Comment 42

Part I.C.1. requires Adaptation Planning be developed by the permittee and co-permittees. This requirement appears to impose an undue burden on the permittee and co-permittees as follows:

The Adaptation Plan is quite comprehensive and includes three primary components. Each has a mandated timeline and requires significant resources. Identifying critical assets, assessing adaptive measures, and preparing an implementation and maintenance schedule within the specified timeframes can be a major demand on permittees and co-permittees with limited staff and budget.

Response 42

See Response 3.

Comment 43

The Adaptation Plan does not appear to come with provisions for funding or financial support for permittees. Undertaking vulnerability assessments, adaptive measures assessments, and the subsequent implementation and maintenance schedules would likely require considerable financial investments and staff resources.

Limited federal or state funding will lead many permittees and co-permittees to consider this an unfunded mandate. As more permittees and co-permittees receive new permits, there is a need, for a program to fund all components of the Adaptation Plan.

Response 43

See Response 3.

Comment 44

Current federal and state funding requires the permittees and co-permittees to apply for and secure a loan or grant award, as well as obtain borrowing authorization before they can complete eligible portions of the Plan within the mandated timeline. Based on the size and scope of the Adaptation Plan outlined in the permit, the mandated timeline is not enough time to complete the Plan.

Response 44

See Response 3.

Comment 45

The rigid timelines for each component of the Adaptation Plan, even when Part I.C.1.b. is considered, may not fully address the variations in capacity and complexity of systems managed

by permittees and co-permittees. Allowing flexibility would be beneficial and enable permittees and co-permittees to adjust the process to meet their specific needs.

Response 45

See Response 3.

Comment 46

Component 3: Implementation and Maintenance Schedule requires permittees and co-permittees to submit a proposed schedule along with details on funding sources for adaptive measures. This could result in a long-term financial burden, particularly if the identified adaptive measures are expensive or if funding sources are not readily available. If funding is challenging, other asset management priorities may need to be deferred, which could exacerbate existing, known issues.

Response 46

See Response 3.

Comment 47

It is requested that the EPA consider adjustments to these requirements to address these concerns to best ensure permittees and co-permittees will be able to fully comply with the permit.

Response 47

See Response 3.

Comment 48

The costs associated with developing such extensive upgrades for Total Ammonia Nitrogen, Total Aluminum, and Climate Adaptation could result in deferring important projects with more immediate needs. The proposed timeframes could have immediate impacts on the City of Manchester and Co- permittee's ability to fund other projects. Any rate impacts will be felt by the most vulnerable populations served by City and Co-permittees which is largely comprised of environmental justice communities, this is of particular concern.

The NHWPCA recommends that EPA, before including such language in a permit for Total Ammonia Nitrogen, Total Aluminum, and Climate Adaptation Planning, provide the City of Manchester, Co- permittees, and the public a formal cost-benefit analysis and calculate the cost burden of these requirements. The cost-benefit analysis should take into consideration the impact that increasing the carbon footprint of wastewater treatment facilities due to ever-increasing requirements and costs to meet more stringent permit limits will have on the environment. Ultimately, there is a trade-off that approaches the point of diminishing returns. Permittees and the public need the opportunity to weigh the net environmental and public health benefits of an onerous NPDES permit limit and climate planning mandate versus the benefits that will be deferred or delayed for other water quality improvement projects.

Response 48

As described in Response 3, EPA has removed the proposed Adaptation Planning requirement from the Final Permit. Regarding the other referenced provisions, see Response 4.

F. Comments from Jillian Aicher, Equal Justice Works Legal Fellow, Conservation Law Foundation

FACTUAL BACKGROUND & OVERVIEW

I. The Manchester WWTF is Northern New England's largest WWTF and is the only WWTF in New Hampshire that burns sewage sludge.

The City of Manchester's WWTF is Northern New England's largest WWTF. The WWTF is designed to treat 34 million gallons of wastewater per day.[5] As detailed in the Fact Sheet of the Draft Permit, the WWTF serves 155,000 users—109,000 in the City of Manchester and 46,000 in the Towns of Londonderry, Bedford, and Goffstown.[6]

The Manchester WWTF discharges effluent into the Merrimack River, an iconic water resource of critical importance to New Hampshire and Massachusetts. In addition to its importance as a natural resource for aquatic and wildlife species, the river provides drinking water for more than 700,000 people, including communities located downstream from the WWTF such as Nashua, NH, and Lowell, Methuen, Andover, Tewksbury, and Lawrence, MA.[7] Along with discharging effluent into surface waters, the WWTF burns sewage sludge in an onsite incinerator, releasing emissions into the ambient air. The Manchester WWTF is the only WWTF in New Hampshire that incinerates sewage sludge.[8]

[5] *See* ENV'T PROT. AGENCY, AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM, NPDES PERMIT NO. NH0100447 2024 DRAFT PERMIT at 3 (2024), https://www.epa.gov/system/files/documents/2024-04/draftnh0100447permit-2024.pdf [hereinafter Draft Permit].
[6] *Id.* at Fact Sheet 13
[7] *About the Merrimack,* EPA (April 23, 2024), https://www.epa.gov/merrimackriver/about-merrimack. NATIONAL BIOSOLIDS DATA PROJECT, STATE BIOSOLIDS SURVEY: 2018 DATA (2021), https://static1.squarespace.com/static/601837d1c67bcc4e1b11862f/t/6203f0b582fcfb750de408e1/1644425397690/NH_BiosolidsDataSummary_NBDP%26NEIWPCC_20220209.pdf.
[8] NATIONAL BIOSOLIDS DATA PROJECT, STATE BIOSOLIDS SURVEY: 2018 DATA (2021), https://static1.squarespace.com/static/601837d1c67bcc4e1b11862f/t/6203f0b582fcfb750de408e1/1644425397690/NH_BiosolidsDataSummary_NBDP%26NEIWPCC_20220209.pdf.

II. The Manchester WWTF releases toxic PFAS into the environment through effluent discharges and incinerator emissions.

The Manchester WWTF's discharges into the Merrimack River and emissions into ambient air contain toxic PFAS chemicals. Two sources of information—a peer-reviewed article and Manchester's own PFAS monitoring data—document PFAS in the WWTF's inputs and outputs.

The first PFAS data source, the "Battelle Study," is a peer-reviewed paper detailing a two-day PFAS sampling program that Battelle Memorial Institute researchers conducted in 2019. The Battelle Study documents PFAS in the WWTF's influent, effluent, sludge, incinerator ash slurry, and incinerator stack gas.[9] PFAS concentrations in treated water effluent reached 167 parts per trillion ("ppt") for 30 PFAS compounds combined.[10] Total PFAS levels in the water increased after wastewater treatment, from 117 ppt in influent to 167 ppt in effluent discharged to the Merrimack River.[11] The level of GenX—a PFAS compound recently regulated in drinking water and known to cause health harms[12] —more than doubled from influent to treated effluent.[13] This increase, of total PFAS and some individual compounds, observed at the Manchester facility corresponds with findings in other studies.[14] This phenomenon highlights that wastewater treatment facilities do not remove PFAS pollutants; rather, they can exacerbate the PFAS problem.

The Battelle Study also shows that the WWTF's onsite incinerator emits PFAS into ambient air.[15] The study estimated that the incinerator removed only 51 percent of the PFAS measured and concluded that the incinerator "may inadequately remove PFAS." Comparing the 51 percent destruction and removal efficiency ("DRE") for PFAS[16] to the 99.9 percent DRE required for polychlorinated biphenyls, another organic pollutant,[17] shows that the Manchester incinerator subjects neighboring residents to unacceptable PFAS emissions and associated health risks.

Importantly, the Battelle Study did not capture the full scope of PFAS pollution. The researchers only measured 30 PFAS compounds in air emissions and calculated the 51 percent DRE without accounting for products of incomplete combustion ("PICs")[18]. Thus, the incinerator could be emitting unmeasured PFAS or other harmful byproducts not documented in the study. The researchers also observed that the incinerator formed GenX and emitted 44,000 times more inorganic fluoride than expected.[19] Recently-issued EPA guidance on PFAS destruction and disposal further highlights the uncertainties associated with PFAS emissions from sewage sludge incineration. The guidance states that "[t]he behavior of PFAS and PFAS-related PICs" in thermal treatment systems like sewage sludge incinerators is "largely unknown," and that these systems create "secondary waste streams" in which "PFAS and PFAS-related PICs may be present."[20]

The second PFAS data source, the "Manchester Monitoring Data," consists of data that the Manchester WWTF compiled after voluntarily monitoring four PFAS in influent, effluent, sludge, ash, landfill leachate, and septage monthly from 2019 through 2023.[21] The PFAS levels in the WWTF's effluent ranged from 6 to 50.3 ppt when only four compounds were measured.[22] Some individual compound concentrations in effluent documented in the WWTF monitoring data exceed the Battelle Study's measured concentrations for PFOA, PFOS, and PFHxS, reaching as high as 20.6 ppt,[23] 30 ppt,[24] and 9.1 ppt[25] respectively. The WWTF monitoring data also demonstrates that the WWTF is discharging PFAS into the Merrimack River on an ongoing basis, with no continuous trend of decreasing concentrations over time.

Manchester did not identify PFAS in its application documents submitted in 2019 for this permit renewal,[26] and the Draft Permit materials do not suggest that EPA considered the Battelle Study and/or the City's PFAS Monitoring Data in developing the Draft Permit. However, these data sources demonstrate that the WWTF is consistently discharging toxic PFAS into the Merrimack River and its sludge incinerator is releasing PFAS into Manchester's air. EPA must consider this information in its permit development process, as the NPDES "permitting scheme is dependent on the permitting authority being able to judge whether the discharge of a particular pollutant constitutes a significant threat to the environment[.]"[27]

9. See Seay et al., *supra* note 6, at 4; *see also* SEAY ET AL., SUPPORTING INFORMATION FOR PER- AND POLYFLUOROALKYL SUBSTANCES FATE AND TRANSPORT AT A WASTEWATER TREATMENT PLANT WITH A COLLOCATED SEWAGE SLUDGE INCINERATOR at S19, S37 (2023), https://www.sciencedirect.com/science/article/pii/S0048969723009737#s0110 [hereinafter Battelle Study Supporting Information] (attached as Exhibit E).
10. Battelle Study Supporting Information, at tbl. S12.
11. Id. at Text S5.
12. See 89 Fed. Reg. 32532, 32532, 32548 (April 26, 2024).
13. Battelle Study Supporting Information, at tbl. S12.
14. Seay et al., *supra* note 6, at 4.
15. Id. at 1.
16.Id.
17.40 C.F.R. § 761.70(a)(2).
18. See Seay e al., at 2, 9 ("The DREs reported here represent the losses of a given target PFAS or PFAS class, without respect to the potential for species to be partially broken down into unmeasured products of incomplete combustion. Future research measuring full mineralization can provide a more complete understanding of the breakdown of PFAS during incineration.")
19. Id. at 6, 8.
20. EPA 2024 PFAS Destruction & Disposal Guidance, at 54.
21. City of Manchester WWTF PFAS Monitoring Reports (2019–23) (attached as Exhibits F through J). Although the WWTF represented in two annual Industrial Pretreatment Program Reports that it had taken measurements of 16 PFAS compounds, it only monitored for the four PFAS regulated in New Hampshire drinking water and groundwater. *See* CITY OF MANCHESTER, INDUSTRIAL PRETREATMENT PROGRAM ANNUAL REPORT: JUNE 1, 2022 THROUGH MAY 31, 2023 at 17 (2023), https://www.manchesternh.gov/Portals/2/Departments/environ_protec/-website/City_of_Manchester_IPP_Annual_Report_2022-2023.pdf?ver=2023-08-01-114901-107 [hereinafter 2022–2023 IPP Annual Report]; CITY OF MANCHESTER, INDUSTRIAL PRETREATMENT PROGRAM ANNUAL REPORT: JUNE 1, 2019 THROUGH MAY 31, 2020 at 17 (2020) https://www.manchesternh.gov/Portals/2/Departments/environ_protec/IDP/2019-2020%20IPP%20Annual%20Report.pdf?ver=2020-12-16-113619-713 [hereinafter 2019–2020 IPP Annual Report].
22. City of Manchester WWTF PFAS Monitoring Reports (2019–23).
23. City of Manchester WWTF PFAS Monitoring Report (2021).
24. City of Manchester WWTF PFAS Monitoring Report (2022).
25. City of Manchester WWTF PFAS Monitoring Report (2022).
26. See generally MANCHESTER WWTF, PERMIT APPLICATION SECTION 3: INFORMATION ON EFFLUENT DISCHARGES (approved Mar. 5. 2019) (attached as Exhibit K).
27. Piney Run Pres. Ass'n v. Cnty. Comm'rs of Carroll Cnty., 268 F.3d 255, 268 (4th Cir. 2001).

III. The Manchester WWTF receives PFAS-contaminated influent from industrial users and has no processes to control or treat PFAS.

Industrial Users ("IUs") likely contribute the largest share of PFAS to the WWTF's influent. These IUs include landfills with documented PFAS contamination and other industrial facilities in PFAS-associated industries. The WWTF receives wastewater from at least 88 IUs,[28] 14 of which are classified as Significant Industrial Users ("SIUs"), according to its most recent annual pretreatment report.[29] But the City's most recent annual pretreatment report does not identify all IUs; for example, the City began accepting PFAS-contaminated influent from the active North County Environmental Services ("NCES") landfill in Bethlehem, NH in 2024.[30] The WWTF is not equipped to remove PFAS from influent, so the PFAS it receives from industrial facilities and landfills passes through the plant to the Merrimack River through treated wastewater or to ambient air through the sludge-burning incinerator.

28. 2022–2023 IPP Annual Report App'x A–D; 2019–2020 IPP Annual Report App'x A–D.
29. 2022–2023 IPP Annual Report App'x A; *see also* 2019–2020 IPP Annual Report App'x A. *But see* Draft Permit Fact Sheet at 13 (stating that Manchester's permit application listed 18 SIUs).
30. CITY OF MANCHESTER, DEP'T OF PUBLIC WORKS, CLASS III WASTEWATER DISCHARGE PERMIT NO. T-3001-2-24 (2024) (attached as Exhibit L); CITY OF MANCHESTER DEP'T OF PUBLIC WORKS, CLASS III WASTEWATER DISCHARGE PERMIT NO. T-3001-4-24 (2024) (attached as Exhibit M).

A. The Manchester WWTF accepts PFAS-contaminated leachate from two landfills.

The City accepts PFAS-contaminated landfill leachate from two landfills—the closed Manchester Municipal Landfill, and the active landfill in Bethlehem owned by NCES, a subsidiary of Casella. Both closed and active landfills generate leachate, a type of wastewater formed from precipitation, groundwater seepage, microbiological organism breakdown, and ground moisture.[31] Leachate contains pollutants "at several orders of magnitude higher than typical domestic wastewater" and often contains emerging contaminants like PFAS.[32]

The closed Manchester Municipal Landfill, an SIU under the City's pretreatment program, is generating leachate and sending it to the WWTF. The Manchester Municipal Landfill has consistently contributed PFAS to the WWTF since at least 2019, with leachate concentrations ranging from 5.72 ppt[33] to 169.6 ppt[34] when four PFAS compounds were measured.

Moreover, although it is not classified as an IU or SIU in Manchester's pretreatment reports, NCES sent landfill leachate to the Manchester WWTF from April to May 2024 (up to 30,000 gallons per day),[35] in March 2024 (47,703 gallons total),[36] and in February 2024 (454,886 gallons total)[37] under temporary discharge permits.[384] The WWTF sampled NCES's leachate influent for PFAS in February 2024, measuring 1,870 ppt PFOA, 281 ppt PFOS, 4,240 ppt PFHxS, and 125 ppt PFNA[39] The WWTF's findings noted that each of these samples exceeded the New Hampshire drinking water standards, which are 12 ppt PFOA, 15 ppt PFOS, 18 ppt PFHxS, and 11 ppt PFNA.[40] The NCES landfill leachate contained 11,186.7 ppt total PFAS when 17 compounds were measured on February 13, 2024 (during NCES's temporary permit period to discharge into the

Manchester WWTF)[41] and 12,263 ppt PFAS when 12 compounds were measured for a different WWTF in 2023.[42]

In addition to discharging PFAS at high concentrations, evidence suggests NCES violated the temporary discharge permits that authorized it to send leachate to the City's WWTF. The landfill sent more leachate to the WWTF than the permit's daily limit, discharged leachate to the plant on days that were not covered by the temporary permit, and failed to disclose certain pollutant parameters.[43] Despite these violations, despite the WWTF's inability to treat PFAS, and despite the known health risks associated with these pollutants, the City has communicated with Casella regarding the potential to accept PFAS from another active Casella landfill, the Coventry landfill in Vermont.[44]

No evidence suggests that EPA considered the above information regarding Manchester accepting PFAS-contaminated influent from landfills when developing the City's draft permit. EPA must consider this information before finalizing the permit and should respond accordingly, as described below in the "Detailed Comments on the Draft Permit."

31. Env't Prot. Agency, Off. of Rsch. & Dev., State of the Practice of Onsite Leachate Treatment at Municipal Solid Waste Landfills at 1 (EPA/600/R-21/182) (Oct. 2021).
32. Id. at 9.
33. City of Manchester WWTF PFAS Monitoring Report (March 2022).
34. City of Manchester WWTF PFAS Monitoring Report (October 2019).
35. City of Manchester Dep't of Public Works, Class III Wastewater Discharge Permit No. T-3001-4-24 (2024).
36. Letter from Lindsey Menard, North Country Environmental Services, Inc., to Jaime Colby, P.E., New Hampshire Department of Environmental Services, regarding North Country Environmental Services, Inc.Landfill Facility - Bethlehem, NH Permit # - NH DES-SW-SP-03-002 First Quarter Facility Report; 2024 at 21 (April 30, 2024) (attached as Exhibit N).
37. Id. at 17.
38. City of Manchester, Dep't of Public Works, Class III Wastewater Discharge Permit No. T-3001-2-24 (2024); City of Manchester Dep't of Public Works, Class III Wastewater Discharge Permit No. T-3001-4-24 (2024).
39. Email from Christopher Crowley, Manchester EPD, to Frederick McNeill, Manchester EPD, regarding Leachate Disposal PFAS sampling results vs. NHDES Drinking water limits (April 18, 2024) (attached as Exhibit O).
40. Id.
41. NORTH COUNTRY ENV'T SERVS., INC. SUMMARY OF MONITORING DATA – TANK B LEACHATE – PFAS (Tbl. 3) (2024) (attached as Exhibit P).
42. Letter from Lindsey Menard, North Country Environmental Services, Inc., to Kristin Noel City of Concord, New Hampshire Wastewater Treatment Facility, regarding North Country Environmental Services, Inc. Landfill Facility – Bethlehem, New Hampshire City of Concord Leachate Discharge Permit (#H34) Annual Leachate Report, 2023 at PDF 30 (March 20, 2023) (attached as Exhibit Q).
43. Email from Save Forest Lake to Stergios Spanos, Dep't Env't Servs. Regarding Manchester WWTP Permit Violations – NCES Landfill Leachate (May 21, 2024) (attached as Exhibit R).
44. See Email from Clark James, Casella, to Frederick McNeill, Manchester EPD, regarding Leachate Disposal (April 17, 2024) (attached as Exhibit S).

B. Other facilities in PFAS-associated industries send wastewater to the Manchester WWTF.

In addition to landfill leachate contributing PFAS to the WWTF's effluent, at least 11 other SIUs operate in PFAS-related sectors and send wastewater into the WWTF, as detailed in the chart below:[45]

Significant Industrial User	Type of Business	Average Flow (Gallons Per Day)
Jewell Instrument	Metal Finisher	3,700
NYCOA	Plastic Production	285,000
XMA	Semi-Conductor	560
Velcro USA	Textile Manufacturing	80,100
Prysmian Cables & Systems	Textile Manufacturing	23,700
E&R Cleaners	Cleaning Services	70,600
Sterling Laundry	Cleaning Services	95,000
Elliot Hospital	Hospital	69,400
Catholic Medical Center	Hospital	68,900
Department of Veterans Affairs	Hospital	45,000
Dartmouth Hitchcock	Hospital	25,000

The additional industry categories in the chart above—metal finishing, plastic production, semi-conductors, textile manufacturing, cleaning services, and hospitals—have been associated with PFAS use or PFAS contamination.[46] Other IUs that are not classified as significant but that potentially discharge PFAS into the Manchester facility include but are not limited to commercial car washes and Textile Coating International, a facility that manufactures polytetrafluoroethylene.[47]

Despite awareness that it is receiving PFAS in influent and discharging PFAS to the Merrimack River since at least 2019, the Manchester WWTF has no treatment processes to remove PFAS and has not implemented source reduction measures to reduce the PFAS entering the plant. To the contrary, the Manchester WWTF has admittedly failed to initiate any communications with industrial users regarding PFAS.[48]

45. See 2022–2023 IPP Annual Report App'x A; *see also* 2019–2020 IPP Annual Report App'x A.
46. See **2022–2023 IPP Annual Report;** 2019–2020 IPP Annual Report. ***See also*** **April 2022 EPA PFAS Memorandum, at 2; *Per- and polyfluoroalkyl substances (PFAS)*, CTRS. FOR DISEASE CONTROL AND PREVENTION (Sept. 15, 2022), https://www.cdc.gov/niosh/topics/pfas/default.html;** *'Forever chemicals' – the part of cleaning you don't want to last*, EWG (Oct. 27, 2023), **https://www.ewg.org/news-insights/news/2023/10/forever-chemicals-part-cleaning-you-dont-want-last**.
47. 2022–2023 IPP Annual Report App'x B (Textile Coating International), App'x C (State Motors Car Wash).
48. See Email from Adam Dumville, Director, McLane Middleton to Tom Irwin, Vice President, Conservation Law Foundation (Feb. 15, 2024) (attached as Exhibit T).

IV. PFAS chemicals are harmful to humans and wildlife, persistent, and bioaccumulative.

PFAS pollution from the Manchester WWTF and its onsite incinerator increases health risks for residents in Manchester and communities downstream of the plant. These manufactured and persistent chemicals are detrimental to humans: they are linked to health harms such as cancer (kidney, prostate, and testicular cancer), thyroid disease, developmental impacts to children, reproductive and fertility impacts, obesity, diabetes, high cholesterol, and decreased vaccine response.[49]

EPA has highlighted the negative health impacts of PFAS chemicals, and the need to address them, in its recent regulatory actions. Most recently, on April 17, 2024, EPA designated PFOA and PFOS as "hazardous substances" under the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA").[50] On April 8, 2024, EPA established enforceable drinking water standards that cover six PFAS chemicals (PFOA, PFOS, PFHxS, PFNA, GenX, and PFBS).[51] In February 2024, EPA issued a proposed rule designating nine PFAS chemicals as "hazardous constituents" under the Resource Conservation and Recovery Act ("RCRA").[52] In June 2022, EPA set stringent drinking water health advisories under the Safe Drinking Water Act ("SDWA") for PFOA and PFOS (interim) and GenX and PFBS (final).[53] In issuing these rules, proposed rules, and guidance values, EPA has recognized that PFAS cause "toxic and adverse effects in animals, humans, or both"[54] and has cited evidence regarding the immune, cardiovascular, developmental, carcinogenic, liver, and kidney effects of these chemicals.[55]

The New Hampshire Department of Environmental Services ("DES") also has highlighted the health harms associated with some PFAS. In 2019, DES established state drinking water maximum contaminant levels and ambient groundwater quality standards for PFOA, PFOS, PFHxS, and PFNA.[56] In proposing those rules, DES highlighted the potential for those chemicals to cause liver damage, lipid metabolism effects, decreased immune response, and negative fertility impacts for women.[57] DES also recognized that they are linked to cancer and thyroid, developmental, cholesterol, and neurobehavioral impacts.[58]

In addition to their persistence and toxicity, many PFAS chemicals bioaccumulate in wildlife.[59] PFAS bioaccumulation harms both animals and humans. Regarding animals, studies have linked PFAS to "stress, diminished growth rates and reproductive abilities, and" sometimes even death in aquatic life[60] such as fish and mussels.[57] Regarding humans, dietary sources of PFAS—including fish—constitute "at least 61% of PFAS exposure in adults."[58] There is a "significant positive correlation" between higher fish consumption and increased PFAS detected in humans.[59] Of particular note and concern, consuming just one serving of freshwater fish with 8.41 micrograms of PFOS per kilogram of fish—the median level of PFOS found in freshwater fish in one EPA sampling program—*has the same health impacts as drinking water with 48 ppt PFOS (2,400 times higher than EPA's interim health advisory level for PFOS) for an entire month*.[60]

Many EJ communities are located within the City of Manchester. Two U.S. Census Tracts that are located roughly two miles away from the WWTF and its incinerator are overburdened by environmental pollution. One of these communities has a population that is 56 percent people

of color, 62 percent low income, and falls above the 96th state percentile for all but one of EPA's EJ Indexes. Another has a population that is 41 percent people of color, 43 percent low income, and falls above the 94th state percentile for all thirteen EJ Indexes. These two communities are located north and northeast of the facility, exposing them to health risks from breathing contaminated air when wind blows from the south. Manchester residents that fish near or downstream of the WWTF are also likely disproportionately impacted by the WWTF's PFAS pollution in water and air.

49. See 87 Fed. Reg. 36848, 36849 (June 21, 2022); 89 Fed. Reg. 8606, 8613–8615 (Feb. 8, 2024); *Our Current Understanding of the Human Health and Environmental Risks of PFAS*, EPA, https://www.epa.gov/pfas/our-current-understanding-human-health-and-environmental-risks-pfas (last updated June 7, 2023).
50. Env't Prot. Agency, Designation of Perfluorooctanoic Acid (PFOA) and Perfluorooctanesulfonic Acid (PFOS) as CERCLA Hazardous Substances (Pre-Publication Notice) (April 17, 2024), https://www.epa.gov/system/files/documents/2024-04/pre-publication_final-rule-cercla-pfoa-pfos-haz-sub.pdf; *see also* 89 Fed. Reg. 39,124, 39139 (May 8, 2024).
51. ENV'T PROT. AGENCY, PFAS NATIONAL PRIMARY DRINKING WATER REGULATION RULEMAKING (PRE-PUBLICATION VERSION) (April 8, 2024), https://www.epa.gov/system/files/documents/2024-04/pfas-npdwr_prepubfederalregisternotice_4.8.24.pdf; *see also* 89 Fed. Reg. 32532 (April 26, 2024).
52. See generally 89 Fed. Reg. 8606 (Feb. 8, 2024).
53. 87 Fed. Reg. 36848, 36849 (June 21, 2022).
54. 89 Fed. Reg. 8606, 8609 (Feb. 8, 2024).
55. 87 Fed. Reg. 36848, 36849 (June 21, 2022).
56. These rules were "temporarily stayed by a court injunction," but the same standards "were established as a matter of law by House Bill 1264, which became effective July 23, 2020." *See* N.H. DEP'T ENV'T SERVICES, 2023 STATUS REPORT ON THE OCCURRENCE OF PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) CONTAMINATION IN NEW HAMPSHIRE at 29 (2023), https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/r-wmd-23-01.pdf.
57. N.H. DEP'T ENV'T SERVS., TECHNICAL BACKGROUND REPORT FOR THE JUNE 2019 PROPOSED MAXIMUM CONTAMINANT LEVELS (MCLS) AND AMBIENT GROUNDWATER QUALITY STANDARDS (AGQSS) FOR PERFLUOROOCTANE SULFONIC ACID (PFOS), PERFLUOROOCTANOIC ACID (PFOA), PERFLUORONONANOIC ACID (PFNA), AND PERFLUOROHEXANE SULFONIC ACID (PFHXS) (R-WD-19-29) at 1, https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/r-wd-19-29.pdf [hereinafter DES Technical Background].
58. Id.
59. See Per- and Polyfluorinated Substances (PFAS) Factsheet, CTRS. FOR DISEASE CONTROL AND PREVENTION, https://www.cdc.gov/biomonitoring/PFAS_FactSheet.html; Heidi M. Pickard et al., *PFAS and Precursor Bioaccumulation in Freshwater Recreational Fish: Implications for Fish Advisories*, 56 ENV'T SCI. & TECH. 15573, 15573, 15578 , 15579–80 (2022); N.H. DEP'T ENV'T SERVS., PLAN TO GENERATE PFAS SURFACE WATER QUALITY STANDARDS 11 (2019), https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/r-wd-19-30.pdf.
60. Serena E. George et al., *Nonlethal Detection of PFAS Bioaccumulation and Biomagnification Within Fishes in an Urban- and Wastewater-dominant Great Lakes Watershed*, 321 ENV'T POLLUTION 121123, 121123 (2023).
57. Changhui Liu et al., *Oxidative Toxicity of Perfluorinated Chemicals in Green Mussel and Bioaccumulation Factor Dependent Quantitative Structure-activity Relationship*, 33 Env't Toxicology & Chemistry 2323, 2332 (2014); See generally Guang-hua Lu et al., *Toxicity of Perfluorononanoic Acid and Perfluorooctane Sulfonate to Daphnia Magna* 8 Water Science & Engineering 40 (2015).
58. George et al., *supra* note 65, at 121123.
59. Id.
60. Barbo et al., *supra* note 5, at 6 (emphasis added).

V. PFAS pollution from the Manchester WWTF disproportionately impacts Environmental Justice communities in Manchester and downstream locations.

The PFAS pollution from the Manchester WWTF and its incinerator threatens to add to cumulative burdens in EJ communities. Sources of PFAS—like wastewater treatment plants, landfills, and manufacturing facilities—often disproportionately impact communities of color due to inequitable siting.[61] Moreover, many residents of EJ communities eat locally-caught fish at higher rates for cultural and/or subsistence reasons, which increases exposure to PFAS.[62]

Many EJ communities are located within the City of Manchester. Two U.S. Census Tracts that are located roughly two miles away from the WWTF and its incinerator are overburdened by environmental pollution. One of these communities has a population that is 56 percent people of color, 62 percent low income, and falls above the 96th state percentile for all but one of EPA's EJ Indexes.[63] Another has a population that is 41 percent people of color, 43 percent low income, and falls above the 94th state percentile for all thirteen EJ Indexes.[64] These two communities are located north and northeast of the facility, exposing them to health risks from breathing contaminated air when wind blows from the south.[65] Manchester residents that fish near or downstream of the WWTF are also likely disproportionately impacted by the WWTF's PFAS pollution in water and air.

PFAS pollution from the WWTF also threatens the health of residents, including EJ residents, in downstream communities that source their drinking water from the Merrimack River. For example, the WWTF is located within 20 miles upstream of Pennichuck Water Works, which provides drinking water to Nashua, NH and surrounding communities.[66] Because PFAS do not break down, travel significant distances in water, and are harmful even at low levels, the PFAS in the City's effluent likely impact drinking water in other downstream communities in northern Massachusetts that source their drinking water from the Merrimack River.

61. Communities of color disproportionately exposed to PFAS pollution in drinking water, HARVARD T.H. CHAN SCHOOL OF PUBLIC HEALTH (May 15, 2023), https://www.hsph.harvard.edu/news/press-releases/communities-of-color-disproportionately-exposed-to-pfas-pollution-in-drinking-water/.
62. Barbo et al., *supra* note 5, at 8. Ralph Jimenez, *'Forever chemicals' endanger health of anglers who eat what they catch,"* N.H. BULLETIN (April 11, 2023), https://newhampshirebulletin.com/2023/04/11/forever-chemicals-endanger-health-of-anglers-who-eat-what-they-catch/.
63. EJScreen Community Report: Manchester, NH Blockgroup 330110025002, EPA, https://ejscreen.epa.gov/mapper/ (last visited April 17, 2024). The EJ Index value "combines data on low income and people of color populations with a single environmental indicator" to highlight "potential EJ concerns." *Id.*
64. EJScreen Community Report: Manchester, NH Blockgroup 330110024004, EPA, https://ejscreen.epa.gov/mapper/ (last visited April 17, 2024).
65. See Manchester Airport, WINDFINDER https://www.windfinder.com/windstatistics/manchester_airport_new_hampshire. *See also* BARR ENGINEERING COMPANY, PREPARED FOR SAINT-GOBAIN PERFORMANCE PLASTICS CORP., PRELIMINARY AIR SOIL AND WATER MODELING TECHNICAL MEMORANDUM JUNE 2017 - REVISED SEPTEMBER 2018 SAINT-GOBAIN PERFORMANCE PLASTICS App'x A (2018), https://www4.des.state.nh.us/OneStopPub/Air/330110016518-0227TypeModeling2.pdf (analyzing wind rose data from the Manchester airport to determine prevailing wind direction and found in time periods between 1980 and 2012, finding that "the most frequent wind directions [are] from the

northwest or south, consistent with both climatology of the Northeast US and the valley topography.")
66. EPA, OFF. OF ECOSYSTEM PROT., AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM NPDES PERMIT NO. NH0100447, RESPONSE TO COMMENTS at 7 (2015), *accessible at* https://www3.epa.gov/region1/npdes/permits/2015/finalnh0100447permit.pdf [hereinafter 2015 NPDES Permit].

LEGAL BACKGROUND & CONTEXT

Congress passed the CWA with a clear goal: "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."[67] Section 1311(a) prohibits the discharge of a pollutant from a point source into waters of the United States unless in accordance with a NPDES permit or another specified provision.[68]

The City's current permit does not address PFAS chemicals or authorize the facility to discharge PFAS.[69] Neither the City's 2013 permit application documents submitted for the 2015 permit issuance, nor the 2019 permit application documents submitted for this permit reissuance, address PFAS.[70] Thus, until EPA issues a final permit, the WWTF is discharging PFAS pollutants into the Merrimack River without authorization from a NPDES permit, in violation of the Clean Water Act section 1311(a). EPA may not issue a final permit that fails to "provide for compliance with the applicable requirements of CWA" or its implementing regulations.[71]

In addition to prohibiting discharges without a NPDES permit, the CWA also established the National Pretreatment Program (also referred to as the Industrial Pretreatment Program, or "IPP") to ensure that industrial discharges to WWTFs do not result in harmful and illegal pollution. Congress established the National Pretreatment Program "to prevent the discharge of any pollutant through" a municipally owned WWTF that "interferes with, passes through, or otherwise is incompatible with such [publicly owned treatment works, or 'POTW']."[72] To achieve that goal, EPA developed National Pretreatment Program regulations.[73] In accordance with EPA's rules, to codify and implement its authority under the IPP, the City developed a local Sewer Use Ordinance, which EPA approved in 1997.[74]

67. 33 U.S.C. § 1251(A).
68. Id. § 1311(a).
69. 2015 NPDES Permit.
70. Correspondence from Frederick McNeill, City of Manchester Highway Dep't, Env't Prot. Div., to Shelly Puleo, U.S. Env't Prot. Agency Region 1, Regarding Manchester NPDES Permit NH100447 Renewal Application (May 29, 2013) (attached as Exhibits U–V); MANCHESTER WWTF, PERMIT APPLICATION SECTION 3: INFORMATION ON EFFLUENT DISCHARGES (Approved Mar. 5. 2019)
71. 40 C.F.R. § 122.4 (a).
72.33 U.S.C. § 1317(b)(1).
73. See 40 C.F.R. § 403 *et seq.*
74. See 2022–2023 IPP Annual Report. Manchester adopted minor amendments to the Sewer Use Ordinance in 2014. Id.

[EPA Note: EPA has reviewed the supporting information provided above and EPA's responses under the "Detailed Comments on the Draft Permit" below include EPA's consideration of the information provided above.]

Comment 49

DETAILED COMMENTS ON THE DRAFT PERMIT

CLF hereby incorporates by reference, as if fully set forth in this section, the entirety of the foregoing discussion and provides the following comments on the Draft Permit and ways in which EPA should amend it for purposes of issuing a final permit.

I. EPA should conduct an Environmental Justice analysis related to the WWTF, including the WWTF's Sewage Sludge Incinerator, to fully inform and guide the development of its NPDES permit.

EPA policies and guidance that address NPDES permitting and PFAS disposal emphasize the need to prioritize environmental justice[75]. However, the Draft Permit fails to address or even mention EJ. Before finalizing Manchester's permit, EPA should analyze the permit's potential EJ impacts—especially regarding PFAS in air and water outputs from the facility. EJ considerations underscore the need for the expanded PFAS monitoring and source reduction measures detailed in the following sections.

In 2024, EPA published a NPDES Program Policy entitled "Addressing Environmental Justice and Equity in NPDES permitting."[76] The NPDES Program Policy outlines seven "Principles for Addressing Environmental Justice and Equity" and five "Recommended Practices for Incorporating Principles into NPDES permits."[77] EPA's EJ principles in NPDES permitting include, among others:

"Identify[ing] potential environmental justice concerns related to the permit" and "Conduct[ing] a 'fit for purpose' environmental justice analysis" for permits in "potentially overburdened" communities.[78]

The policy recommends that the administrative record for the permitting action should include the "fit for purpose analysis" results "to transparently show whether and how the permit could adversely and disproportionately affect a community."[79] The EJ analysis should include demographic data, environmental data ("including surface water quality monitoring"), public health information, "potential pollutant and non-pollutant stressors," cumulative impacts, and "potential methods for avoiding, minimizing, or mitigating adverse effects on the community."[80] The policy recommends using EPA's EJScreen tool "to identify potential or existing environmental justice concerns in communities affected by the permit."[81]

EPA's PFAS Destruction & Disposal Guidance and PFAS Strategic Roadmap also highlight EJScreen as a useful tool to evaluate EJ concerns in the context of PFAS air emissions.[82] The Destruction & Disposal guidance emphasizes uncertainties associated with incinerating PFAS-contaminated sewage sludge in fluidized bed incinerators like that used at the Manchester

WWTF.[83] It explicitly highlights the need for permit writers to "screen communities located in the vicinity of potential releases from the destruction, disposal, and storage options [of PFAS] (considering fate and transport) in order to consider the potential for adverse and disproportionate impacts . . . and to consider potential measures to prevent, reduce, or address such impacts."[84]

EJScreen identifies EJ concerns in several Census Tracts in Manchester—including two tracts that are located two miles from the sludge incinerator in an often-downwind location.[85] The PFAS emissions from the WWTF's sludge incinerator likely contribute to cumulative impacts of environmental pollution in Manchester EJ communities. In finalizing Manchester's permit, EPA should implement its NPDES Program Policy principles and recommendations, including by conducting a "fit for purpose" analysis. The analysis should address PFAS pollution from the WWTF and its incinerator and incorporate the EJ recommendations in EPA's Destruction & Disposal Guidance for PFAS. That analysis will most likely support the monitoring and source reduction measures discussed in Parts II through V below to "prevent, reduce, or address" disproportionate impacts of PFAS pollution on overburdened communities.[86]

In light of the presence of nearby EJ communities and the adverse health and environmental impacts associated with PFAS being discharged into the Merrimack River and emitted into the air, it is essential that EPA conduct an EJ analysis before proceeding to a final permit. Failure to do so would fly in the face of EPA's NPDES Program Policy Addressing Environmental Justice and Equity in NPDES Permitting, EPA's 2024 Interim Guidance on the Destruction and Disposal of PFAS and Materials Containing PFAS, and EPA's PFAS Strategic Roadmap.

75. See ENV'T PROT. AGENCY, NPDES PROGRAM POLICY ADDRESSING ENVIRONMENTAL JUSTICE AND EQUITY IN NPDES PERMITTING 5 (2024), https://www.epa.gov/system/files/documents/2024-01/npdes-ej-program-guidance-principles-recommended-practices-january-2024.pdf [hereinafter 2024 NPDES EJ Policy]; 2024 EPA Destruction & Disposal Guidance, at 58; EPA, PFAS STRATEGIC ROADMAP: EPA'S COMMITMENTS TO ACTION 2021–2024 18 (2021), *accessible at* https://www.epa.gov/system/files/documents/2021-10/pfas-roadmap_final-508.pdf.
76. See 2024 NPDES EJ Policy.
77. Id. at 2–6.
78. Id. at 2–3.
79. Id. at 4.
80. Id.
81. Id. at 5.
82. 2024 EPA Destruction & Disposal Guidance, at 58; EPA, PFAS STRATEGIC ROADMAP: EPA'S COMMITMENTS TO ACTION 2021–2024 at 18 (2021), *accessible at* https://www.epa.gov/system/files/documents/2021-10/pfas-roadmap_final-508.pdf.
83. 2024 EPA Destruction & Disposal Guidance, at 58.
84. Id.
85. See Factual Background & Overview, Part V, above.
86. 2024 EPA Destruction & Disposal Guidance, at 58.

Response 49

This comment references EPA's *NPDES Program Policy – Addressing Environmental Justice and Equity in NPDES Permitting*[13] and suggests that this document requires a "fit for purpose" environmental justice analysis to be conducted for this permit. However, a series of Presidential executive orders in January 2025 revoked or abolished the Executive Orders (EO) on which this EPA policy was based. EO 14173 (1/21/24)[14] has revoked EO 12898 (2/6/94) and EO 14154 (1/20/25)[15] has abolished EO 14096 (4/21/23) and EO 14008 (1/27/21).

EPA has ensured that this permit reissuance fully protects all updated water quality standards and does not allow any increased water quality impacts to the environment or human health. The commenter is concerned about PFAS in the effluent discharge. As described elsewhere in this response to comments, the permit's PFAS monitoring requirements are equivalent to those in other recent POTW permits issued by EPA Region 1 and include PFAS monitoring requirements consistent with EPA guidance and EPA's strategic plan for addressing PFAS in wastewater. For these reasons and within its discretion, EPA is not conducting the requested analysis.

Regarding emissions from the incinerator, EPA notes that this permitting action is not authorizing such emissions (of PFAS or any other pollutant) because these emissions are regulated under a separate state permit. See Response 62.

Comment 50

II. EPA must strengthen the Draft Permit's provisions for monitoring PFAS at the WWTF.

CLF appreciates that the Draft Permit requires monitoring for PFAS in the Manchester WWTF's influent, effluent, and sludge.[87] However, in finalizing the permit, EPA should require monthly—not quarterly—monitoring for PFAS under methods 1633 and 1621.

Monthly monitoring is feasible, as the City has been collecting samples for PFAS monitoring on a monthly basis since 2019.[88] More frequent monitoring will also help to achieve EPA's stated goal of "obtain[ing] more comprehensive information" regarding PFAS sources and concentrations.[89] Because the sample types are grab samples, and PFAS levels may vary depending on short-term changes in wastewater influent, monthly monitoring is essential to providing a more accurate picture regarding PFAS entering and being discharged from the WWTF.

[13] Available at: https://www.epa.gov/system/files/documents/2024-01/npdes-ej-program-guidance-principles-recommended-practices-january-2024.pdf
[14] https://www.federalregister.gov/documents/2025/01/31/2025-02097/ending-illegal-discrimination-and-restoring-merit-based-opportunity
[15] https://www.federalregister.gov/documents/2025/01/29/2025-01956/unleashing-american-energy

For example, NCES began sending leachate to the Manchester WWTF in February 2024, under temporary permits.[90] A monthly monitoring requirement would more likely capture the impact of that additional IU and any other PFAS sources that discharge to the WWTF on a temporary basis.

Thus, EPA should retain the analytes monitored and the measurements methods in Draft Permit Part I(A)(1) (40 target PFAS under method 1633 and AOF under method 1621) but should increase the measurement frequency to monthly.

87. Draft Permit Part I(A)(1), at 4–5.
88. See 2022–2023 IPP Annual Report at 17.
89. EPA, PFAS Strategic Roadmap: EPA's Commitments to Action 2021–2024 at 18 (2021), accessible at https://www.epa.gov/system/files/documents/2021-10/pfas-roadmap_final-508.pdf.
90. City of Manchester, Dep't of Public Works, Class III Wastewater Discharge Permit No. T-3001-2-24 (2024); City of Manchester Dep't of Public Works, Class III Wastewater Discharge Permit No. T-3001-4-24 (2024); see also Letter from Lindsey Menard, North Country Environmental Services, Inc., to Jaime Colby, P.E., New Hampshire Department of Environmental Services, regarding North Country Environmental Services, Inc.
Landfill Facility - Bethlehem, NH Permit # - NH DES-SW-SP-03-002 First Quarter Facility Report; 2024 at 21 (April 30, 2024).

Response 50

EPA has determined that a quarterly monitoring frequency for PFAS compounds will ensure that there are adequate data to assess the presence and concentration of PFAS in facility discharges. This monitoring is consistent with EPA's *October 2021 PFAS Strategic Roadmap*[16] and an EPA memo dated December 5, 2022, called *Addressing PFAS Discharges in EPA-Issued NPDES Permits and Through the Pretreatment Program and Monitoring Programs.*[17] Given that EPA is including quarterly monitoring in all similar permits to characterize these discharges and because EPA is mindful of the cost to permittees associated with this monitoring, EPA does not consider monitoring beyond this recommended frequency is warranted at this time. This comment does not result in any change to the Final Permit.

EPA agrees that monitoring requirements provide useful information about IU sources of PFAS. Therefore, Part I.E.6 of the permit does require annual PFAS monitoring for a number of categories of industrial users that may discharge PFAS. EPA anticipates that this annual monitoring will yield adequate data that can be used by the Permittee to regulate industrial users in the future as well as supporting EPA's ongoing work on PFAS (summarized at https://www.epa.gov/pfas/key-epa-actions-address-pfas), and in particular the work EPA is doing to develop new ELGs for PFAS for some industries (https://www.epa.gov/eg/current-effluent-guidelines-program-plan). Given that monitoring of IUs at this stage is designed to identify sources of PFAS and not necessarily to characterize variability or permit compliance from these sources, EPA finds that annual monitoring is sufficient. Once actual sources are identified (and

[16] https://www.epa.gov/system/files/documents/2021-10/pfas-roadmap_final-508.pdf
[17] https://www.epa.gov/system/files/documents/2022-12/NPDES_PFAS_State%20Memo_December_2022.pdf

especially if permit limits are in place in the future), more frequent monitoring of IUs that are significant sources may be necessary.

Comment 51

III. EPA must analyze the need for effluent limitations for PFAS and implement necessary effluent limitations.

A NPDES permit may only be issued if the permit "provide[s] for compliance with the applicable requirements of [the] CWA" and its implementing regulations.[91] The CWA establishes that EPA "shall" prescribe "conditions for [NPDES] permits to assure compliance with" specified sections of the CWA, including section 1311.[92] Section 1311 provides that effluent limitations "shall be applied to all point sources of discharge of pollutants[.]"[93] The WWTF's outfall 001 constitutes a point source under the CWA,[94] and PFAS constitutes a pollutant.[95]

NPDES permits "shall include conditions meeting" requirements, such as technology-based effluent limitations and standards, "when applicable."[96] A facility must disclose pollutants in its permit application for the permit writer to "judge whether the discharge of a particular pollutant constitutes a significant threat to the environment" to inform the permit development process.[97] The permittee "shall promptly submit" any "facts or information" that it failed to disclose in its permit application.[98]

The City submitted its permit application in 2019; the application did not address PFAS in 2019 or in subsequent years.[99] The administrative record for this application, therefore, does not include the Manchester Monitoring Data or the Battelle Study data, and EPA failed to analyze the need for PFAS effluent limitations. EPA must consider the two sources of data documenting PFAS pollution at the WWTF—as well as the attached documents detailing WWTF's past and future acceptance of NCES leachate, the PFAS levels in NCES leachate, and any other data that may be necessary to collect and assess—and, after analysis, set appropriate effluent limitations to control PFAS in the WWTF's discharges.

91. 40 C.F.R. § 122.4(a), (d).
92. 33 U.S.C. § 1342(a)(2).
93. Id. § 1311(e).
94. See id. § 1362(4) (defining "point source" as "any discernible, confined and discrete conveyance, including . . . any pipe[.]")
95. See id. § 1362(6); see also 86 Fed. Reg. 14560 (March 17, 2021) ("PFAS compounds fall into the category of nonconventional pollutant[.]"); N.H. Dep't Env't Services, Plan to Generate PFAS Surface Water Quality Standards 17 (2019), https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/r-wd-19-30.pdf ("PFAS would be considered a pollutant[.]")
96. 40 CFR. § 122.44(a)(1), (d).
97. Piney Run Pres. Ass'n v. Cnty. Comm'rs of Carroll Cnty., 268 F.3d 255, 268 (4th Cir. 2001).
98. 40 C.F.R. § 122.41(l)(8).
99. Manchester WWTF, Permit Application Section 3: Information on Effluent Discharges (Approved Mar. 5. 2019). Though Manchester mentioned its PFAS monitoring program in its

industrial pretreatment program reports submitted to EPA, it did not publish results, and it incorrectly stated that it was monitoring for 16 PFAS compounds. See 2022–2023 IPP Annual Report at 17.

Response 51

EPA is pursuing a rigorous scientific agenda to better characterize toxicities, understand exposure pathways, and identify new methods to avert and remediate PFAS pollution. As with all EPA decisions, decisions regarding PFAS will be grounded in scientific evidence, within the scope of the Agency's legal authority, and consistent with programmatic procedures. To approach the issue of PFAS both expeditiously and prudently, EPA has developed a PFAS Strategic Roadmap which identifies commitments to action across a number of EPA offices and programs.[18] As just a few examples of water-related commitments, EPA is committed to restricting PFAS discharges from industrial sources through a multi-faceted Effluent Limitations Guidelines program, publishing final recommended ambient water quality criteria for PFAS, and leveraging NPDES permitting to reduce PFAS discharges to waterways. *PFAS Strategic Roadmap*, 13-15. EPA's Office of Water has issued guidance to further the objectives of the Strategic Roadmap. *E.g. Addressing PFAS Discharges in NPDES Permits and Through the Pretreatment Program and Monitoring Programs* (Dec. 5, 2022).[19] As described below and elsewhere in this Response to Comments, the PFAS monitoring requirements in this permit conform with EPA guidance and policy objectives, as well as all other governing law. The Fact Sheet also describes EPA's consideration of PFAS contaminants in this permit. Fact Sheet, 33-35.

The commenter asserts that the Permittee did not submit to EPA with its permit application or at any point thereafter the PFAS monitoring data it has previously collected. Forty C.F.R. § 122.21(j) governs application requirements for new and existing publicly owned treatment works (POTWs). Forty C.F.R. § 122.21(j)(4) describes the effluent monitoring data that applicants must submit to EPA. It instructs applicants to submit data for particular pollutants listed in Appendix J to Part 122 "and for any other pollutants for which the State or EPA have established water quality standards applicable to the receiving waters." *Id.* (j)(4)(iv). The state of New Hampshire adopted water quality standards for certain PFAS chemicals in February 2025.[20] EPA has not approved these standards for purposes of the Clean Water Act. *See* 40 C.F.R. § 131.21 (requiring EPA to review and either approve or disapprove water quality standards submitted by a State); see also Response 53. The Permittee submitted its permit

[18] https://www.epa.gov/system/files/documents/2021-10/pfas-roadmap_final-508.pdf

[19] https://www.epa.gov/system/files/documents/2022-12/NPDES_PFAS_State%20Memo_December_2022.pdf

[20] On February 25, 2025, NHDES adopted revisions to New Hampshire Code of Administrative Rules Env-Wq 1700 to require the use of the maximum contaminant levels (MCLs) of four PFAS parameters as the Protection of Human Health Water and Fish Ingestion criteria when the surface water is a source for a public water system or is within 20 miles upstream of any active surface water intake for a public water system. The four PFAS parameters are perfluorohexane sulfonic acid (PFHxS), perfluorononanoic acid (PFNA), perfluorooctane sulfonic acid (PFOS), and perfluorooctanoic Acid (PFOA). The Manchester WWTF is located within 20 miles upstream of a drinking water intake, so these MCLs would apply as the surface water quality criteria in the Merrimack River at the location of the Manchester WWTF outfall.

application prior to the state adopting these PFAS criteria. As there was no state- or EPA-approved criteria at the time of application, the Permittee was not required to submit PFAS data with its application.

The application regulations also indicate that EPA "should require sampling for additional pollutants, as appropriate, on a case-by-case basis." 40 C.F.R. § 122.21(j)(4)(v). In this case, EPA is not exercising its discretion to require the permittee's prior sampling results for PFAS contaminants. EPA's national approach to PFAS regulations is to use Method 1633 for the collection of consistent data to ensure that permitting decisions are based on consistent, verified and robust datasets. Given that Method 1633 was not fully multi-lab validated until January 2024, any data collected before this time would not be consistent with EPA's national approach. See also Response 87.

Even if the permittee submitted PFAS monitoring data, it would not result in an effluent limitation for the reasons described in subsequent responses to this commenter's comments. Additionally, EPA notes that the commenter submitted the "Battelle study" and "City of Manchester WWTF PFAS Monitoring Reports (2019–23)" as attachments to its public comments, and these data are therefore already part of the administrative record for this proceeding.[21] This data does not result in any changes to the draft permit because, as described next, there are neither technology-based requirements nor state water quality standards for PFAS contaminants. However, EPA will consider it, as appropriate, along with the data collected pursuant to the new PFAS monitoring requirements in the permit, in future permit reissuances.

Regarding the commenter's request that EPA analyze and set appropriate effluent limitations to control PFAS in the WWTF's discharges, see Responses 52 and 53.

Comment 52

EPA must analyze the need for technology-based effluent limitations and should implement technology-based effluent limits in the final permit.

EPA must analyze the need for technology-based effluent limitations ("TBELs") for PFAS; after consideration, EPA should implement TBELs. TBELs are the "minimum level of control that must be imposed in a" NPDES permit.[100] When "EPA-promulgated effluent limitations are inapplicable," permit writers may establish effluent limitations on a "case-by-case basis[.]"[101] Technology-based standards are "based on how effectively technology can reduce the pollutant being discharged."[102] In setting case-by-case technology-based limits, the permit writer considers the "appropriate technology for the category or class of point sources" and any "unique factors" for the prospective permittee.[103]

[21] *See* 40 C.F.R. 122.21(j) ("The Director may waive any requirement of this paragraph if he or she has access to substantially identical information.")

EPA has recently evaluated the effectiveness and commercial availability of PFAS removal technologies in finalizing drinking water standards for six PFAS under the SDWA.[104] Under the SDWA, EPA designated Granular Activated Carbon ("GAC"), Ion Exchange ("IX"), and Reverse Osmosis ("RO") and Nanofiltration ("NF") as Best Available Technologies ("BATs").[105] In promulgating final drinking water standards for six PFAS compounds, EPA referenced the reliable and high removal efficiencies (greater than 99 percent), and "reasonable" cost.[106]

The PFAS removal technologies designated as BATs under the SDWA can be used to remove many PFAS from water to nondetectable levels[107]—i.e., below the detectable levels measured in the Battelle Study and the Manchester Monitoring data. Given that TBELs are the "minimum" level of control required under the CWA and that the CWA is a technology-forcing statute,[108] EPA should consider developing TBELs for all PFAS compounds for which treatment technologies, including but not limited to GAC, IX, or RO/NF, could achieve significant PFAS reductions.

100. 40 C.F.R. § 125.3(a).
101. Id. §§ 122.44(a)(1), 125.3(c)(2).
102. Nat. Res. Def. Council v. U.S. E.P.A., 808 F.3d 556, 563 (2d Cir. 2015).
103. 40 C.F.R. § 125.3(c)(2).
104. 89 Fed. Reg. 32532, 32622 (April 26, 2024).
105. Id.
106. Id. at 32575. See also Env't Prot. Agency, Best Available Technologies and Small System Compliance Technologies for Per- and Polyfluoroalkyl Substances (PFAS) in Drinking Water at 33 (2024) (analyzing the removal efficiencies, reliability, operational capacity, and state of the research on GAC, IX, and RO/NF PFAS removal technologies and concluding that all three technologies are "potential BAT.")
107. See 89 Fed. Reg. 32532, 32622 (April 26, 2024).
108. Nat. Res. Def. Council v. U.S. E.P.A., 808 F.3d 556, 563–64 (2d Cir. 2015) ("Congress designed this [technology-based effluent limitation] standard to be technology-forcing, meaning it should force agencies and permit applicants to adopt technologies that achieve the greatest reductions in pollution.")

Response 52

The commenter makes several requests regarding technology-based effluent limitations (TBELs). CWA § 301(b)(1)(B) defines the scope of TBELs for POTWs: "effluent limitations based upon secondary treatment as defined by the Administrator pursuant to [CWA § 304(d)(1)]." *See also* 40 C.F.R. § 125.3(a)(1) (TBELs for POTWs are based upon secondary treatment). As described in the Fact Sheet, secondary treatment standards are codified in 40 C.F.R. Part 133 and include requirements in terms of biochemical oxygen demand (BOD_5), total suspended solids (TSS), and pH. Fact Sheet, 5; *see* 40 C.F.R. Part 133. None of the requirements at Part 133 require TBELs to address PFAS contaminants. To the extent the commenter is requesting EPA update Part 133 to include PFAS TBELs for POTWs, this is beyond the scope of the current permit proceeding.

The commenter requests EPA set a case-by-case technology-based effluent limit for PFAS contaminants under 40 C.F.R. § 125.3(c)(2), which says:

On a case-by-case basis under section 402(a)(1) of the Act, to the extent that EPA-promulgated effluent limitations are inapplicable. The permit writer shall apply the appropriate factors listed in § 125.3(d) and shall consider:

(i) The appropriate technology for the category or class of point sources of which the applicant is a member, based upon all available information; and
(ii) Any unique factors relating to the applicant.

As a threshold matter, the procedure cited by the commenter is not relevant to POTWs. EPA has established TBELs for POTWs pursuant to 40 C.F.R. § 125.3(a)(1) and thus "EPA-promulgated effluent limitations" are not "inapplicable." 40 C.F.R. § 125.3(c)(2). *Natural Resources Defense Council v.* EPA, 822 F.2d 104, 111 (D.C. Cir. 1987) ("If no national standards have been promulgated for a particular category of point sources, the permit writer is authorized to use, on a case-by-case basis… impose 'such conditions as the permit writer determines are necessary to carry out the provisions of [the Clean Water Act.]'"); *e.g. In re Scituate Wastewater Treatment Plant*, 12 E.A.D. 708, 712 n.1 (EAB 2006) ("In some cases, no industry-specific effluent limitations guidelines exist. In those instances, permit issuers must use their 'best professional judgment' to establish appropriate technology-based effluent limitations on a case-by-case basis."); *see also In re Arizona Public Service Co*., 18 E.A.D. 245, 291-292 (EAB 2020) ("…the statute states that the Administrator may impose such conditions 'as the Administrator determines are necessary' to carry out the provisions of the [CWA], giving the Administrator discretion in the implementation of this authority.") (citations omitted).

EPA guidance also reflects that case-by-case TBELs are inappropriate for POTWs. NPDES Permit Writers Manual, pg. 5-44 – 5-45 (indicates that case-by-case TBELs are appropriate "for [certain] **industrial** dischargers", *i.e.* "where EPA-promulgated effluent guidelines are not applicable to a **non-POTW** discharge….") (emphases added); *see also id.* at 5-48 ("The permit writer also should document the rationale for concluding that there are no applicable effluent guidelines for the **industrial** wastewater or pollutant discharge.") (emphasis added). Similarly, EPA guidance addressing PFAS in NPDES Permits contemplates the option to develop site-specific TBELs for PFAS discharges only for appropriate industrial facilities, not for POTWs. *Addressing PFAS Discharges in NPDES Permits and Through the Pretreatment Program and Monitoring Programs* (Dec. 2022), 3-4 (recommends site-specific TBELs for applicable industrial direct dischargers, not for POTWs); *PFAS Strategic Roadmap*, 13- 14 ("Restrict PFAS discharges from **industrial sources** through…Effluent Limitations Guidelines…. EPA is taking a proactive approach to restrict PFAS discharges from multiple **industrial** categories.") (emphases added).

Finally, the commenter references Best Available Technologies for PFAS under the Safe Drinking Water Act and suggests EPA might apply them as TBELS for POTWs. EPA notes that drinking water technology and wastewater technology are [often] different. Although a Safe Drinking Water Act MCL may be a relevant data point for developing CWA effluent limitations, MCLs are developed for different purposes than CWA effluent

limitations and do not automatically represent an appropriate TBEL for CWA purposes. *In re Phelps Dodge Corporation, Verde Valley Ranch Development*, 10 E.A.D. 460, 516 (EAB 2002) ("[petitioner] offers no support for its novel theory that drinking water standards set in accordance with the [SDWA] should have been used by [the Region] to establish storm water pollution controls or limits for the [NPDES permit]. We are aware of nothing in federal statutes, regulations, or common law that would dictate this use of SDWA standards, and no such authority has been pointed out to us.").

For all of these reasons, the comment does not result in any changes to the Final Permit.

Comment 53

EPA must analyze the need for water quality-based effluent limitations and should implement water quality-based effluent limitations in the final permit.

EPA must analyze the need to establish water quality-based effluent limits ("WQBELs") for PFAS at the Manchester WWTF. A permit may not be issued if its provisions "cannot ensure compliance with the applicable water quality requirements of all affected States."[109] EPA's regulations require a WQBEL to control pollutants that "are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality."[110] To analyze whether the source has reasonable potential, EPA considers whether the "discharge, alone or in combination with other sources . . . could lead to an excursion above an applicable water quality standard."[111]

According to EPA's NPDES Permit Writers' Manual, "pollutants of concern," which are "candidates for WQBELS," consist of "any pollutants identified as present in the effluent through effluent monitoring," including data from "special studies" or "compliance inspection monitoring."[112] PFAS are consistently "present in the effluent"[113] of the Manchester WWTF, as made clear by the WWTF Monitoring Data and the Battelle Study data. Thus, EPA has the responsibility to analyze whether the Manchester WWTF's PFAS discharges *could contribute* (not just whether they actually cause) the violation of state water quality standards and, if such potential exists, establish a WQBEL to ensure against water quality standard violations.[114] Specifically, EPA must analyze whether the City's discharges "may . . . have the reasonable potential to cause, or contribute to"[115] violations of New Hampshire's narrative standards for toxics, and its standards protecting designated uses.

109. 40 CFR. § 122.44(a), (d).
110. 40 C.F.R. § 122.44(d)(1)(i).
111. Env't Prot. Agency, Off. of Wastewater Mgmt., NPDES Permit Writers' Manual (EPA-833-K-10-001) at 6-23 (2010), https://www3.epa.gov/npdes/pubs/pwm_2010.pdf.
112. Id. at 6-15.
113. Id.
114. Id.; 40 C.F.R. § 122.44(d)(1)(i).
115. 40 C.F.R. § 122.44(d)(1)(i).

Response 53

When TBELs alone are insufficient to maintain or achieve compliance with state water quality standards, NPDES permits must also include water quality-based effluent limitations (WQBELs). CWA § 301(b)(1)(C); 40 C.F.R. § 122.44(d). To determine whether a WQBEL is necessary, EPA calculates – using available data and/or best professional judgment – whether a permittee's discharge has the reasonable potential to cause or contribute to a violation of state water quality standards. 40 C.F.R. § 122.44(d)(1). Water quality standards include three components: (1) "water quality criteria," expressed in numeric or narrative form, specifying the quantities of various pollutants that may be present in the water body without impairing the designated uses; (2) an "antidegradation" provision that protects existing uses and high-quality waters. *See* CWA § 303(c)(2)(A), 33 U.S.C. § 1313(c)(2)(A); 40 C.F.R. §§ 131.10-12; and (3) the "designated uses" of a water body, such as public drinking supply, recreation, or wildlife habitat.[22] EPA's consideration of each of these three components is summarized below:

(1) Numeric and narrative Water Quality Criteria:

At this time, New Hampshire does not have EPA-approved surface water quality criteria for any PFAS contaminants. On February 25, 2025, NHDES adopted revisions to New Hampshire Code of Administrative Rules Env-Wq 1700 to require the use of the maximum contaminant levels (MCLs) of four PFAS parameters as the Protection of Human Health Water and Fish Ingestion criteria when the surface water is a source for a public water system or is within 20 miles upstream of any active surface water intake for a public water system. The four PFAS parameters are perfluorohexane sulfonic acid (PFHxS), perfluorononanoic acid (PFNA), perfluorooctane sulfonic acid (PFOS), and perfluorooctanoic Acid (PFOA). The Manchester WWTF is located within 20 miles upstream of a drinking water intake, so these MCLs would apply as the surface water quality criteria in the Merrimack River at the location of the Manchester WWTF outfall. Nevertheless, as described elsewhere in this Response to Comments, NPDES permits are written to ensure compliance with *EPA-approved* water quality standards. See Response 12. As laid out in 40 C.F.R. Part 131, Subpart C, a state's adoption of standards is only the first step in this process. Following that, the state submits the standards to the EPA Regional Administrator for review and approval. 40 C.F.R. §§ 131.20(c), 131.21. The regulations are very clear that if "a state… adopts a water quality standard that goes into effect under state… law on or after May 30, 2000" then "once EPA approves that water quality standard, it becomes the applicable water quality standard for purposes of the Act." 40 C.F.R. § 131.21(c); *see also In re City of Keene*, 18 E.A.D. 749, 752 (EAB 2022) ("…the Region is required to devise effluent limits to comply with existing [EPA-approved] state water quality standards, even if those state standards may be revised at some point in the future...").

[22] "In addition to the three required components of water quality standards, states may, at their discretion, include in their standards policies that generally affect how the standards are applied or implemented." NPDES Permit Writers' Manual, pg. 6-9.

On October 7, 2024, EPA published in the Federal Register Final Recommended Aquatic Life Criteria and Benchmarks for Select PFAS. 89 Fed. Reg. 81077 (Oct. 7, 2024).[23] As described in Responses 12 and 21, EPA-recommended criteria are not equivalent to duly enacted and approved state water quality criteria, and EPA writes permits to comply with the latter, not the former. Because there is no state water quality criterion for PFAS at this time, there is necessarily no reasonable potential for the Permittee's discharge to cause or contribute to a violation of it.

In instances where a state does not have a numeric criterion for a specific pollutant, state narrative criteria can, if appropriate, be the basis for limiting the discharge of that pollutant. 40 C.F.R. § 122.44(d)(1)(vi), NPDES Permit Writers' Manual, pg. 6-8. The commenter requests EPA consider New Hampshire's narrative standards for toxics. As described in the Fact Sheet (pg. 31-33), Env-Wq 1703.21 states:

> (a) Unless naturally occurring or allowed under Env-Wq 1707, all surface waters shall be free from toxic substances or chemical constituents in concentrations or combinations that:
> (1) Injure or are inimical to plants, animals, humans or aquatic life; or
> (2) Persist in the environment or accumulate in aquatic organisms to levels that result in harmful concentrations in:
> a. Edible portions of fish, shellfish, other aquatic life, or
> b. Wildlife that might consume aquatic life.

Although New Hampshire has updated the table accompanying this standard, Table 1703-1, Water Quality Criteria For Toxic Substances, to include MCLs for four PFAS chemicals in certain instances applicable to the Permittee, EPA has not approved these standards, and, as described previously, only EPA-approved standards apply. EPA also notes that it has not included any PFAS chemicals on the list of toxic pollutants under CWA § 307(a). *See* 40 C.F.R. § 401.15 (list of toxic pollutants, no PFAS listed); 40 C.F.R. Part 423, Appendix A (list of 126[24] priority / toxic pollutants promulgated under CWA § 307(a), no PFAS listed);[25] *see also* CWA § 502(13) (defining "toxic pollutant");[26] Permit Part II Standard Conditions pg. 18 ("Toxic pollutant means any pollutant listed as toxic under Section 307(a)(1) or, in the case of 'sludge use or disposal practices,' any pollutant identified in regulations implementing Section 405(d) of the CWA.").

In any event, as described in the Fact Sheet, EPA has chosen a Whole Effluent Toxicity (WET) approach to ensure the permittee's discharge does not violate this narrative water quality criterion. Fact Sheet, 31-32 ("The inclusion of WET requirements in the … Permit will assure that the Facility does not discharge combinations of pollutants into

[23] *See also* 89 Fed. Reg. 89636 (Nov. 13, 2024) (correction to a certain table in the previous publication).
[24] "Note that the list goes up to 129; however, there are only 126 priority pollutants because 017, 049, and 050 were deleted." NPDES Permit Writers' Manual, pg. 1-4.
[25] *See also* https://www.epa.gov/eg/toxic-and-priority-pollutants-under-clean-water-act for general information about Toxic and Priority Pollutants under the Clean Water Act.
[26] The state water quality standards do not define the term "toxic substances." *See* Env-Wq Part 1702, Definitions.

the receiving water in amounts that would be toxic to aquatic life or human health."); *see also NPDES Permit Writers' Manual*, pg. 6-11 – 6-12 ("Effluent limitations… may be based on a parameter-specific approach or a WET testing approach to implementing water quality standards" and "The WET approach is useful [for example] … where it might be infeasible to identify and regulate all toxic pollutants in the effluent.").

(2) Anti-degradation:

States must develop an antidegradation policy consistent with 40 C.F.R. § 131.12. Antidegradation policies can play a critical role in helping states protect a water whose quality is better than established criteria levels. NPDES Permit Writers' Manual, pg. 6-8. The New Hampshire Antidegradation Policy specifies that a "proposed discharge or activity that would cause a significant change in water quality" should, generally, not be approved. Env-Wq 1708.01(b)(1). It defines "significant degradation" as discharges "that use 20% or more of the remaining assimilative capacity for a water quality parameter in terms of either concentration or mass of pollutants or flow rate for water quantity." Env-Wq 1708.09(a). *See also* Fact Sheet, 6. Also under the state Policy, "Remaining assimilative capacity [is] evaluated by comparing existing water quality… to the state's water quality criteria." Env-Wq 1708.08(d). Because there is no applicable water quality criterion for PFAS, there necessarily could not be a significant degradation on the basis of PFAS pollutants. The antidegradation policy also specifies that "[e]xisting uses and the level of water quality necessary to protect the existing uses shall be maintained and protected." Env-Wq 1708.01(a). As described in the Fact Sheet, the Permit, as a whole "is being reissued with effluent limitations sufficiently stringent to satisfy the State's antidegradation requirements, including the protection of the existing uses of the receiving water." Fact Sheet, 7.

(3) Designated uses:

See Response 54.

Finally and as an overarching point, EPA notes that for each EPA-issued NPDES permit, if the state believes that conditions more stringent than those contained in the Draft Permit are necessary to meet the requirements of either CWA §§ 208(e), 301, 302, 303, 306 and 307, or applicable requirements of state law including state water quality standards, the state should include such conditions in its certification of the permit. Here, the state has not included an effluent limit for any PFAS contaminants, indicating that the state agrees such effluent limits are not necessary to meet the requirements of state law. See also Response 55.

As described in Response 56, because numeric criteria for PFAS may take effect during this permit term, EPA may choose to reopen and modify or reissue the permit to include effluent limits for PFAS if (1) EPA develops and finalizes federal effluent limitations guidelines for POTWs for PFAS or promulgates, pursuant to CWA § 303(c)(4)(B), water

quality criteria for PFAS, or if (2) EPA approves New Hampshire surface water quality standards for PFAS.

In any event, the data gathered from the permit's monitoring and reporting requirement may also inform broader-scale EPA actions, such as EPA's objective to develop national recommended ambient water quality criteria for PFAS to protect aquatic life and human health. *PFAS Strategic Roadmap,* 15. Such recommended criteria may be used by New Hampshire or other states in developing Water Quality Standards.

Given that there are no surface water quality criteria for PFAS, EPA has no way to determine whether a given level of PFAS causes or contributes to a violation of the narrative standards for toxics. EPA is working toward development of criteria and will be able to conduct such an analysis once criteria are established.

Comment 54

EPA must consider, at a minimum, state water quality standards pertaining to toxics and designated uses.

At least two of New Hampshire's state water quality standards are directly implicated by the WWTF's discharges of PFAS and must be considered.

First, New Hampshire's surface water quality standards include narrative standards for toxic substances. Specifically, Rule Env-Wq 1703.21(a) provides:

> (a) Unless naturally occurring or allowed under [a mixing zone regulation], all surface waters shall be free from toxic substances or chemical constituents in concentrations or combinations that:
>
> (1) Injure or are inimical to plants, animals, humans or aquatic life; or
>
> (2) Persist in the environment or accumulate in aquatic organisms to levels that result in harmful concentrations in:
>
> a. Edible portions of fish, shellfish, other aquatic life, or
> b. Wildlife that might consume aquatic life.[116]

Second, under Env-Wq 1703.01(b), "[a]ll surface waters shall be restored to meet the water quality criteria for their designated classification including existing and designated uses."[117] To protect human health, all surface waters, including the Merrimack River, have "fish consumption" as a designated use.[118] Protecting a surface water for fish consumption means that the "surface water can support a population of fish free from toxicants and pathogens that could pose a human health risk to consumers[.]"[119]

New Hampshire's designated uses also protect aquatic life. Pursuant to Env-Wq 1703.01(c), "[a]ll surface waters shall provide, wherever attainable, for the protection and propagation of

fish, shellfish and wildlife, and for recreation in and on the surface waters."[120] The Merrimack River is designated as a Class B water, and subject to the statutory requirement that "disposal of sewage or waste [shall not] be inimical to aquatic life or to the maintenance of aquatic life."[121]

116. N.H. Code Admin. R. Env-Wq § 1703.21(a).
117. 1 Id. § 1703.01(b).
118. 1 N.H. Dep't Env't Servs., Section 305(b) and 303(d) Consolidated Assessment and Listing Methodology (R-WD-20-20) at 10 (2022), https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/r-wd-20-20.pdf.
119. 1 Id.
120. 1 N.H. Code Admin. R. Env-Wq § 1703.01(c).
121. N.H. Rev. STAT. ANN. 485-A:8 (II); Draft Permit Fact Sheet at 16.

Response 54

Regarding the state narrative standard for toxics, see Response 53.

As described on pages 5-6 of the Fact Sheet, state law specifies different water body classifications, each of which is associated with certain designated uses. The commenter requests EPA consider these designated use water quality standards.

The state has classified the Merrimack River as a Class B water. Fact Sheet, 16. The designated uses for Class B waters include "fishing, swimming and other recreational purposes and, after adequate treatment, for use as water supplies." RSA 485-A:8:II; *see also* Env-Wq 1703.01(c) ("All surface waters", *i.e.*, including Class B waters, "shall provide, wherever attainable, for the protection and propagation of fish, shellfish and wildlife, and for recreation in and on the surface waters."). To protect these designated uses, state water quality standards require:

> Class B waters shall be of the second highest quality and shall have no objectionable physical characteristics, shall contain a dissolved oxygen content of at least 75 percent of saturation, and shall contain not more than either a geometric mean based on at least 3 samples obtained over a 60-day period of 126 Escherichia coli per 100 milliliters, or greater than 406 Escherichia coli per 100 milliliters in any one sample; and for designated beach areas shall contain not more than a geometric mean based on at least 3 samples obtained over a 60-day period of 47 Escherichia coli per 100 milliliters, or 88 Escherichia coli per 100 milliliters in any one sample; unless naturally occurring. There shall be no disposal of sewage or waste into said waters except those which have received adequate treatment to prevent the lowering of the biological, physical, chemical or bacteriological characteristics below those given above, nor shall such disposal of sewage or waste be inimical to aquatic life or to the maintenance of aquatic life in said receiving waters. The pH range for said waters shall be 6.5 to 8.0 except when due to natural causes. Any stream temperature increase associated with the discharge of treated sewage, waste or cooling water, water diversions,

or releases shall not be such as to appreciably interfere with the uses assigned to this class.

RSA 485-A:8:II. Fact Sheet, 16.

The commenter references the state's description of the "fish consumption" designated use contained in the 2020/2022 Section 305(b) and 303(d) Consolidated Assessment and Listing Methodology ("CALM").[27] That is: "The surface water can support a population of fish free from toxicants and pathogens that could pose a human health risk to consumers." CALM, Pg. 10.

The receiving water is impaired for the fish consumption designated use due to mercury. Fact Sheet, 17. At this time, the state has not made a determination that the receiving water is impaired for fish consumption due to PFAS. EPA notes again that although the state has adopted WQS for four PFAS chemicals, EPA has not approved those standards. See Response 53.

EPA agrees that PFAS may pose risks to human health and aquatic life. As described elsewhere, the data gathered in accordance with the permit's monitoring requirements will help EPA to better understand these risks and take future action, if appropriate, to reduce those risks. If, for example, the state determines that the receiving water is impaired for a designated use due to PFAS, or if EPA approves the state's water quality criteria for PFAS, EPA will consider the available data and/or use best professional judgment to determine if there is reasonable potential for the discharge to cause or contribute to a violation of the designated use standards or any other applicable water quality standard and, if so, propose an appropriate effluent limitation.

EPA notes, as it did in Response 53, that for each EPA-issued NPDES permit, if the state believes that conditions more stringent than those contained in the Draft Permit are necessary to meet the requirements of either CWA §§ 208(e), 301, 302, 303, 306 and 307, or applicable requirements of state law including state water quality standards, the state should include such conditions in its certification of the permit. Here, the state has not included an effluent limit for any PFAS contaminants, indicating that the state agrees such effluent limits are not necessary to meet the requirements of state law. See also Response 55.

Comment 55

EPA must perform a reasonable potential analysis using available PFAS data, which likely require the establishment of WQBELs for PFAS.

Permit writers can use both "effluent and receiving water data and modeling techniques" to conduct a reasonable potential analysis.[122] According to EPA's Central Tenets of the NPDES Permitting Program, "[w]here valid, reliable, and representative effluent data or instream

[27] Available at: https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/r-wd-20-20.pdf

background data are available they MUST be used in applicable reasonable potential and limits derivation calculations. Data may not be arbitrarily discarded or ignored."[123] EPA must therefore use the Manchester Monitoring Data, the Battelle Study data, the NCES leachate PFAS sampling data[124], the fish sampling data discussed below, and any other available "representative"[125] data to consider the WWTF's reasonable potential to violate New Hampshire's water quality standards pertaining to toxics and designated uses. EPA may use that data in conjunction with modeling methodologies if necessary.

Both the narrative toxics and the designated use provisions require water quality that is safe for human health[126] and aquatic life.[127] The compounds detected in Manchester WWTF's effluent are toxic, injurious, and inimical to humans and animals.

The Manchester Monitoring Data shows that Manchester's discharges consistently contain PFOA, PFOS, and PFHxS.[128] And while the WWTF's monthly monitoring reports only measure four compounds, the Battelle Study demonstrates that Manchester's discharges contain at least twelve additional compounds: PFBA; PFPeA; PFHxA; PFHpA; PFNA; PFDA; PFBS; NMeFOSAA; NEtFOSAA; 6:2 FTS; 8:2 FTS; HFPO-DA (GenX).[129] The WWTF's discharges most likely contain additional PFAS compounds that neither the WWTF monitoring data nor the Battelle Study measured.

In 2024, in proposing to designate nine PFAS compounds as constituents under RCRA, EPA stated that PFOA, PFOS, PFHxS, PFBS, GenX, PFNA, PFDA, PFHxA, and PFBA "have toxic effects on humans or other life forms." [130] All nine compounds that EPA labeled toxic in the RCRA proposal have been detected in the WWTF's discharges to the Merrimack River. Other PFAS and precursors detected in the WWTF's effluent in the Battelle Study but not addressed in EPA's proposed rule—PFPeA, PFPpA, 6:2 FTS, and 8:2 FTS—are also associated with toxic health effects and/or break down into PFAS with known toxic effects.[131]

In addition to being toxic, injurious, and inimical to humans and animals on their own, EPA and scientific literature have made clear that many PFAS persist in the environment and bioaccumulate in edible fish tissue. In establishing interim and final health advisories under the SDWA, EPA stated that "[m]any PFAS are environmentally persistent, bioaccumulative, and have long halflives in humans[.]"[132] In designating PFOA and PFOS "hazardous substances" under CERLCA, EPA stated that evidence "indicated that PFOA and PFOS are persistent in the environment and that they bioaccumulate in both humans and wildlife."[133]

Evidence suggests that bioaccumulation of PFAS, particularly PFOS, in fish in the Merrimack River, results in "harmful concentrations" of these chemicals in "[e]dible portions of fish,"[134] in violation of the narrative toxics standard, and could "pose a human health risk to consumers," in violation of the fish consumption designated use.[135] As noted above, consuming just one serving of freshwater fish with 8.41 parts per billion (ppb) PFOS has the same negative health impacts as drinking water with 48 ppt PFOS (2,400 times higher than EPA's health advisory level for PFOS) for an entire month.[136] One sampling program, conducted by Harvard researchers for a peer-reviewed study (the Pickard Study), gathered fish samples in 2017 and labeled some as

being from the Merrimack River, in locations downstream from the City's WWTF.[137] All samples had PFAS in their edible muscle tissue.[138]

PFOS in the Pickard Study fish samples described as being from the Merrimack River ranged from .205 ppb (25 compounds, brown bullhead) to 7.914 ppb (37 compounds, largemouth bass).[139] The highest PFOS measurement, 7.914 ppb, closely approaches the 8.41 ppb level at which eating one standard serving of fish is equivalent to drinking water at 48 ppt for an entire month. Total PFAS levels ranged from 1.249 ppb (25 compounds, brown bullhead) to 17.819 ppb (37 compounds, largemouth bass).[140] Given that the WWTF has discharged PFOS and other PFAS chemicals into the Merrimack River since the WWTF monitoring began in 2019 and likely since a much earlier time, the WWTF "may" be contributing to those harmful concentrations,[141] which most likely violate Env-Wq 1703.21(a)(2)(a) and Env-Wq 1703.01(b). Thus, a WQBEL is needed to ensure compliance with water quality standards.

In addition to using PFAS discharge data and fish sampling data, EPA also can use modeling to determine whether the WWTF's discharges "may" present the "reasonable potential to cause, or contribute to"[142] a violation of New Hampshire's narrative toxics standard and designated use provisions.[143] One peer-reviewed study (the Massarsky Study) established a modeling methodology that uses "two publicly available modeling tools"—the Ecological Structural Activity Relationships program and the Exposure and Fate Assessment Screening Tool—to (1) estimate environmental concentrations of PFAS and (2) assess toxicity.[144] The modeling method can be used "for screening-level assessments of PFAS that have been detected within wastewater but not measured in the environment."[145] EPA should supplement the Massarsky Study methodology with the WWTF's actual PFAS discharge data and use it to conduct a reasonable potential analysis.[144]

By estimating environmental concentrations in surface water and ecotoxicity, the Massarsky Study modeling method would also allow EPA to assess whether the WWTF "may" be contributing to an "excursion" of the narrative toxics standard's protections for aquatic life and the designated uses for "Aquatic Life Integrity" and "Wildlife."[146]

122. Env't Prot. Agency, Off. of Wastewater Mgmt., NPDES Permit Writers' Manual (EPA-833-K-10-001) at 6-23 (2010), https://www3.epa.gov/npdes/pubs/pwm_2010.pdf.
123. EPA, Central Tenets of the National Pollutant Discharge Elimination System (NPDES) Permitting Program 3, https://www3.epa.gov/npdes/pubs/tenets.pdf.
124. Id.
125. See N.H. Code Admin. R. Env-Wq § 1703.21(a) (establishing narrative toxics standard); id. § 1703.01(b) (protecting designated uses); N.H. Dep't Env't Servs., Section 305(b) and 303(d) Consolidated Assessment and Listing Methodology (R-WD-20-20) at 10 (2022) (designating "[a]ll surface waters" for fish consumption and potential drinking water supply.)
126. See N.H. CODE ADMIN. R. ENV-WQ § 1703.21(a); *id.* § 1703.01(b)-(c) (protecting designated uses and requiring waters to support "protection and propagation of fish"); N.H. DEP'T ENV'T SERVS., SECTION 305(B) AND 303(D) CONSOLIDATED ASSESSMENT AND LISTING METHODOLOGY (R-WD-20-20) at 10 (2022) (designating "[a]ll surface waters" for aquatic life integrity and wildlife.)
127. City of Manchester WWTF PFAS Monitoring Reports (2019–23).

128. Battelle Study Supporting Information, at tbl. S12.
129. 89 FED. REG. 8606, 8615 (FEB. 8, 2024).
130. Lisa M. Weatherly et al., Systemic Toxicity Induced by Topical Application of Perfluoroheptanoic Acid (PFHpA), Perfluorohexanoic Acid (PFHxA), and Perfluoropentanoic Acid (PFPeA) in a Murine Model, 171 Food & Chem. Toxicology 113515, 113515 (2023) (documenting "systemic toxicity and immunological disruption" from PFHpA, PFHxA and PFPeA, including impacts to liver, skin, metabolism, tissue damage, and inflammation.); Nan Sheng et al., *Comparative Hepatotoxicity of 6:2 Fluorotelomer Carboxylic Acid and 6:2 Fluorotelomer Sulfonic Acid, Two Fluorinated Alternatives to Long-chain Perfluoroalkyl Acids, on Adult Male Mice*, 91 Archives of Toxicology 2909, 2909 (2017) (finding that 6:2 FTS caused "liver weight increase, inflammation, and necrosis" in mice); Kavitha Dasu et al., Aerobic soil biodegradation of 8:2 fluorotelomer stearate monoester, 46 Env't Sci. & Tech. 3831, 3831 (2012) (suggesting that 8:2 FTS breaks down into PFOA).
131. 87 Fed. Reg. 36848, 36849 (June 21, 2022).
132. 89 Fed. Reg. 39,124, 39139 (May 8, 2024).
133. N.H. Code Admin. R. Env-Wq § 1703.21(a)(2)(a).
134. Id. § 1703.01(b); Consolidated Assessment and Listing Methodology, R-WD-20-20 at 10 (2022).
135. Barbo et al., supra note 5, at 6.
136. See Heidi M. Pickard et al., *PFAS and Precursor Bioaccumulation in Freshwater Recreational Fish: Implications for Fish Advisories*, 56 Env't Sci. & Tech. 15573 (2022) (attached as Exhibit W); see also Heidi M. Pickard et al., Supporting Information for PFAS and Precursor Bioaccumulation in Freshwater Recreational Fish: Implications for Fish Advisories S-2–S-3 (2022), https://pubs.acs.org/doi/suppl/10.1021/acs.est.2c03734/suppl_file/es2c03734_si_001.pdf [hereinafter Pickard et al. Supporting Information] (attached as Exhibit X) (Fish Concentrations Table S16 attached as Exhibit Y) (Water Concentrations Table S17 attached as Exhibit Z).
137. Pickard et al. Supporting Information, at S2-S3, TS16 (Fish Concentrations Table, Locations 5 and 6).
138. Id.
139. Id.
140. See 40 C.F.R. § 122.44(d)(1)(i).
141. Id.
142. Env't Prot. Agency, Off. of Wastewater Mgmt., NPDES Permit Writers' Manual (EPA-833-K-10-001) at 6-23 (2010), https://www3.epa.gov/npdes/pubs/pwm_2010.pdf.
143. See Andrey Massarsky et al., Critical Evaluation of ECOSAR and E-FAST Platforms to Predict Ecological Risks of PFAS, 8 Env't Advances 1, 1 (2022) (attached as Exhibit AA).
144. Id. at 12.
145. Id. ("If monitoring data are available, the data should be used in lieu of [estimated environmental concentrations]")
146. 40 C.F.R. § 122.44(d)(1)(i); See N.H. Code Admin. R. Env-Wq § 1703.21(a); id. § 1703.01(b)-(c) (protecting designated uses and requiring waters to support "protection and propagation of fish"); N.H. Dep't Env't Servs., Section 305(b) and 303(d) Consolidated Assessment and Listing Methodology (R-WD-20-20) at 10 (2022) (designating "[a]ll surface waters" for aquatic life integrity and wildlife.)

Response 55

A "reasonable potential analysis" refers to the permit writer's determination of whether a pollutant or pollutant parameter "[is] or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." 40 C.F.R. §

122.44(d)(1)(i). If the permitting authority determines that the discharge of a pollutant will cause, has the reasonable potential to cause, or contribute to an excursion above WQSs, the permit must contain WQBELs for that pollutant. *See* 40 C.F.R. § 122.44(d)(1)(i); Fact Sheet, 8; *see also* NPDES Permit Writers' Manual, pg. 6-23.

To conduct a reasonable potential analysis, a permit writer needs an applicable water quality standard. As described in Responses 51-53, there is currently no EPA-approved state WQS for PFAS. Therefore, because there is no standard to apply, even with the data referenced by the commenter, EPA is unable to conduct a reasonable potential analysis at this time.

However, EPA notes that the state, as part of its 401 water quality certification process, conducted a reasonable potential analysis using recent state-adopted (but not EPA-approved) PFAS MCLs. In their response to comments document, NHDES concluded that "The results of this evaluation… show that the Manchester WWTF's discharge does not have reasonable potential to cause or contribute to an exceedance of the four PFAS water quality criteria in the receiving water, and the permit, as currently written, will ensure that the discharge will comply with New Hampshire's surface water quality standards."[28] EPA concurs with NHDES's analysis and conclusion which provides additional support that effluent limits for PFAS are not necessary in this permit to protect water quality standards at this time.

See Response 53 regarding possible changes in PFAS standards and subsequent possible modification of the permit.

Comment 56

EPA should use "peer-reviewed scientific literature," "site-specific surveys and data" from the Manchester WWTF and the Merrimack River, and New Hampshire's prospective surface water quality standards for PFAS to calculate numeric WQBELs for PFAS.

Based on the discussion above, EPA's analysis will likely find that the WWTF's PFAS discharges "may . . . have the reasonable potential to cause, or contribute to an excursion above" New Hampshire's narrative standard for toxics and the provisions protecting designated uses—and thus, that WQBELs for PFAS are required.[147] EPA may develop the WQBELs based on a "calculated numeric criterion for the pollutant[s] which the permitting authority demonstrates will attain and maintain" the narrative water quality criteria in Env-Wq 1703.21(a) and Env-Wq 1703.01(b).[148] In establishing WQBELs for PFAS, EPA may not consider "treatability" or "analytical detection levels," but rather must focus on limits that will protect water quality.[149]

EPA has previously translated narrative water quality criteria for phosphorous into numeric effluent limits for the Manchester WWTF, as detailed in the Draft Permit's Fact Sheet.[150] In doing so, "EPA looks to a wide range of materials, including nationally recommended criteria

[28] See page 6, available at : https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/wqc2025-nh0100447-rtc.pdf

and other relevant materials, such as . . . peer-reviewed scientific literature and site-specific surveys and data to determine instream targets that are protective of water quality."[151] In the context of PFAS, EPA has access to site-specific data (the Battelle Study and Manchester Monitoring Report), EPA's preambles and scientific literature supporting its final and proposed rules for PFAS under CERCLA, SDWA, and RCRA, and numerous other peer-reviewed scientific articles (including those cited in and attached to these comments).

EPA's regulations also specify that the numeric limits calculated to protect water quality "may be derived using a proposed State criterion[.]"[152] Thus, in addition to considering the above, in setting a WQBEL for PFAS for the Manchester WWTF, EPA should account for NH's draft surface water quality criteria for PFAS, released in 2023 as a draft for stakeholder review.[153] The prospective surface water quality criteria are: 12 ppt PFOA, 15 ppt PFOS, 18 ppt PFHxS, and 11 ppt PFNA for sources "within 20 miles upstream of any active surface water intake for a public water system."[154] As the Manchester WWTF is within 20 miles upstream from Pennichuck Water Works,[155] NH's surface water quality standards for PFAS will apply to the Manchester WWTF when finalized.

If EPA does not include effluent limits for PFAS in the Draft Permit, EPA should at the very least include a reopener provision providing for modification of the permit to include effluent limits either (1) when EPA finalizes federal effluent limitations guidelines or water quality criteria for PFAS,[156] and/or (2) when DES finalizes New Hampshire surface water quality standards for PFAS.[157s6*]

147. 40 C.F.R. § 122.44(d)(1)(i).
148. 40 C.F.R. § 122.44(d)(1)(vi)(A-C).
149. EPA, Central Tenets of the National Pollutant Discharge Elimination System (NPDES) Permitting Program 3, https://www3.epa.gov/npdes/pubs/tenets.pdf.
150. Draft Permit Fact Sheet at 27.
151. Id. (citing 40 CFR § 122.44(d)(1)(vi)(A), (B)).
152. 40 C.F.R. § 122.44(d)(1)(vi)(A).
153. *See* N.H. Dep't Env't Services, CHAPTER Env-Wq 1700 Surface Water Quality Regulations: Draft for Stakeholder Review at § 1703.22(l), Table 1703-2A (2023), 20230613 Draft IP for Stakeholder Review (nh.gov).
154. *Id.* § 1703.22(l).
155.2015 Permit, Response to Comments, at 14.
156. See EPA, PFAS Strategic Roadmap: EPA's Commitments to Action 2021–2024 13, 15 (2021), accessible at https://www.epa.gov/system/files/documents/2021-10/pfas-roadmap_final-508.pdf.
157. *See* N.H. Dep't Env't Services, CHAPTER Env-Wq 1700 Surface Water Quality Regulations: Draft for Stakeholder Review (2023), 20230613 Draft IP for Stakeholder Review (nh.gov). See also Env't Prot. Agency, Off. of Wastewater Mgmt., NPDES Permit Writers' Manual (EPA-833-K-10-001) at 6-23 (2010), https://www3.epa.gov/npdes/pubs/pwm_2010.pdf ("Where data are generated as a condition of the permit (for example for a new permittee), it might be appropriate for the permit writer to include a reopener condition in the permit to allow the incorporation of a WQBEL if the monitoring data indicate that a WQBEL is required.")

Response 56

EPA agrees that numeric criteria can be developed based on a wide range of materials, as described in the comment. As noted in Response 53, EPA is actively working toward the development of such numeric criteria. As described in Responses 51-55, there are no

EPA-approved Water Quality Standards for PFAS and therefore no reasonable potential for the Permittee to cause or contribute to a violation of such WQS. Therefore, EPA is not calculating establishing any effluent limitations for PFAS at this time.

See Response 53 regarding possible changes in PFAS standards and subsequent possible modification of the permit.

Comment 57

The permit must include effluent limitations to "minimize" impacts to Essential Fish Habitat.

In addition to establishing effluent limitations for a "minimum level" of control[158] and/or to ensure compliance with narrative water quality criteria,[159] EPA should include effluent limitations for PFAS because monitoring requirements alone do not "minimize" impacts to Essential Fish Habitat ("EFH").[160] The Draft Permit's Fact Sheet states that "EPA has determined that actions regulated by the Draft Permit may adversely affect EFH" for Atlantic Salmon.[161] The fact sheet states that the permit "has been conditioned" to "minimize any impacts that reduce the quality and/or quantity of EFH for Atlantic salmon."[162] One of the stated EFH conditions to ensure against adverse impacts is: "monitoring for four Per- and Polyfluoroalkyl Substances (PFAS) in the influent, effluent, and sludge."[163]

First, we request that EPA update the Fact Sheet's statement to reflect the requirement that the WWTF monitor for 40 (not four) PFAS under method 1633 as well as AOF under method 1621.[164] Second, monitoring for 40 PFAS and AOF will not "minimize" the impacts of PFAS on Atlantic Salmon's habitat, and monitoring alone will not reduce the levels of the toxic contaminant in the WWTF's receiving water. In the context of WQBELs, EPA has stated that permit writers cannot use "data collection efforts" as a "substitute for enforceable permit limits," further supporting the argument that monitoring alone will not improve water quality or protect wildlife habitat.[165] Therefore, we urge EPA to analyze, and ultimately establish, effluent limitations to achieve the EFH impact-minimization requirement.

158. See 40 C.F.R. § 125.3(a).
159. See *id*. § 122.44(d)(1).
160. Draft Permit, Fact Sheet at 48.
161. Id.
162. Id.
163. Id.
164. Id. at Part I(A)(1), at 4–5.
165. EPA, Central Tenets of the National Pollutant Discharge Elimination System (NPDES) Permitting Program at 3, https://www3.epa.gov/npdes/pubs/tenets.pdf.

Response 57

EPA agrees that the reference to four (rather than 40) PFAS compounds in the EFH section of the Fact Sheet was a typographical error. Permit Part I.A.1 of the Draft Permit correctly indicated that EPA was proposing to require monitoring for 40 PFAS analytes (see also footnote 13 and Attachment E), and page 48 of the Fact Sheet incorrectly

summarized the permit requirement. This Fact Sheet error is noted here for the record since the Fact Sheet cannot be changed after the public notice of the Draft Permit.

As described in the Fact Sheet, EPA has determined that actions regulated by the Draft Permit may adversely affect EFH for Atlantic salmon and therefore EPA is required to consult with NOAA. Fact Sheet, 47-48. EPA agrees that monitoring alone will not minimize impacts from PFAS on Atlantic Salmon habitat. The Draft Permit has been conditioned in a number of ways to minimize impacts that reduce the quality and/or quantity of EFH, one of which is monitoring of PFAS in the influent, effluent, and sludge. Fact Sheet, 48. Additionally, monitoring is an important step toward characterizing the discharge and determining if PFAS reductions are necessary to minimize impacts to the EFH or otherwise protect water quality. See Responses 51 and 53.

Comment 58

IV. EPA must strengthen the permit's PFAS monitoring and control measures under the Industrial Pretreatment Program

Congress established the National Pretreatment Program under the CWA, which requires EPA to establish rules "to prevent the discharge of any pollutant through" a WWTF, or POTW, that "interferes with, passes through, or otherwise is incompatible with such works."[166] In finalizing general pretreatment rules in 1978, EPA emphasized the need for "[s]ource control of industrial toxic pollutants through pretreatment" as "a necessary element of ensuring safe drinking water supplies, minimizing public exposure to toxic air pollutants released in incineration of municipal sludges, and encouraging the recovery of concentrated toxics from industrial sludges."[167]

The preamble for EPA's general pretreatment rules also clarified the meaning of "incompatible" pollutant, specifying that they include, among others, pollutants that (1) "increase the cost to consumers of treating drinking water[,]" (2) "[l]imit the sludge management alternatives available to the POTW and increase the cost to the public of providing adequate sludge management," or (3) "prevent the attainment of water quality standards[.]" [168] EPA also made clear that the "ultimate fate of toxic pollutants removed from the wastewater," not just "mere removal," is relevant to "determining compatibility or incompatibility of a toxic pollutant[.]"[169] Specifically, "mere removal" of pollutants from wastewater is not "adequate to protect the environment" because "the substance may be discharged into the air or onto the land."[170] Relevant factors for assessing incompatibility include whether the pollutant, when discharged into a WWTF, "increase[s] human exposure to air pollutants" or "concentrate[s] in the municipal sludge[.]"[171]

PFAS meet the above criteria for incompatibility; therefore, source control under the IPP is essential. First, PFAS discharges from the WWTF affect downstream drinking water sources and pass the cost of any necessary treatment on to downstream consumers.[172] For example, Pennichuck Water Works sources water for Nashua consumers from the Merrimack River within 20 miles downstream from the Manchester WWTF.[173] Pennichuck Water Works' 2024 Consumer Confidence Report ("CCR") lists PFOA as having a running annual average of 3.20 ppt in 2023 and a range from nondetect to 5.43 ppt.[174] The CCR listed "wastewater treatment" as

one of the "Typical Source[s] of Contaminant."[175] Thus, Nashua consumers will bear the burden of addressing PFAS discharged by the Manchester WWTF. Second, PFAS remain in sludge (or its byproducts) after land application, incineration, or landfilling, which "[l]imits management alternatives" and requires costly treatment to remove or destroy.[176] Third, PFAS discharges in wastewater likely violate water quality standards, as discussed in Detailed Comments, Part III.B above. The "ultimate fate" of PFAS also indicates incompatibility, as PFAS incineration "increase[s] human exposure to air pollutants,"[177] and these chemicals build up to high concentrations in sludge.[178]

Federal pretreatment regulations require municipal wastewater treatment plants to "fully and effectively exercise[] and implement[]" their pretreatment authority.[179] At "minimum,"[180] municipal pretreatment authority must include authority to:

- "Deny or condition new or increased contributions of pollutants, or changes in the nature of pollutants, to the POTW by Industrial Users where such contributions do not meet applicable Pretreatment Standards and Requirements or where such contributions would cause the POTW to violate its NPDES permit"[181]

- "Require compliance with applicable Pretreatment Standards and Requirements by Industrial Users"[182]

- "Control through Permit, order, or similar means, the contribution to the POTW by each Industrial User to ensure compliance with applicable Pretreatment Standards and Requirement"[183]

- "Carry out all inspection, surveillance and monitoring procedures necessary to determine, independent of information supplied by Industrial Users, compliance or noncompliance with applicable Pretreatment Standards and Requirements by Industrial Users"[184]

- "[I]mmediately and effectively to halt or prevent any discharge of pollutants to the POTW which reasonably appears to present an imminent endangerment to the health or welfare of persons,"[185] and

- "[H]alt or prevent any discharge to the POTW which presents or may present an endangerment to the environment or which threatens to interfere with the operation of the POTW."[186]

"Pretreatment Standards and Requirements" include a general prohibition that bars any industrial discharger from "introduc[ing] into a POTW any pollutant(s) which cause Pass Through[.]"[187] Pass through is "a Discharge which exits the POTW into waters of the United States in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation)."[188] The

Manchester WWTF's current permit, and the Draft Permit, both incorporate the narrative toxics substance provision as a permit requirement,[189] and they also require compliance with water quality standards.[190]

PFAS-contaminated discharges from the Manchester WWTF to the Merrimack River likely qualify as "pass through" because: (1) the WWTF's discharges contain PFAS pollution, as documented in the Battelle Study and the Manchester Monitoring Data, (2) the PFAS-contaminated water exits the WWTF into the Merrimack River, a water of the United States, and (3) the PFAS-contaminated discharges likely violate the WWTF's narrative NPDES permit provisions regulating toxic substances and requiring compliance with state water quality standards, as discussed in Detailed Comments, Part III.B, above.[191]

"Pretreatment Standards" also include the local prohibitions in Manchester's Sewer Use Ordinance.[192] Manchester's Sewer Use Ordinance prohibits IUs from discharging pollutants into the plant that "constitute a hazard to humans or animals in the receiving waters[.]"[193] PFAS-contaminated discharges from the Manchester WWTF likely "constitute a hazard to humans or animals" in the Merrimack River. EPA's recent regulation designating PFOA and PFOS as "hazardous substances" under CERCLA describes "hazard" as meaning "potential harm to humans or the environment from exposure to the substance[.]"[194] In the final CERCLA rule, EPA determined that PFOA and PFOS "may pose a hazard" sufficient to warrant the "hazardous substances" designation because "[n]umerous health studies support a finding that PFOA and PFOS exposure can lead to adverse human health effects, including cancer (testicular and kidney for PFOA, liver cancer for PFOS), pregnancy-induced hypertension and preeclampsia, and decreased immune response to vaccination" as well as thyroid hormone and endocrine effects, among others.[195] The final rule also referenced animal studies linking PFOA and PFOS with "adverse health effects."[196]

As discussed above, the WWTF has received PFOA and PFOS, among other PFAS chemicals, in influent and discharged these chemicals into the Merrimack River, and the Pickard Study detected these chemicals in fish gathered from Merrimack River locations.[197] More specifically, the WWTF has received landfill leachate that regularly contains PFAS, including leachate with concentrations as high as 58.7 ppt PFOS[198] and 92.5 ppt[199] PFOA from the Manchester Landfill and leachate with concentrations as high as 281 ppt PFOS and 1,870 ppt PFOA from the NCES landfill in 2024.[200] The WWTF has routinely recorded the discharge of PFAS in its effluent, with concentrations as high as 30 ppt PFOS[201] and 20.6 ppt PFOA[202] prior to the acceptance of NCES landfill leachate; thus, effluent concentrations may have been even higher after receiving NCES leachate with higher PFOS and PFOA concentrations. The Pickard Study detected PFOS in edible fish muscle tissue from Merrimack River locations ranging from .205 ppb (25 compounds, brown bullhead) to 7.914 ppb (37 compounds, largemouth bass) and PFOA reaching 0.386 ppb—again, before the WWTF began accepting NCES leachate.[203]

Given that EPA has recognized that PFOA and PFOS "may pose a hazard," [204] and that these substances have been detected in the WWTF's influent, effluent, and fish in the Merrimack River, the WWTF's discharges likely "constitute a hazard to humans or animals" under the City's Sewer Use Ordinance.[205] Total PFAS levels in the WWTF's influent and effluent, and fish muscle

tissue, are even higher, and PFAS compounds other than PFOA and PFOS have also been linked with adverse health effects, as discussed above.[206]

The City has not "fully and effectively" implemented its pretreatment authorities to control, inspect, halt, and prevent PFAS contributions from IUs[207] because it has admittedly failed to initiate any communications with IUs regarding PFAS.[208] Because NPDES permits must ensure compliance with the CWA,[209] the final permit must ensure the City is "fully and effectively" implementing the pretreatment authorities listed above.[210] Thus, in issuing a final permit, EPA must include a broader Industrial User Survey requirement for PFAS and stronger PFAS control and prevention measures. More specifically, EPA should incorporate the following changes to the Draft Permit's "Industrial Users and Pretreatment Program" section, Part I(E), to ensure compliance with federal, state, and local law.

166. 33 U.S.C. § 1317(b)(1); Int'l Union, United Auto. Aerospace & Agr. Implement Workers of Am., AFL-CIO v. Amerace Corp., 740 F. Supp. 1072, 1079 (D.N.J. 1990) (citing id.)
167. 43 Fed. Reg. 27736, 27736 (June 26, 1978).
168. Id. at 27737. EPA's original pretreatment regulations, promulgated at 40 C.F.R. Part 128, defined incompatible and compatible pollutants. See 38 Fed. Reg. 30982, 30983 (Nov. 8, 1973). Those regulations defined "Compatible pollutant" as "biochemical oxygen demand, suspended solids, pH and fecal coliform bacteria, plus additional pollutants identified in the NPDES permit if the publicly owned treatment works was designed to treat such pollutants, and in fact does remove such pollutants to a substantial degree." Id. The regulations defined "Incompatible pollutant" as "any pollutant which is not a compatible pollutant." Id. Although EPA replaced the Part 128 regulations with the general pretreatment regulations at Part 403 in 1978, and has since amended the Part 403 regulations, the current statutory and regulatory language still make clear that one goal of the National Pretreatment Program is to "prevent the introduction of pollutants into POTWs which will pass through the treatment works or otherwise be incompatible with such works." 40 C.F.R. § 403.2(b) (emphasis added); see also 33 U.S.C. § 1317(b)(1).
169. 43 Fed. Reg. 27736, 27761 (June 26, 1978).
170. Id.
171. Id.
172. Best way to meet EPA's new PFAS drinking water standards is pollution control at the source, says SELC, Southern Env't l. Ctr., (April 10, 2024), https://www.southernenvironment.org/press-release/best-way-to-meet-epas-new-pfas-drinking-water-standards-is-pollution-control-at-the-source-says-selc/ ("PFAS are not removed by conventional water treatment so keeping them out of drinking water sources is critical to avoid burdening downstream communities. Polluters should have to bear the cost of their pollution not downstream communities.")
173. Draft Permit 2015, Response to comments at 14.
174. Pennichuck, Pennichuck 2024 Consumer Confidence Report, Nashua EPA # 1621010 at 3 (2024), https://pennichuck.com/pdf/CCR-A0.pdf.
175. Id.
176. See NEIWPCC, Northeast Regional Sludge End-Use and Disposal Estimate at 7 (2022), https://neiwpcc.org/wp-content/uploads/2022/10/NEIWPCC-Sludge-End-Use-Disposal-Estimate-Report_FINAL.pdf ("Currently available sludge disposal options may not adequately address the destruction of the PFAS group of chemicals. With public awareness and outcry driving quick regulatory actions regarding PFAS, the trace amounts detected in wastewater solids have led to several states currently having restrictions (Vermont and New Hampshire) or bans (Maine) on land applications. With pending legislation and legal responsibility uncertainties, many landfills have

become risk-averse, either reducing or altogether stopping the acceptance of sludge containing PFAS.")
*177. See S*eay et al., *supra* note 6, at 1.
178. Ting Zhou et al., Occurrence, Fate, and Remediation for Per- and Polyfluoroalkyl Substances (PFAS) in Sewage Sludge: A Comprehensive Review, 466 J. of Hazardous Materials 1, 14 (2024) ("The PFAS concentrations in sludge matrices across the world are up to thousands of ng/g [dry weight.]")
179. 40 C.F.R. § 403.8(f).
180. Id. § 403.8(f)(1).
181. Id. § 403.8(f)(1)(i).
182. Id. § 403.8(f)(1)(ii).
183. Id. § 403.8(f)(1)(iii).
184. Id. § 403.8(f)(1)(v).
185. Id. § 403.8(f)(1)(vi)(B).
186. Id.
187. Id. §§ 405(a)(1), 403.3(l).
188. Id. § 403.3(p).
189. See 2015 Permit I(A)(6); Draft Permit I(A)(6).
190. See 2015 Permit I(A)(2); Draft Permit I(A)(3).
191. See 2015 Permit I(A)(2), (6); Draft Permit I(A)(3), (6).
192. 40 C.F.R. §§ 403.3(l), 403.5(d).
193. Manchester, N.H. Code Ord. § 52.026(B).
194. 89 Fed. Reg. 39124, 39141 (May 8, 2024).
195. Id. at 39143.
196. Id.
197. See Factual Background & Overview, Parts II & III; Detailed Comments on the Draft Permit, Part III.B.2.
198. City of Manchester WWTF Monitoring Report (2022).
199. City of Manchester WWTF Monitoring Report (2019).
200. Email from Christopher Crowley, Manchester EPD, to Frederick McNeill, Manchester EPD, regarding Leachate Disposal PFAS sampling results vs. NHDES Drinking water limits.
201. City of Manchester WWTF Monitoring Report (2022).
202. City of Manchester WWTF Monitoring Report (2021).
203. Pickard et al. Supporting Information, T16 (Fish Concentrations).
204. 89 Fed. Reg. 39124, 39143 (May 8, 2024).
205. MANCHESTER, N.H. CODE ORD. § 52.026(B).
206. See Detailed Comments on the Draft Permit, Part III.B.2.
207. 40 C.F.R. § 403.8(f)(1).
208. See Email from Adam Dumville, Director, McLane Middleton to Tom Irwin, Vice President, Conservation Law Foundation (Feb. 15, 2024).
209. 40 C.F.R. § 122.4(a).
210. Id. § 403.8(f)(1).

Response 58

CWA § 307(b)(1) instructs EPA to promulgate "pretreatment standards" for the introduction into POTWs of pollutants that "interfere with," "pass[] through," or are otherwise "incompatible" with the treatment works. EPA has promulgated these standards at 40 C.F.R. Part 403. Any POTW with a design flow of more than 5 million gallons per day (mgd) and subject to pretreatment standards must establish a pretreatment program. 40 C.F.R. § 403.8(a); *see also id.* §§ 403.9, 122.44(j). As described

in the Fact Sheet, the Permittee's pretreatment program was approved on February 27, 1985 and has subsequently incorporated substantial modifications as approved by EPA. Fact Sheet, 21.

Also as described in the Fact Sheet, the Permittee has been delegated primary responsibility for enforcing against discharges prohibited by 40 C.F.R. § 403.5 and applying and enforcing any national Pretreatment Standards established by the United States Environmental Protection Agency in accordance with Section 307 (b) and (c) of The Clean Water Act (Act), as amended by The Water Quality Act (WQA), of 1987. Fact Sheet, 18-24; 40 C.F.R. § 403.8(f)(5) ("The POTW shall develop and implement an enforcement response plan" and requirements for such a plan.); *In re B.J. Carney Indus*., 7 E.A.D. 171, 175 (EAB 1997) ("[G]enerally speaking, the pretreatment standards are primarily enforced by POTWs."); *Introduction to the National Pretreatment Program*, pg. 2-4 ("Unlike other environmental programs that rely on federal or state governments to implement and enforce specific requirements, under the National Pretreatment Program most of the responsibility rests on local municipalities.").

EPA disagrees that PFAS discharges into the POTW from industrial users interfere with, pass through, or are otherwise incompatible with the treatment works such that the permittee would need to revise its pretreatment program at this time. As described in Responses 51-56, the Permit does not contain effluent limitations for PFAS. Therefore, even if PFAS are entering the POTW from industrial users and ultimately discharging to the receiving water, there is no violation of an effluent limit for PFAS. If, after a future permit modification or renewal, the permit does include effluent limits for PFAS, it may be the case that industrial discharges into the POTW would interfere with, pass through, or otherwise be incompatible with the treatment works and the permittee might therefore need to revise aspects of its pretreatment program at that time.

The commenter also asserts that industrial discharge of PFAS into the POTW violates the permittee's existing sewer use ordinance. As described above, the POTW, not EPA, has primary responsibility for enforcing against violations of its pretreatment regulations.

The commenter asserts that the permittee has not fully and effectively implemented its pretreatment authorities because it has failed to initiate any communications with IUs regarding PFAS, referencing 40 C.F.R. § 403.8(f). The permittee's prior permit did not contain any PFAS requirements and the commenter has not identified any legal requirement for a POTW to "initiate communications" with industrial users regarding a pollutant that is not limited by the currently effective permit. For this and other reasons, EPA does not agree that the permittee is not fully and effectively implementing its pretreatment authorities. EPA additionally notes that during the Region 1 Water Division's most recent audit of the permittee's pretreatment program, in August 2022, EPA found that the program was very well implemented.[29]

[29] August 4, 2022 cover letter to Christopher J. Crowley Re: 2022 Industrial Pretreatment Program Audit.

EPA agrees that industrial source control is an important step in regulating PFAS. To better understand the inflow of PFAS from industrial users into the POTW, EPA has included an annual monitoring requirement for individual industrial users that are likely to discharge PFAS, Permit Part I.E.6, as well as a quarterly monitoring for PFAS in the collective influent into the POTW, Permit Part I.A.1. The PFAS data collected under these requirements may aid in future evaluations of local limits or other efforts to reduce inflow of PFAS from industrial users. As mentioned in Response 2, EPA notes that the Permittee may choose to pass on the cost of monitoring to the industrial users. If permit limits for PFAS are established in the future, the Permittee may be required to use pretreatment requirements and/or sewer use ordinances to directly regulate these industrial users, consistent with 40 C.F.R. Part 403.

Comment 59

The final permit should require more comprehensive PFAS monitoring measures for Industrial Users, including an Industrial User Survey and an updated Industrial User Inventory.

Draft Permit section I(E)(6) requires annual PFAS sampling of IUs in specific categories using method 1633. It also requires the City to include the PFAS industrial sources and sampling results in a report submitted to EPA, under section I(E)(5). While we appreciate the requirement for Manchester to measure PFAS in industrial-user influent, annual sampling using only EPA method 1633 will not sufficiently characterize each IU's contribution of PFAS to the WWTF. Moreover, requiring the City to submit results only to EPA does not provide sufficient transparency for the public.[211]

Federal regulations and EPA recommendations support requiring a broad IU survey. 40 C.F.R. section 403.8(f)(2) requires that WWTFs implement procedures "to identify and locate all possible Industrial Users that might be subject to the pretreatment program" and "identify the character and volume of pollutants contributed to the POTW by the Industrial Users."[212] Importantly, in 2022, EPA published a memorandum regarding "*Addressing PFAS Discharges in NPDES Permits and Through the Pretreatment Program and Monitoring Programs*"[213] recommending that, that under section 403.8(f)(2), WWTFs update their inventory of IUs to include those that discharge PFAS.[214] For both WWTFs and IUs, the memorandum also recommends quarterly monitoring and highlights that facilities may use method 1621 for Adsorbable Organic Fluorine ("AOF") in addition to method 1633 for PFAS.[215] The memorandum also recommends gathering information on industrial wastewater by placing monitoring requirements in IU permits.[216]

In May 2024, EPA Region 3 echoed the 2022 PFAS memorandum language when it specifically recommended that a WWTF in Virginia, with similar PFAS effluent levels to that of the Manchester WWTF, "[i]ncorporate in the permit the requirement to conduct a survey to identify and locate all possible IUs that might be subject to the pretreatment program and identify the character and volume of pollutants contributing to the POTW by the IUs" and "revise[]" its IU inventory accordingly.[217] Moreover, in issuing the Air Force Academy's NPDES permit (effective 2023), EPA Region 8 required the Academy to "perform and begin implementing a PFAS source identification and reduction plan" no more than 180 days after

detecting PFAS in an effluent sample.[218] The PFAS plan required in that permit must determine the "source or suspected source of the PFAS," include control measures, and form "[a] plan for identifying future sources of PFAS in the influent" and controlling and/or removing those future sources.[219]

To ensure that Manchester "fully and effectively" implements its "authorities and procedures"[220] under the pretreatment program to investigate PFAS contributions from IUs, EPA, in finalizing the permit, should supplement provisions contained in Draft Permit section I.E.6 by requiring that: (1) IUs monitor for PFAS on at least a quarterly basis,[221] (2) IUs use method 1621 in conjunction with method 1633 to measure both targeted and non-targeted PFAS, (3) the City conduct an IU Survey and update its IU Inventory accordingly, and (4) the City publicly post all IU PFAS monitoring data and its updated IU Inventory for PFAS on its Industrial Pretreatment website.[222]

211. 2024 NPDES EJ Policy, at 5 ("Consideration should also be given on how best to make compliance monitoring, test results, records, and reports required by the permit publicly available in a meaningful way that is understandable and readily accessible by the community.")
212. 40 C.F.R. § 403.8(f)(2)(i), (ii).
213. See December 2022 EPA PFAS Memorandum, at 4.
214. Id.
215. Id. at 2, 4.
216. Id. at 4.
217. Email from Jennifer Fulton, EPA Region III, to Susan Edwards, Va. Dep't Env't Quality, Regarding Danville – Northside WWTP (VA0060593) (May 14, 2024) (attached as Exhibit BB).
218. 1 EPA Region 8, Auth. To Discharge Under the Nat'l Pollutant Discharge Elimination System (Permit No.: CO-0020974) at 38-39 (2023), https://www.epa.gov/system/files/documents/2023-01/co0020974-afa-wwtf-npdes-permit-final-12.20.22.pdf.
219. Id.
220. 40 C.F.R. § 403.8(f).
221. See December 2022 EPA PFAS Memorandum, at 4.
222. See Industrial Pretreatment, CITY OF MANCHESTER, https://www.manchesternh.gov/Departments/Environmental-Protection/Industrial-Pretreatment.

Response 59

Regarding the request for quarterly monitoring of each IU, EPA first notes that Permit Part I.A.1 does require quarterly influent monitoring of PFAS analytes, consistent with the recommendation in section B.2 of the referenced guidance.[30] The requirement in Permit Part I.E.6 for the Permittee to annually sample certain industrial dischargers using Method 1633 is intended to identify the potential sources of PFAS in the influent. Therefore, EPA finds that annual monitoring is sufficient for this purpose and is consistent with the recommendation in section B.3.a of the referenced guidance. Once sources are identified (and especially if effluent limits for PFAS are established), more

[30] *Addressing PFAS Discharges in NPDES Permits and Through the Pretreatment and Monitoring Programs*, EPA Office of Water, Dec. 5, 2022. Available at: https://www.epa.gov/system/files/documents/2022-12/NPDES_PFAS_State%20Memo_December_2022.pdf.

frequent monitoring of those IUs may be necessary in the future to track reductions. As described in Response 60, EPA also notes that the recommendations in section B.3.b of the guidance are recommendations to POTWs, not recommendations to NPDES permit issuers.

Regarding the request for IUs to use both Method 1621 and 1633, EPA notes again that this initial requirement is intended to identify potential sources of PFAS and considers that Method 1633 is sufficient for this purpose. EPA notes that the pretreatment program activities section of the guidance does not reference any particular method but that other sections of the guidance recommend the use of Method 1621 in conjunction with Method 1633 "if appropriate." Once sources are identified, additional monitoring through the use of Method 1621 may also be appropriate to track overall reductions in the future.

The commenter cites EPA guidance, 40 C.F.R. § 403.8(f)(2), and recent examples from other EPA regions in support of its request that the Permittee conduct an IU survey and update its IU inventory. Forty C.F.R. § 403.8(f)(2)(i) and (ii) require POTWs subject to pretreatment requirements to "identify and locate all possible Industrial Users which might be subject to the POTW Pretreatment Program" and to "identify the character and volume of pollutants contributed to the POTW" by those users. *See also* 40 C.F.R. § 122.44(j)(1) and Permit Part I.E.2.a. As described above, Permit Part I.E.6 requires the Permittee to commence annual sampling of certain industrial dischargers into the POTW using Method 1633 for the PFAS analytes listed in Attachment E. EPA finds that the list of categories of dischargers, which also includes "any other known or expected sources of PFAS," reasonably addresses the commenter's desire for the POTW to identify IU sources of PFAS without unreasonably overburdening the permittee. Additionally, EPA is taking broader action outside of this permit proceeding to better understand PFAS in POTW influents. *See, e.g.*, *EPA Effluent Guidelines Program Plan 15* (January 2023),[31] pg. 6-19. See also Response 61. Finally, EPA notes that comparisons to other permits are "not germane." *In re Springfield Water and Sewer Commission*, 18 E.A.D. 430, 459 (EAB 2021).

Regarding the request to require the Permittee to post its IU PFAS results and IU inventory on its website, EPA notes that the City does post its IPP annual reports currently. Future reports would include PFAS results. In any case, EPA notes that the IPP annual reports submitted to EPA are public documents and can be requested at any time.

Comment 60

The final permit must require the City to implement PFAS source reduction measures for Industrial Users, including through IU "Permit[s], order[s], or other similar means" and local limits.

[31] Available at: https://www.epa.gov/system/files/documents/2023-01/11143_ELG%20Plan%2015_508.pdf

The final permit must require that the City reduce or eliminate PFAS contributions from IUs by establishing best management practices ("BMPs"), numeric limits, and/or treatment requirements in IU permits (or through other IU control mechanisms) and by developing local limits for PFAS.

To ensure that the permit prevents incompatible PFAS pollutants from entering and exiting the WWTF,[223] to ensure that the City "fully and effectively implement[s] and exercis[es]" its pretreatment authorities, [224] and to "provide for compliance" with the CWA,[225] EPA must establish PFAS source reduction measures for IUs in the City's final permit.

First, PFAS chemicals are "incompatible" with the Manchester WWTF because the WWTF does not remove them, and as a result they: threaten to increase drinking water costs for downstream consumers; "[l]imit the sludge management alternatives available" and raise "the cost to the public of providing adequate sludge management"; and likely "prevent the attainment of water quality standards[.]" [226] Moreover, incinerating PFAS-containing sludge at the Manchester WWTF "increase[s] human exposure to air pollutants,"[227] and these chemicals build up to high concentrations in sludge,[228] further demonstrating that they are "incompatible" with the Manchester WWTF.[229] To ensure that the pretreatment rules are implemented "[t]o prevent the introduction of pollutants into POTWs which . . . [are] incompatible with such works,"[230] EPA should require source reduction measures for PFAS in the Manchester WWTF's final permit.

Second, the PFAS chemicals detected in Manchester WWTF's effluent "reasonably appear[] to present an imminent endangerment to the health or welfare of persons" and "an endangerment to the environment" because PFAS are toxic to both humans and aquatic organisms.[231]

Thus, EPA must establish PFAS source reduction requirements in the City's permit to ensure that the City "fully" implements its authority to:

- "[I]mmediately and effectively . . . *halt or prevent any discharge of pollutants to the POTW* which reasonably appears to present an imminent endangerment to the health or welfare of persons"[232] and

- "*[H]alt or prevent any discharge to the POTW* which presents or may present an endangerment to the environment[.]"[233]

Third, the PFAS chemicals detected in Manchester WWTF's effluent likely qualify as "pass through" and likely "constitute a hazard" for humans and animals, in violation of federal and local pretreatment standards.[234] Thus, to ensure compliance with the CWA, EPA should establish PFAS source reduction requirements for IUs in the City's permit to ensure that the City "fully" implements its authority to:

- "Control through Permit, order, or similar means, the contribution to the POTW by each Industrial User to ensure compliance with applicable Pretreatment Standards and Requirements[,]"[235] and

- "Deny or condition new or increased contributions of pollutants, or changes in the nature of pollutants, to the POTW by Industrial Users where such contributions do not meet applicable Pretreatment Standards and Requirements[.]"[236]

The final permit should require the City to reduce PFAS from industrial sources by implementing PFAS BMPs, numeric limits, and/or treatment requirements for IUs through "Permit, order, or similar means."[237] Pursuant to EPA's 2022 memorandum, BMPs can equire elimination or substitution of PFAS in products, establish plans for "[a]ccidental discharge minimization," and mandate "[e]quipment decontamination or replacement."[238] The Air Force Academy's permit provides an example of requiring source reduction BMPs. That permit provides that if the Air Force Academy detects PFAS in its effluent, it must develop a "PFAS Plan" that contains the following components (among others):

- "Identification and implementation of best management practices (BMPs) to keep PFAS out of the collection system," including "product substitution, reduction, or elimination for discharges with PFAS;"

- "Accidental discharge minimization[;]"

- "Equipment decontamination or replacement[;]" and

- "[A] mechanism for reduction/elimination of [future] sources and, if removal is possible, treatment that will be implemented to reduce/remove PFAS from the effluent[.]"[239]

The City's final permit should also require the City to develop local limits for PFAS.[240] New Hampshire pretreatment regulations provide that "[s]pecific numerical limits shall be required on constituents contained in waste if the inclusion of such limits is necessary to meet applicable federal and state law[.]"[241] New Hampshire's state pretreatment regulations prohibit discharging "[a]ny pollutant" into a WWTF "at a flow rate or pollutant concentration or quantity that is *likely to* . . . [c]onstitute a hazard to humans or animals" or "cause pass through."[242] As discussed above, the Manchester WWTF's PFAS discharges are likely to constitute a hazard to humans or animals and likely to cause pass through.[243] Therefore, "the inclusion of [local] limits" to avoid the likely hazard and pass through associated with PFAS "is necessary to meet applicable . . . state law."[244] DES has also stated that its review of industrial discharge requests is "limited" in the absence of local limits.[245]

223. 43 Fed. Reg. 27736, 27736–37, 27761 (June 26, 1978).
224. 40 C.F.R. § 403.8(f).
225. Id. § 122.4 (a).

226. 43 Fed. Reg. 27736, 27736–37, 27761 (June 26, 1978); *see also* Detailed Comments on the Draft Permit, Part IV.
227. See Seay et al., *supra* note 6, at 1.
228. Ting Zhou et al., *Occurrence, fate, and remediation for per- and polyfluoroalkyl substances (PFAS) in sewage sludge: A comprehensive review,* 466 J. OF HAZARDOUS MATERIALS 1, 14 (2024) ("The PFAS concentrations in sludge matrices across the world are up to thousands of ng/g [dry weight.]")
229. See 43 Fed. Reg. 27736, 27761 (June 26, 1978).
230. 40 C.F.R. § 403.2(b); *see also* 33 U.S.C. § 1317(b)(1).
231. Id. § 403.8(f)(1)(vi)(B); *see* Detailed Comments on the Draft Permit, Parts III.B.2 and IV.
232. Id. § 403.8(f)(1)(vi)(B) (emphasis added).
233. Id. (emphasis added).
234. See id. §§ 405(a)(1), 403.3(l); MANCHESTER, N.H. CODE ORD. § 52.026(B); *see also* Detailed Comments on the Draft Permit, Parts III.B.2 and IV.
235. Id. § 403.8(f)(1)(iii).
236. See id. at 3.
237. EPA REGION 8, AUTH. TO DISCHARGE UNDER THE NAT'L POLLUTANT DISCHARGE ELIMINATION SYSTEM (Permit No.: CO-0020974) at 38-39 (2023), https://www.epa.gov/system/files/documents/2023-01/co0020974-afa-wwtf-npdes-permit-final-12.20.22.pdf.
238. See 40 C.F.R § 403.5(c)(1) ("Each POTW with an approved pretreatment program shall continue to develop these limits as necessary and effectively enforce such limits.")
239. N.H. CODE ADMIN R. ENV-WQ § 305.04.
240. Id. § 305.06(c) (emphasis added).
241. See Detailed Comments on the Draft Permit, Parts III.B.2 and IV.
242. N.H. CODE ADMIN R. ENV-WQ § 305.04.
243. Digital letter from Zachary Lorch, NH Dept' Env't Servs. To Jeff Backman, Allenstown Wastewater Treatment Facility (April 19, 2024) (attached as Exhibit CC).
244. N.H. CODE ADMIN R. ENV-WQ § 305.04.
245. Digital letter from Zachary Lorch, NH Dept' Env't Servs. To Jeff Backman, Allenstown Wastewater Treatment Facility (April 19, 2024) (attached as Exhibit CC).

Response 60

The commenter requests EPA require the Permittee to reduce PFAS from industrial sources and to develop local limits for PFAS on the theories that PFAS chemicals are "incompatible" with or "pass through" treatment, and/or that the PFAS chemicals detected in Manchester WWTF's effluent reasonably appear to present an imminent endangerment to the health or welfare of persons and the environment.

As described in Response 58, EPA disagrees that PFAS discharges into the POTW from industrial users interfere with, pass through, or are otherwise incompatible with the treatment works such that the Permittee would need to revise its pretreatment program at this time. Additionally, both EPA's *Local Limits Development Guidance* (pg. 6-1 through 6-3) and *Introduction to the National Pretreatment Program* (pg. 3-6 through 3-8), recommend that POTWs consider information relative to the Maximum Allowable Headworks Loading (MAHL) when developing local limits. MAHL is defined as "the estimated maximum loading that can be received at a POTW's headworks without causing pass through or interference." *Intro. To the Nat'l Pretreatment Program*, xii. Because there is no PFAS effluent limit in the Permit, it is not possible to calculate a Maximum Allowable Headworks Loading at this time, for the reasons described in

Response 58. Data collected pursuant to the permit's monitoring requirements may be useful in calculating the Maximum Allowable Headworks Loading and/or need for local limits in the future.

If appropriate in the future, the development of local limits or other changes to the Permittee's pretreatment program would occur via a process separate from this permit renewal proceeding. Following the issuance of this permit, the Permittee must, consistent with 40 C.F.R. § 122.44(j)(2)(ii) and Permit Part I.E.3.b, "Provide a written technical evaluation of the need to revise local limits under 40 C.F.R. § 403.5(c)(1)," following the requirements of Permit Part I.E.3.b. *See also id. §* 403.5(c) (development of specific limits by POTWs); Permit Parts I.E.3.c, I.E.2 ("The Permittee must notify EPA if the POTW modifies or intends to modify its Pretreatment Program") and ("any approved modifications [to the approved pretreatment program], [are] hereby incorporated by reference and shall be implemented in a manner consistent with the following procedures…."); *see also Local Limits Development Guidance*, 6-16 ("Establishing or revising local limits is considered to be a modification of the POTW's pretreatment program. Therefore, the new or changed local limits must be submitted to the Approval Authority for its review and approval. The POTW must submit a notice to the Approval Authority that states the basis for the modification and must provide a modified program description and other documentation requested by the Approval Authority. After a modification is approved by the Approval Authority, it will be incorporated into the POTW's NPDES permit [40 CFR 403.18(e) and 40 CFR122.62].").

Regarding sludge incineration, see Response 62.

Regarding imminent endangerment, 40 C.F.R. § 403.8(f) lays out the six minimum elements that must be included in a POTW's pretreatment program. *See also Introduction to the National Pretreatment Program*, pg. 2-5 – 2-6.[32] One element, as referenced by the comment, is that a POTW "shall have authority and procedures (after informal notice to the discharger) immediately and effectively to halt or prevent any discharge of pollutants to the POTW which reasonably appears to present an imminent endangerment to the health or welfare of persons" or the environment. 40 C.F.R. § 403.8(f)(1)(vi)(B). As described in the Fact Sheet, the Permittee has an approved pretreatment program. Fact Sheet, 21. As described in Response 58, the POTW, not EPA, has primary responsibility for identifying and enforcing against violations of its pretreatment regulations. In any event, because PFAS monitoring is included for the first time in this permit renewal and because scientific understanding of harms caused by PFAS is still developing, it may be the case that there is insufficient evidence to determine whether PFAS discharges from industrial users present an imminent endangerment. *See Intro. To the Nat'l Pretreatment Program*, pg. 4-9 ("POTW monitoring activities are the basis for evaluation of IU compliance.").

[32] Available at: https://www.epa.gov/sites/default/files/2015-10/documents/pretreatment_program_intro_2011.pdf

The commenter references EPA's December 2022 *Addressing PFAS Discharges in NPDES Permits and Through the Pretreatment Program and Monitoring Programs* memo in support of its request for EPA to require best management practices. The recommendations in Part B.3.b of the memo are recommendations to POTWs, not to permit issuers. Consistent with this guidance, EPA recommends that the Permittee take the actions in Part B.3.b of the memo.

Comment 61

The permit should prohibit the WWTF from accepting landfill leachate that has not been treated to remove PFAS.

As mentioned above, federal pretreatment regulations provide WWTFs with authority to "deny or condition" industrial discharges to ensure compliance with Pretreatment Standards and Requirements.[246] The Manchester WWTF's acceptance of leachate from landfills contributes PFAS pollutants incompatible with the WWTF's treatment and contributes to its likely PFAS-related violations of pretreatment standards. Thus, the final permit should prohibit Manchester from accepting landfill leachate that has not been treated for PFAS.

The Manchester WWTF accepts up to 100,000 gallons of leachate per day from the closed Manchester Municipal Landfill.[247] That landfill leachate has contained PFAS concentrations reaching as high as 169.6 ppt for four PFAS compounds.[248] The leachate has contained PFOA and PFOS levels reaching as high as 92.5 ppt[249] and 58.8 ppt,[250] respectively—23,125 times EPA's interim health advisory level for PFOA and 2,925 times EPA's interim health advisory level for PFOS. In addition to accepting leachate on a daily basis from the closed Manchester Municipal Landfill, the WWTF has also accepted landfill leachate from the NCES landfill in Bethlehem, New Hampshire, receiving up to 30,000 gallons per day from April to May 2024, [251] 47,703 gallons total in March 2024, [252] and 454,886 gallons total in February 2024 [253] under temporary discharge permits. [254] In February 2024, the NCES leachate contained individual PFOA and PFOS levels reaching as high as 1,870 ppt and 281 ppt, respectively [255]—467,500 times EPA's interim health advisory level for PFOA and 14,050 times EPA's interim health advisory level for PFOS.

The City accepts landfill leachate despite the incompatibility of PFAS pollutants with the WWTF (i.e., the WWTF's lack of treatment processes to remove or destroy PFAS chemicals, leading to PFAS discharges into the Merrimack River, contaminated sewage sludge, and PFAS air emissions from the WWTF's incinerator). Because source reduction measures requiring elimination or substitution of PFAS in operations cannot be employed by these landfills to reduce PFAS (i.e., landfills do not affirmatively use PFAS in their operations), EPA should require that the City "deny or condition" leachate acceptance by prohibiting leachate from entering the WWTF unless it has been treated to eliminate the presence of PFAS.

246. 40 C.F.R. § 403.8(f)(1)(i).
247. 2022–2023 IPP Annual Report App'x A; 2019–2020 IPP Annual Report App'x A.
248. City of Manchester WWTF PFAS Monitoring Report (October 2019).
249. City of Manchester WWTF PFAS Monitoring Reports (2019)

250. City of Manchester WWTF PFAS Monitoring Reports (2022)
251. City of Manchester Dep't of Public Works, Class III Wastewater Discharge Permit No. T-3001-4-24 (2024).
252. Letter from Lindsey Menard, North Country Environmental Services, Inc., to Jaime Colby, P.E., New Hampshire Department of Environmental Services, regarding North Country Environmental Services, Inc. Landfill Facility - Bethlehem, NH Permit # - NH DES-SW-SP-03-002 First Quarter Facility Report; 2024 at 21 (April 30, 2024).
253. Id. at 17.
254. CITY OF MANCHESTER, DEP'T OF PUBLIC WORKS, CLASS III WASTEWATER DISCHARGE PERMIT NO. T-3001-2-24 (2024); CITY OF MANCHESTER DEP'T OF PUBLIC WORKS, CLASS III WASTEWATER DISCHARGE PERMIT NO. T-3001-4-24 (2024).
255. Email from Christopher Crowley, Manchester EPD, to Frederick McNeill, Manchester EPD, regarding Leachate Disposal PFAS sampling results vs. NHDES Drinking water limits (April 18, 2024).

Response 61

As described in Response 58, EPA disagrees that PFAS discharges into the POTW from industrial users interfere with, pass through, or are otherwise incompatible with the treatment works such that the Permittee would need to revise its pretreatment program at this time and the POTW, not EPA, has primary responsibility for identifying and enforcing against violations of its pretreatment regulations.

EPA agrees that PFAS in landfill leachate is a problem that requires further information and action. As announced in the Effluent Guidelines Program Plan 15 (January 2023),[33] the EPA has completed a detailed study of the Landfills category. Based on the information and data collected through this study, the development of effluent guidelines and pretreatment standards for landfills that discharge their leachate is warranted. The EPA intends to revise the existing Landfills Point Source Category ELGs to address PFAS discharge from these landfills. After this separate process is final, the Permittee (and other POTWs) would be required to revise its pretreatment program accordingly.

Comment 62

V. EPA should require monitoring and reporting of PFAS in air emissions from the Sewage Sludge Incinerator.

The City's sewage sludge incinerator removes only 51 percent of PFAS and creates other PFAS compounds, including GenX, according to the Battelle Study.[256] But neither the data from the WWTF nor any other sewage sludge incineration studies have measured the full scope of PFAS products of incomplete combustion pollution.[257] PFAS emissions from the City's incinerator contaminate the ambient air and, through deposition, can contribute to surface water and groundwater pollution. The incinerator's PFAS emissions thus threaten the health of those living near or downstream of the incinerator by increasing risks of breathing contaminated air, drinking contaminated water, or eating contaminated fish.

[33] Link to Federal Register notice and more information available at: https://www.epa.gov/eg/final-effluent-guidelines-program-plan.

The dangers of incinerating PFAS-contaminated sewage sludge underscore the need to implement the source reduction measures in Detailed Comments, Parts III and IV above. Reducing or eliminating PFAS in industrial influent will reduce the PFAS not only in the WWTF's effluent to the Merrimack River, but also in the sewage sludge that is later incinerated. As EPA underscored in finalizing general pretreatment rules, "[s]ource control of industrial toxic pollutants through pretreatment" is "a necessary element of . . . minimizing public exposure to toxic air pollutants released in incineration of municipal sludges[.]"[258]

Moreover, Part I(F) of the Draft Permit, subsections 10 through 14, establishes requirements for the WWTF's sewage sludge incinerator. These requirements include concentration-based emissions limitations, management practices, and monitoring, sampling, recordkeeping, and reporting requirements.[259] EPA should require monitoring and public reporting of PFAS in air emissions from the WWTF's incinerator in the final permit, in part I(F) subsections (10), (12), (13), and (14).

EPA has validated two methods for testing PFAS in stack gas emissions: OTM-45, which measures 50 semivolatile PFAS, and OTM-50, which measures 30 volatile PFAS.[260] Other methods, such as Total Fluorine, are available for measuring nontargeted PFAS in air.[261] Requiring the City to monitor PFAS from the incinerator's stack using these methods is essential to achieving two important goals adopted by EPA: one pertaining to destruction and disposal of PFAS, the other related to environmental justice.

As to the first of these goals, EPA recently acknowledged in its Interim Guidance on Destruction & Disposal that it lacks an understanding of PFAS (and other byproduct) emissions from sewage sludge incinerators.[262] In that guidance and in its PFAS Strategic Roadmap, the agency has committed to gathering data on PFAS emissions to better understand impacts to humans and the environment.[263] Requiring monitoring and public reporting of PFAS emissions at the Manchester WWTF would help EPA achieve its data-collection goal.

As to the second goal, EPA has emphasized the potential for PFAS in air emissions to disproportionately impact overburdened communities.[264] The agency has stated that it will analyze the impact of air emissions on EJ communities and has acknowledged the need to provide transparent information to communities near PFAS-emitting facilities.[265] The Manchester WWTF—which is often upwind of at least two EJ communities—has been shown to emit PFAS into ambient air, destroying only 51 percent of the PFAS that enter the incinerator and creating new compounds including GenX.[266] Requiring monitoring and reporting of PFAS emissions from the incinerator is essential to enabling EPA and stakeholders to evaluate and address associated EJ concerns.

256. Seay et al., *supra* note 6, at 6, 8.
257. Id. at 9; 2024 EPA Destruction & Disposal Guidance, at 59–60.
258. 43 Fed. Reg. 27736, 27736 (June 26, 1978).
259. Part I(F)(h) also establishes that "Sewage sludge shall not be fired in an incinerator if it is likely to adversely affect a threatened or endangered species listed under Section 4 of the Endangered Species Act or its designated critical habitat." The Draft Permit's Fact Sheet states that "There are no known threatened or

endangered species within the vicinity of the incinerator." Fact Sheet at 40. But the Fact Sheet later makes a conflicting assertion, that "two listed species, the endangered northern long-eared bat (*Myotis septentrionalis*) and the threatened small whorled pogonia (*Isotria medeoloides*), were identified as potentially occurring in the action area of the Facility's discharges." Draft Permit, Fact Sheet at 46. Given that the WWTF's incinerator and outfall are located on the same site, endangered and threatened species in the vicinity of the discharges are also in the vicinity of the incinerator. CLF requests that EPA address this conflict and, if applicable, assess the impact of PFAS incineration on the endangered and threatened species near the City's WWTF.

260. PFAS Analytical Methods Development and Sampling Research, EPA (Feb. 8. 2024), https://www.epa.gov/water-research/pfas-analytical-methods-development-and-sampling-research.

261. Seay et al., *supra* note 6, at 2. 2024 EPA PFAS Destruction & Disposal Guidance, at 51, 54 ("The behavior of PFAS and PFAS-related [products of incomplete combustion] in these unit operations is largely unknown . . . Additionally, these control devices produce secondary waste streams in the form of fly ash and scrubber blowdown solutions, and PFAS and PFAS-related [products of incomplete combustion may be present in these solid and liquid effluents depending on their vapor pressure and solubility.")

262. *Id.* at 58, 61; *see also* EPA, PFAS STRATEGIC ROADMAP: EPA'S COMMITMENTS TO ACTION 2021–2024 18–19 (2021), *accessible at* https://www.epa.gov/system/files/documents/2021-10/pfas-roadmap_final-508.pdf

263. ("EPA will prioritize efforts to evaluate conventional thermal treatment of PFAS-containing wastes and air emissions[.]")

264. 2024 EPA Destruction & Disposal Guidance, at 58; EPA, PFAS STRATEGIC ROADMAP: EPA'S COMMITMENTS TO ACTION 2021–2024 18 (2021), *accessible at* https://www.epa.gov/system/files/documents/2021-10/pfas-roadmap_final-508.pdf.

265. EPA, PFAS STRATEGIC ROADMAP: EPA'S COMMITMENTS TO ACTION 2021–2024 18 (2021), *accessible at* https://www.epa.gov/system/files/documents/2021-10/pfas-roadmap_final-508.pdf; 2024 EPA Destruction & Disposal Guidance, at 56.

266. Seay et al. *supra* note 6, at 2, 6, 9.

Response 62

The sewage sludge requirements in 40 C.F.R. Part 503 are self-implementing, meaning any person subject to the regulations must adhere to them regardless of whether a permit has been issued pursuant to a State or EPA program. 40 C.F.R. § 503.3(b). As noted in the Fact Sheet on page 37, the incineration requirements in this permit are based on the sewage sludge incinerator regulations found at 40 C.F.R. Part 503, Subpart E. The sewage sludge standards for incineration regulate the following seven metals: mercury, beryllium, arsenic, cadmium, chromium, nickel and lead. Forty C.F.R. § 503.46 addresses the frequency of monitoring for these seven metals, along with monitoring for total hydrocarbons, oxygen concentration, moisture content, and combustion temperatures. Forty C.F.R. § 504.48 outlines the yearly reporting requirement for Class I sludge management facilities such as the City of Manchester's WWTF.

The commenter requests that EPA require monitoring and public reporting of PFAS emissions from the WWTF's incinerator in the Final Permit. However, the sewage sludge incinerator regulations at 40 C.F.R. Part 503, Subpart E do not require PFAS monitoring or reporting. The current conditions of the Draft Permit satisfy all technical standards required under Section 405(d) of the Clean Water Act, 33 U.S.C. § 1345(d), and EPA does not consider it necessary to add additional sewage sludge monitoring or reporting conditions to the Final Permit at this time.

The commenter also states that EPA has validated two methods for testing PFAS in stack gas emissions: OTM-45 and OTM-50. These methods are intended to measure PFAS in air emissions from stationary sources pursuant to the Clean Air Act. EPA notes that the emissions from Manchester's incinerator are primarily regulated by a separate state air quality permit (https://www4.des.state.nh.us/OneStopPub/Air/330110008914-0141TypePermit.pdf). Any emissions requirements, including stack testing for PFAS, beyond the standard requirements from 40 C.F.R. Part 503 would be more appropriately established in the state air quality permit rather than this NPDES permit designed primarily to regulate the surface water discharge. The incinerator requirements in this NPDES permit are simply indicating what is already required in 40 C.F.R. Part 503, which does not include any requirements for PFAS.

Comment 63

REQUEST FOR A PUBLIC HEARING

EPA must hold a public hearing for a NPDES permit when the agency determines, "on the basis of requests," that "a significant degree of public interest in a draft permit[]" exists.[267] EPA may also decide to hold a public hearing if "such a hearing might clarify one or more issues involved in the permit decision[.]"[268]

EPA should hold a public hearing on the Manchester WWTF's NPDES permit because there is a "significant degree of public interest" in the Draft Permit and because a hearing would clarify the issues discussed above, related to addressing PFAS pollution in the Manchester WWTF's water discharges and air emissions.[269]

As EPA stated in its Destruction & Disposal Guidance for PFAS, "the importance of encouraging appropriate information access for and dialogue with communities—and, in particular, with potentially vulnerable communities—cannot be overemphasized[.]"[270] This guidance, along with EPA's Program Policy on NPDES permitting, repeatedly highlight the need to meaningfully engage with community members who will be impacted by the final permit, including the WWTF's discharges to the Merrimack River and its air emissions from the incineration of PFAS-contaminated sewage sludge.[271]

CLF requests that EPA hold an in-person public hearing in Manchester at a time and location that facilitates meaningful participation by members of the community.

267. 40 C.F.R. § 124.12(a)(1).
268. Id.
269. Id.
270. 2024 EPA Destruction & Disposal Guidance, at 56.
271. Id.; 2024 NPDES EJ Policy 2–6.

Response 63

EPA "shall" hold a public hearing if EPA finds "a significant degree of public interest in a draft permit." 40 C.F.R. § 124.12(a)(1). Additionally, EPA "may" hold a public hearing, at

the Agency's discretion, "whenever, for instance, such a hearing might clarify one or more issues involved in the permit decision." 40 C.F.R. § 124.12(a)(2). In this case, EPA received two requests for a public hearing (*i.e.*, from CLF and from the Merrimack River Watershed Council). EPA exercised its discretion to hold a public hearing on January 21, 2025 at 7:00 pm. Comments 100-111 below were received at the public hearing.

Comment 64

CONCLUSION

As discussed above, the NPDES permitting process for Manchester's WWTF involves significant issues related to environmental justice and the increasingly concerning problem of PFAS pollution. In light of the size of the WWTF, the WWTF's incineration of sewage sludge, data demonstrating significant levels of toxic PFAS chemicals flowing into and out of the WWTF, and the nearby location of communities experiencing disproportionate environmental impacts, it is essential that EPA fully address the concerns raised in these comments and, in finalizing the permit, take the following actions summarized here and set forth more fully in the Detailed Comments, above):

1. Conduct an EJ analysis that complies with EPA policies and guidance;[272]

2. Strengthen provisions for measuring and controlling PFAS at the WWTF, including adding a monthly (not quarterly) monitoring requirement for PFAS and AOF;

3. Analyze the need for and implement necessary effluent limitations, including technology-based effluent limitations and water quality-based effluent limitations;

4. Include PFAS measures under the IPP, including but not limited to:

    a. Comprehensive PFAS monitoring requirements for IUs, including quarterly monitoring by IUs, an IU Survey, an updated IU Inventory, and publication of IU PFAS monitoring data and updated IU inventories on the City's IPP website;

    b. PFAS source reduction measures for IUs, including through IU "Permit[s], order[s], or other similar means"[273] and local limits; and

    c. A prohibition on the WWTF accepting landfill leachate that has not been treated to eliminate PFAS;

5. Include provisions to address PFAS from the incinerator's air emissions, including:

    a. All PFAS source reduction measures set forth above, to reduce PFAS in the sludge generated by the WWTF and burned in its incinerator, and

    b. A requirement to monitor PFAS in the sewage sludge incinerator's emissions.

272. See 2024 NPDES EJ Policy.
273. 40 C.F.R § 403.8(f)(1)(iii).

Response 64

See Responses 49 through 62.

G. Comments from John Macone, Director, Policy and Education, Merrimack River Watershed Council

Comment 65

PFAS monitoring, reduction and incineration

As a receiver of significant quantities of wastewater that contains PFAS, the Manchester plant is burdened with a waste problem that requires heightened attention. This is especially important given the Merrimack River's role as a primary drinking water source for 500,000 people who live downstream of the Manchester plant.

While the draft permit calls for regular sampling of PFAS levels in influent, effluent, and sludge, a more vigorous approach should be considered. Could the testing of effluent be increased, and if PFAS levels exceed high parameters, the plant be required to track the source and reduce/eliminate it? Also, it appears that there is no monitoring proposed for the emissions from the plant's incinerator. Is it established that the incineration process eliminates PFAS, or are people who live in the emission plume exposed to airborne PFAS? Is it possible to have these emissions regularly tested for PFAS levels, to at least provide some baseline information that can help determine whether the incineration process is, or is not, a source of environmental PFAS contamination.

Response 65

Regarding effluent monitoring frequency, see Response 50.

Regarding PFAS source reduction, see Responses 51 and 58.

Regarding monitoring of the sewage sludge incinerator, see Response 62.

The question regarding the ability of an incinerator to eliminate PFAS is outside the scope of this permit. As described elsewhere in this response to comments, EPA is undertaking a variety of efforts to better understand PFAS in the environment. As more data become available, future requirements under the State's Clean Air Act permit (referenced in Response 62) may be appropriate.

Comment 66

CSO annual reporting

MRWC is requesting that the annual reporting requirements in the draft permit be significantly changed in order to provide more timely and detailed data to the public.

Manchester has accomplished some significant steps forward in its public reporting of CSO events, transforming in five years from the Merrimack River's least transparent reporter to one of its most sophisticated and accessible reporters. Manchester's map-based CSO event reporting system provides timely reports on the most recent event. However, this reporting system fails to provide any useful data on prior events, and the annual reporting requirements in the draft permit are inadequate – reports are required once per year, on March 31, and no standards appear to be in place for what will be reported.

Currently, Manchester releases a bare-bones annual report on January 15 that only records the total annual flow and the number of events. No other CSO-producing plant on the Merrimack is allowed to provide such a minimal level of data – the other plants produce much more comprehensive data, and posts it on their websites in a timely manner. There should be more consistency and transparency in reporting CSO events throughout the Merrimack River watershed.

Given the new technology that Manchester is employing to track CSOs, it would be beneficial to the public to have reports/data published on the city's website at least quarterly (if not after each event), as is done at nearby plants such as Lowell Regional Wastewater Facility, and Greater Lawrence Sanitary District. Reports should be broken down by day of event, with information provided on flow from each outfall, rainfall, and duration.

This level of detail can be extremely valuable for organizations such as MRWC that are tracking CSO events and conducting research and water sampling. This data is crucial to the development of better modeling for a much-improved public health notification system. It would also benefit research into the public health impacts of CSO events, as was demonstrated by Boston University's recent publication that found dramatic increases in Merrimack Valley emergency room visits for gastro-intestinal disorders in the days following reports of significant CSO events at Massachusetts CSO wastewater plants. New Hampshire residents would benefit from this kind of research, and one of the foundations of it is making Manchester's CSO discharge data more detailed and transparent.

Response 66

EPA agrees that the Permittee should provide more detailed and timely information to the public regarding CSO discharges. Therefore, and as described in the Fact Sheet, "To reflect advances in technologies, the Draft Permit includes more specific public notification implementation level requirements to ensure that the public receives adequate notification of CSO occurrences and CSO impacts." Fact Sheet, 44. The Draft and Final Permit at I.H.3.g includes more detailed requirements related to public notification, including the annual report. Specifically, the permit requires the Permittee to submit a public notification plan that incorporates: an initial public notification as soon as practicable but no later than 2 hours of a probable CSO discharge has occurred (including date, time and location), a supplemental public notification within 24 hours after the CSO discharge stops (including location, start time, end time). Finally, the permit requires an annual report that must be posted on a publicly-available website

and includes a summary of activities undertaken during the previous calendar year to comply with the nine minimum controls, a summary of CSO outfall monitoring (which includes flow volume, number of activations, duration of flow, rainfall), and the status and progress of CSO abatement work. This comment does not result in any changes to the Final Permit.

Comment 67

Public hearing requested

Manchester's wastewater plant is one of the largest on the Merrimack River. Its operational impact on downstream communities and drinking water resources is significant. The impact on area residents of incinerating PFAS-laden sludge is not well understood. MRWC believes it would be beneficial to the permit process to hold a well-publicized hearing in Manchester to allow the public to comment on the permit, and to be better informed of what the city of Manchester and the EPA are planning to accomplish with this new permit.

Response 67

Please see Response 63.

THE COMMENTS BELOW WERE RECEIVED AS PART OF THE PUBLIC NOTICE FOR THE 2025 REVISED DRAFT PERMIT.

H. Comments from Gregory H. Smith, McLane Middleton, on behalf of the City of Manchester

The City of Manchester, New Hampshire (the "City"), by and through its attorneys, McLane Middleton, P.A., submits the following comments on the revised United States Environmental Protection Agency's ("EPA" or "Agency") Draft National Discharge Elimination System ("NPDES") Permit for the City's Wastewater Treatment Facility, NPDES Permit No. NH100447 (the "Draft Permit") issued on December 16, 2024. These comments are timely, having been submitted prior to the deadline for public comments of February 3, 2025, established by EPA. The City fully incorporates by reference its prior comments on the draft NPDES Permit dated June 10, 2024. In addition, we attach here, and incorporate by reference, comments prepared by OspreyOwl Environmental, LLC on behalf of the City of Manchester. See Attachment A.

The Agency must not issue a NPDES Permit containing permit conditions that are plainly contrary to executive orders and directives issued by the new administration.
On January 20, 2025, a new federal administration took control of the White House and the federal government. From that day forward, a number of Executive Orders were issued, many of which rescinded and/or suspended environmental regulatory programs, climate change, and energy policies that President Biden's administration had put in place. Accordingly, unless and until the new administration reviews the Draft Permit, the conditions therein, and the comments submitted by the City, the Agency should refrain from taking any action contrary to the new administration's agenda. Moreover, to the extent any rule, regulation, or policy

changes the authority for any conditions or requirements in this permit, the City objects to them and reserves the right to object and challenge such condition(s).

Comment 68

EPA cannot require the City to implement a Climate Adaptation Plan.

The Draft Permit currently contains a requirement for the City to develop and adopt a Climate Adaptation Plan. Such a requirement falls outside the scope of EPA's authority under the Clean Water Act's NPDES program, was included without any cost benefit analysis, creates an undue burden on the City, and would be blocked or rescinded by, and is contrary to the new administration's objectives and policies.

The new administration has taken an immediate and strong position opposing and eliminating climate-related polices. As part of an Executive Order titled Initial Rescission of Harmful Executive Orders and Actions, the new administration revoked approximately ten pre-existing policies regarding climate change and resiliency, including but not limited to, Executive Order 13990 Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis (Jan. 25, 2021); Executive Order 14008, Tackling the Climate Crisis at Home and Abroad (Feb. 1, 2021); and Executive Order 14082, Implementation of the Energy and Infrastructure Provisions of the Inflation Reduction Act of 2022 (Sept. 16, 2022). Moreover, all federal agencies involved in permitting have been directed to "adhere to only the relevant legislated requirements for environmental considerations and any considerations beyond those requirements are eliminated." [1] Accordingly, any guidance or policies issued by federal agencies should not be considered when issuing a final permit to the City. EPA must limit its review and apply conditions based solely on statutes—not agency guidance. Contrary to this directive, the EPA bases its authority to condition the City's NPDES permit on such a plan almost exclusively on Agency policy and guidance. The City is well aware of concerns related to climate change; however, the proposed condition—and the breadth of its requirements—would impose unauthorized and unwarranted burdens on the City. EPA's attenuated "legal authority" purportedly stems from a requirement that the City "shall at all times properly operate and maintain all facilities and systems of treatment and control." Draft Permit, Appendix C § I.C. Today, there is no rational basis upon which EPA can state that the City is not in compliance with this requirement. Based on the foregoing, the Agency lacks legislative authority to require a climate adaptation plan.

[1] *See Executive Order, Unleashing American Energy (Jan. 20, 2025), available at https://www.whitehouse.gov/presidential-actions/2025/01/unleashing-american-energy/ (emphasis added).*

Response 68

See Response 3.

Comment 69

EPA exceeds its legal authority, and creates undue burdens on the City, by including requirements in the Draft Permit that the City monitor for PFAS analytes in influent, effluent, and sludge.

The Draft Permit unlawfully includes a requirement for the City to conduct PFAS-monitoring of its influent, effluent, and sludge. However, as addressed above and described in the City's comments dated June 10, 2024, the EPA lacks legislative authority to require PFAS monitoring for discharges to surface waters.

In issuing a draft condition regarding PFAS monitoring, the Agency relies heavily on "guidance" or "action plans," which are not legislative authority. See Draft Permit, 2024 Fact Sheet at 33–35 (relying heavily on EPA's Action Plan, a memorandum from Radhika Fox, Assistant Administrator of EPA's water division, and EPA's PFAS Road Map). Apart from such guidance, EPA entirely relies on Section 308 of the Clean Water Act. Such reliance is misplaced, however, because neither the State of New Hampshire, nor the federal government has set surface water quality standards for PFAS.

It is also expected that many PFAS rules and regulations, which the new administration regards as unduly burdensome on the regulated community, will be withdrawn or rescinded. For example, we have already seen the new administration withdraw the Agency's proposed effluent limitations guidelines for PFAS, namely, EPA's proposed Rule on "Clean Water Act Effluent Limitations Guidelines (ELG) and Standards for PFAS Manufacturers Under the Organic Chemicals, Plastics and Synthetic Fibers (OCSPF) Point Source Category." Coupled with the Regulatory Freeze Pending Review Executive Order, [2] and Acting Administrator James Payne's order addressed to stop all communications with external parties, the Agency should withhold issuance of any permits that unlawfully and unreasonably require a permittee to sample and/or monitor for PFAS.

[2] h*ttps://www.whitehouse.gov/presidential-actions/2025/01/regulatory-freeze-pending-revi w2*

Response 69

Regarding authority for PFAS monitoring, see Response 1.

Administrator Zeldin has announced major EPA actions to combat PFAS contamination. *Administrator Zeldin Announces Major EPA Actions to Combat PFAS Contamination* (April 28, 2025).[34] In line with Administrator Zeldin's Powering the Great American Comeback initiative, EPA's work in this space will advance Pillar 1: Clean Air, Land, and Water for Every American, and Pillar 3: Permitting Reform, Cooperative Federalism, and Cross-Agency Partnership. *Id.*

[34] Available at: https://www.epa.gov/newsreleases/administrator-zeldin-announces-major-epa-actions-combat-pfas-contamination

Comment 70

Monthly visual inspections required by the Draft are administratively burdensome, and redundant, because New Hampshire's existing water quality standards already prohibit discharges that impair aesthetic values in receiving waters.

The Draft Permit requires the City to conduct monthly visual inspections of the receiving water near the outfall for a range of aesthetic parameters, including odor, color, turbidity, visible floating materials, foam, scum, settleable solids, and surface film or sheen. This requirement is redundant and unnecessary.

New Hampshire's surface water quality standards, specifically Env-Wq 1703.03(c)(1), already prohibit discharges that cause all the aforementioned undesirable aesthetic effects. These standards ensure that the quality of the receiving waters is maintained in a manner that protects aesthetic values and the designated uses of the waters. Given that the permittee is already required to comply with these State water quality standards, these additional monthly visual inspections are unnecessary to ensure compliance. Indeed, the City is already required to comply with existing effluent limitations and to conduct sampling of its effluent to ensure compliance with this requirement. See City of Manchester, NH, NPDES Permit No. NH0100447, Part I.A. –Effluent Limitations and Monitoring Requirements (Feb. 11, 2015); see also Draft City of Manchester, NH, NPDES Permit No. NH0100447, at Part 1.A. (Dec. 16, 2024).

Visual inspections will not consistently capture the necessary data with the precision required to assess compliance with water quality standards. Modern, more reliable monitoring techniques, as already required in the Draft Permit, would better serve the goal of ensuring water quality without the administrative burden of subjective monthly inspections. Moreover, the requirement that the City "conduct a visual inspection of the receiving water in the vicinity of the outfall." What is meant by "in the vicinity"? Is it at the outfall, 10 feet from the outfall, or 100 yards from the outfall? The permit requirement is vague and ambiguous and cannot be reliably enforced.

Further, conducting monthly visual inspections—which are not required by other existing NPDES permits issued to wastewater treatment facilities along the Merrimack River and elsewhere[3]— imposes an operational burden on the permittee, diverting resources from more impactful water quality management efforts. Selectively singling out the City for this requirement, while not imposing this requirement on others, is a violation of the due process and equal protection clause of the State and federal constitutions.

[3] *See e.g., NPDES Permit No. NH0100901 (Concord Hall Street Wastewater Treatment Plant); NPDES Permit No. NH0101390, November 21, 2021 (Allenstown Sewer Commission; NPDES Permit No. 0100170, March 6, 2015 (City of Nashua, NH); NPDES Permit No. MA0100447, September 25, 2019 (Greater Lawrence Sanitary District); see also NPDES Permit No. NH0100013, April 29, 2024 (Berlin Pollution Control Facility and Combined Sewer Outfall); NPDES Permit No. NH0100234, August 1, 2023 (Pierce Island Wastewater Treatment Facility).*

Response 70

Regarding the comment that NH's surface water quality standards already apply to the discharges and already prohibit discharges that impair aesthetic values, EPA has an independent duty under CWA section 301(b)(1)(C) to ensure the permit achieves state water quality standards. *See In re City of Marlborough, Mass. Easterly Wastewater Treatment Facility,* 12 E.A.D. 235, 252 n.22 (EAB 2005). Further, EPA agrees that the permit is designed to protect water quality standards (including aesthetics) based on the effluent limitations included in the permit, but considers that this visual inspection is necessary to ensure compliance. Similar to any other effluent requirement (*e.g.*, copper), a limit is included in the permit and a monitoring requirement is included to ensure compliance. The visual inspection is intended to serve as a monitoring requirement to ensure compliance with aesthetics and EPA considers it sufficiently reliable. In any case, EPA clarifies that the results of a visual observation are not directly enforceable, but EPA may use the results to establish more stringent permit requirements in the future, if necessary.

Regarding the definition of "in the vicinity" of the outfall, EPA clarifies this to mean the general area of the receiving water expected to be most directly impacted by the discharge. EPA realizes the precise location is subject to the discretion of the Permittee, which is intentional to allow the Permittee the discretion to determine this general area.

Regarding this requirement singling out the City of Manchester, EPA disagrees and is not singling out any permittee. EPA highlights that this is a new requirement and notes that this requirement has been proposed in draft permits to Manchester WWTF (NH0100447), Nashua WWTF (NH0100170) and even a draft General Permit (NHG590000) that is designed to cover 21 eligible WWTFs throughout NH.

Comment 71

The requirement for a benthic survey in the Merrimack River is burdensome, impractical, and unnecessary.

The Draft Permit requires the permittee to conduct a benthic survey in the Merrimack River once during the permit term. This requirement is redundant, burdensome and impractical given the unique characteristics of the Merrimack River.

First, like the aesthetic standards discussed above, New Hampshire's water quality standards already prohibit discharges that cause harmful impacts to aquatic life, including impacts to the benthic community. These State standards, as outlined in Env-Wq 1703.03(c)(1) and Env-Wq 1703.08(b), ensure that surface waters are free from harmful benthic deposits and that any discharge complies with water quality standards that protect aquatic life.

Second, conducting a benthic survey in a large, dynamic river like the Merrimack presents several logistical challenges. The river has a long history of industrial contamination, particularly

from historic mill operations, which has altered the benthic environment. These legacy impacts, unrelated to the permitted operation of the City's wastewater treatment facility—combined with the river's high flow rates and sediment transport dynamics, create a complex ecosystem where it is impossible to isolate the effects of the City's discharge of effluent to the river from other natural and historical influences. The Merrimack River also is the receiving water for multiple other wastewater treatment facilities, both upstream (Franklin, Concord, and Allenstown) and downstream (Nashua, Lowell, Lawrence). As such, a benthic survey cannot reasonably be expected to produce reliable or actionable data on the discharge's effects on the benthic community.

Third, it has already been reported that nearly 100% of the Merrimack River already supports the State's designated uses. Specifically, the reduction in pollutants has already resulted in the reestablishment of benthic fauna. [4]

Fourth, the costs and resources required to conduct such a survey—not required by other existing NPDES permits[5]—are selectively burdensome for the City. The Merrimack River is a large waterbody, and sampling would need to occur at multiple locations along both upstream and downstream transects. The variability in sediment composition, flow dynamics, and the presence of other pollution sources make it logistically challenging to conduct a meaningful survey that could provide scientifically defensible results. Given the complexity of the river system, the data collected from such a survey cannot be expected to provide useful or interpretable insights that would support informed decision-making.

Finally, alternative monitoring methods, such as focused effluent water quality monitoring (e.g., dissolved oxygen, nutrient levels, etc.), which are already required in the City's permit provide more direct and relevant information regarding the discharge's impact on the river's ecosystem.

[4] *See Merrimack River Watershed Protection Initiative, Past, Present and Future, EPA Region 1, available at*
[5] *See supra, footnote 3*

Response 71

Regarding the comment that NH's WQS regarding the benthic community already apply to the discharge without a permit requirement, see Response 70.

In response to similar comments received by NHDES on the draft 401 certification, the final 401 certification includes the following updated statement regarding the benthic survey requirement:

> "If notified in writing by NHDES or EPA that benthic deposits from the discharge are known or suspected to have a detrimental impact on downstream benthic communities, the Permittee shall conduct a benthic survey within one year of the notification to assess those impacts on aquatic life in the benthic environment. Visual observations, benthic sample results, or long-term permit limit exceedances could indicate a potential change in either the sediments or

> settleable solids downstream of the outfall as compared to upstream of the outfall. Such a change could indicate that the facility's effluent is having a detrimental impact on the downstream benthic community health."

NHDES also provided the following justification for this statement in its final 401 certification:

> "Because the permit includes effluent limitations on parameters such as total suspended solids and metals, it is already expected to be protective of the benthic community in the vicinity of the facility's outfall and meet surface water quality standards, specifically those in Env-Wq 1703.03(c)(1)(a) and 1703.08. NHDES' position is that a benthic survey should only be required if benthic deposits from a discharge are known or suspected to have a detrimental impact on a downstream benthic community and more specific benthic data is necessary to determine if additional protections are needed."

In response to this comment regarding the benthic survey requirement, EPA acknowledges that there is uncertainty regarding the potential impacts to the benthic community from this discharge. While EPA expects that facilities with a smaller dilution factor will have a higher potential to impact the downstream benthic community, EPA also acknowledges that benthic surveys can be expensive (especially in larger rivers such as the Merrimack River). EPA agrees with the comment as well as with NHDES that the requirement to conduct such an expensive benthic survey should be reserved for WWTFs that are "known or suspected to have a detrimental impact" on the benthic environment. Therefore, EPA has revised this condition in Part I.G.5 of the Final Permit to only be triggered based on the language above. EPA has also added the words "potential" and "from the discharge" to clarify that the permit condition is designed to "assess <u>potential</u> impacts <u>from the discharge</u> on aquatic life in the benthic environment."

EPA finds that this change will ensure that only if the discharge is likely to have a detrimental impact will it be subject to this requirement. Further, EPA expects that this change will generally limit the applicability of benthic surveys to facilities with very low dilution factors into relatively small receiving waters (given that the triggers of the study and potential detrimental impacts are more likely for those discharges). EPA highlights that any benthic surveys that may be conducted in these relatively smaller receiving waters will be at a relatively lower cost (compared to larger receiving waters with more deeply submerged outfalls, which would be much more expensive to conduct and are less likely to be triggered based on the revision above).

EPA also clarifies that it is appropriate to establish standard protocols to ensure any benthic surveys (if necessary) are conducted consistently. Given that this discharge is into a freshwater receiving water, EPA has added the following condition to the benthic survey requirement.

The Permittee shall conduct the benthic survey described in the permit as consistently as possible with the applicable portions of the *NHDES Protocols for Macroinvertebrate Collection, Identification and Enumeration* available at https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/1macroinverts-sop.pdf.

Further, EPA clarifies that the purpose of the benthic survey is to compare such results directly with NH water quality standards for the benthic environment (*i.e.*, Env-Wq 1703.03(c)(1) and Env-Wq 1703.08(b)). Therefore, the Final Permit has also been updated to require the report to compare findings with these standards. Although, to be clear, EPA does not expect that the results of these benthic surveys to be able to be used by NHDES to assess the receiving water segments for impairment of the benthic environment. Rather, EPA does consider that they may identify detrimental impacts to the benthic community for further evaluation by EPA and/or NHDES.

Finally, EPA notes that the results of a benthic survey (if conducted during the permit term) will inform EPA's future permitting decisions. On the one hand, if the results demonstrate that the discharge is causing detrimental impacts to the benthic environment, EPA may reopen and modify or reissue the permit with more stringent conditions to ensure the permit is protective of water quality standards for the benthic environment. On the other hand, if the results demonstrate that the discharge is not causing any detrimental impacts, EPA may remove this condition in the next permit term.

Comment 72

Accelerated WET Testing:

The Revised Draft Permit requires the City to conduct accelerated WET Testing within 14 and 28 days after receiving certain results. Such accelerated WET Testing is impracticable and unworkable. WET Testing is booked many weeks in advance and labs have limited availability to perform such testing. The organisms for the WET Testing are flown in from Colorado, which presents a significant logistical challenge. As an alternative, upon obtaining unfavorable results from a WET Test, the City requests that it be allowed to conduct a retest within the same quarter, but not within the limited timeframe of only 14 to 28 days.

Response 72

Regarding the requirement to conduct accelerated WET testing within 14 and 28 days, EPA considers that expediting such re-tests is important to ensure that any persistent toxicity from the discharge is found and addressed as quickly as possible. However, EPA also recognizes that there may be limitations outside the Permittee's control, such as lab availability. Therefore, EPA has maintained the 14 and 28 days timeline in the Final Permit, but has added a provision that the re-tests must be conducted within those timeframes "or as soon as possible thereafter based on factors outside the Permittee's control (*e.g.*, limited lab availability). The Permittee must document the justification for

any re-tests conducted after these timeframes and submit the justification with the re-test results."

Comment 73

Pollutant Scan:

The Revised Draft Permit requires the City to conduct a Pollutant Scan during the third quarter of every year. The City objects to this requirement because it is unnecessarily redundant and unnecessarily burdensome, among other reasons.

Response 73

EPA finds these data necessary to ensure the permit does not allow toxic impacts in the receiving water. The results will be used in the next permit reissuance. EPA finds that annual pollutant scans will provide a more robust dataset to better characterize discharge, especially given the variety of potential sources throughout the POTW collection system.

For more on EPA's authority to require monitoring, see Response 1.

I. Comments from OspreyOwl Environmental, LLC, on behalf of the City of Manchester:

Comment 74

PFAS and AOF REQUIREMENTS:

In Part 1, Footnotes: there are 26 associated footnotes. Footnote 2 Reads:
In accordance with 40 CFR § 122.44(i)(1)(iv), the Permittee shall monitor according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR Part 136 or required under 40 CFR chapter I, subchapter N or O, for the analysis of pollutants or pollutant parameters (except WET).

The tests for PFAS and adsorbable organic fluorine have not, at the time of the issuance of this Draft Permit, completed the promulgation process. There has been no Final Action on the CWA Methods Update Rule for the Analysis of Contaminants in Effluent. [1]
As stated, "Final Action" is "To Be Determined." Until promulgation is final, these two parameters should not be included in any of the footnote references.

[1] https://www.reginfo.gov/public/do/eAgendaViewRule?pubId=202404&RIN=2040-AG37

In December of 2024, the EPA proposed Method 1633A for promulgation at 40 CFR Part 136.3 (docket number EPA-HQ-OW-2024-0328). [2] EPA states on its website, "[w]hile the method is not nationally required for CWA compliance monitoring until the EPA has promulgated it through rulemaking, the EPA recommends it now for use in individual permits." [3]
In the above docket referenced, EPA states, "[o]nce final, the updates . . . [will] improv[e] the consistency of how regulated parameters are analyzed by requiring fully validated methods that have well documented accuracy and precision." Until then, the regulated community does not,

and will not, have a methodology that has been fully validated to determine accuracy and precision.

[2] https://www.epa.gov/system/files/documents/2024-12/mur-22-proposal-fact-sheet_december-2024.pdf
[3] https://www.epa.gov/cwa-methods/cwa-analytical-methods-and-polyfluorinated-alkyl-substances-pfas

Performing these expensive tests now would not meet the criteria for valid testing, as these methods are still going through review for accuracy and precision criteria. Until this step in the approval process has been completed, the request for PFAS and AOF sampling and analysis using these test methods does not comply with the conditions of the Draft Permit's footnote 2. These requirements should be removed from the Draft Permit. [4]

[4] *Footnotes 13 and 14 would be affected by the above comment. EPA also states in footnote 13: that "[u]ntil there is an analytical method approved in 40 CFR Part 136 for PFAS, monitoring shall be conducted using Method 1633." EPA is seeking approval for Method 1633A. Similar language appears in footnote 14:"[u]ntil there is an analytical method approved in 40 CFR Part 136 for Adsorbable Organic Fluorine, monitoring shall be conducted using Method 1621."*

Additionally, the Adsorbable Organic Fluorine test (Method 1621) is a speculative test for finding sources of PFAS. Several non-PFAS compounds are detectable using the 1621 analysis. [5]

According to the EPA:
"The EPA's Office of Water has published Method 1621, 'Determination of Adsorbable Organic Fluorine (AOF) in Aqueous Matrices by Combustion Ion Chromatography (CIC),' a method to measure the aggregate concentration of organofluorines (molecules with a carbon-fluorine bond) in wastewater. The most common sources of organofluorines are PFAS and non-PFAS fluorinated compounds such as pesticides and pharmaceuticals." "AOF is a method-defined parameter, meaning that the results of the measurement are dependent on the manner in which the measurement is made . . . . The method tells the user that organofluorines are present but cannot identify which specific organofluorines are present. The strength of the method is that it can broadly screen for thousands of known PFAS compounds at the part per billion level in aqueous (water) samples."

"The Office of Water encourages interested parties to review and use . . . [M]ethod [1621], with the understanding that it may undergo revision during a rulemaking process. Method 1621 is not nationally required for CWA compliance monitoring until the EPA has promulgated it through rulemaking." [6]

Further, this method measures PFAS in micrograms per liter (ug/l), whereas footnote 14 requires measurement in nanograms per liter (ng/l). Therefore, Method 1621 is not compatible with the requirements of the Draft Permit.

5 https://www.epa.gov/system/files/documents/2024-01/method-1621-for-web-posting.pdf

6 https://www.epa.gov/cwa-methods/cwa-analytical-methods-and-polyfluorinated-alkyl-substances-pfas

Response 74

As recognized by the commenter, EPA has proposed to add to 40 C.F.R. Part 136 new methods for per- and polyfluoroalkyl substances (PFAS) and for adsorbable organic fluorine (AOF). 90 Fed. Reg. 6967 (Jan. 21, 2025); *see also* 90 Fed. Reg. 10043 (Feb. 21, 2025) (extending public comment period through March 24, 2025). As of the date of this final permit issuance, there has been no final action on this proposed rule.

Before proposing to add methods for PFAS to Part 136, EPA published several versions of Draft Method 1633.[35] The EPA decided to release multiple revisions of the draft method in response to stakeholder requests for the agency to update the method incrementally with the multi-laboratory data as soon as practicable. The draft methods were subjected to multiple levels of review across several EPA Program Offices. EPA also encouraged laboratories, regulatory authorities, and other interested parties to review the draft method(s) and provide feedback and comments to the Office of Water. EPA is grateful for the constructive feedback received from multiple interested parties to date, which resulted in many of the changes reflected in the method.

EPA released the final version of Method 1633 and the last volumes of the multi-laboratory study report on the Clean Water Act (CWA) Methods website on Wednesday, January 31, 2024. In response to comments from laboratories and others, the EPA developed Method 1633A. The changes between 1633 and 1633A are minor (mostly clarifications) and can be reviewed in the "Version History" section of the Method 1633A on Page ii. The Method is the result of a collaboration between the EPA and the Department of Defense. It is a fully validated method that has been tested in a wide variety of wastewaters and is compliant with the required quality assurance and control procedures for chemical analysis of NPDES monitoring samples, as specified in 40 C.F.R. § 136.7. Method 1633 contains the final quality control (QC) criteria generated from a multi-laboratory validation study. The Office of Water is unaware of any other PFAS method that has been validated using 10 laboratories, 15 challenging aqueous matrices (six wastewaters, three surface waters, three groundwaters, and three landfill leachates), nine solid matrices (three soils, three sediments, and three biosolids), and three aquatic tissues. Thus, EPA is recommending for the NPDES permit program and the National Pretreatment Program use Method 1633 or 1633A currently as the best analytical methods currently available for monitoring of effluent for PFAS. The Final Permit has been updated to reference Method 1633A.

EPA also completed a multi-laboratory validation study of EPA Method 1621, a method for AOF. EPA released the final method and the multi-laboratory study report on the CWA Methods website on Wednesday, January 31, 2024. The method-defined parameter AOF is particularly useful in the context of PFAS analysis. Targeted methods typically require a matching analytical standard for each compound of interest. In the case of PFAS, analytical standards are not available for every compound. An AOF method

[35] See Version History on pg. ii-iii of Method 1633, Revision A (Dec. 2024), available at: https://www.epa.gov/system/files/documents/2024-12/method-1633a-december-5-2024-508-compliant.pdf.

can help provide context for what targeted analyses might miss, especially if used on a sample where PFAS contamination is suspected. More information about how AOF and Method 1621 relate to PFAS and Method 1633 is available on EPA's website: *https://www.epa.gov/cwa-methods/frequent-questions-about-pfas-methods-npdes-permits*.

The comment states that tests for PFAS and AOF have not, at the time of the issuance of this Draft Permit, completed the promulgation process. EPA agrees, as described above, that neither Method 1633A nor Method 1621 have yet been added to Part 136. EPA notes, however, that existing EPA regulations contemplate the use of methods not yet promulgated in Part 136 under appropriate circumstances. See Response 2.

The comment generally expresses concerns about accuracy and precision and asserts that the testing methods do not comport with the requirements in Footnote 2 of the draft permit, which states:

> A method is "sufficiently sensitive" when: 1) The method minimum level (ML) is at or below the level of the effluent limitation established in the permit for the measured pollutant or pollutant parameter; or 2) The method has the lowest ML of the analytical methods approved under 40 CFR Part 136 or required under 40 CFR chapter I, subchapter N or O for the measured pollutant or pollutant parameter. The term "minimum level" refers either to the sample concentration equivalent to the lowest calibration point in a method or a multiple of the method detection limit (MDL), whichever is higher. Minimum levels may be obtained in the following ways: they may be published in a method; they may be based on the lowest acceptable calibration point used by a laboratory; or they may be calculated by multiplying the MDL in a method, or the MDL determined by a laboratory, by a factor.

Here, there are no effluent limits for PFAS nor are there any methods approved under 40 C.F.R. Part 136. Given that Methods 1633 and 1621 are the best and only methods available for measuring these pollutants at this time, EPA finds that the results are sufficiently sensitive for purposes of this NPDES permit. EPA also reiterates the points above in this response regarding the systematic development of the two methods for use in NPDES permits and 40 C.F.R. § 122.44(i)(v)(B).

The commenter expresses concern that several non-PFAS compounds are detectible using Method 1621. EPA agrees and notes that Method 1621 is a screening method for wastewater. As noted on page 35 of the Fact Sheet, monitoring for both Adsorbable Organic Fluorine using Method 1621 concurrently with PFAS monitoring will screen for a broader range of these types of emerging contaminants. EPA finds that the combination of Method 1633 (for 40 specific PFAS pollutants) as well as Method 1621 (for a wider variety of PFAS and similar pollutants) will together provide a robust dataset to fully characterize the discharge.

Finally, the commenter also states that Method 1621 is incompatible with the requirements of the Draft Permit because Method 1621 measures PFAS in micrograms per liter whereas the Permit requires measurement in nanograms per liter. EPA agrees that the units in the permit should be µg/L to match the units in the method. The Final Permit has been updated accordingly.

Regarding concerns about cost, see Response 2.

Comment 75

ADAPTATION PLANNING

Section C.1., Adaptation Planning covers three pages of the Draft Permit with 13 footnotes. In the first Draft Permit Fact Sheet, the EPA outlines its claimed authority to include Adaptation Planning requirements. See Appendix C, Item C., Legal Authority.

EPA references a Federal Register document, Vol. 45, No. 98 published on Monday, May 19, 1980. Nowhere does that Register Notice, discuss the prevention of future flooding or include any language to indicate Adaptation Plan requirements. Item 7 on page 33303 of the Federal Register cited here, describes Proper Operation and Maintenance, as requiring a permittee to: "maintain in good working order and operate efficiently all facilities and systems of treatment of control which are installed or used by the permittee to achieve compliance with the terms and conditions of the permit" and includes "effective performance based on designed facility removal, adequate funding, effective management, adequate operator training, staffing and training, and adequate laboratory and process controls including appropriate quality assurance procedures." Per this description of O&M, flooding and natural disaster prevention are not a part of Proper Operation and Maintenance.

EPA also cites several EAB cases that have nothing to do with adaptation planning for climate change. First, in the case In re Avon Custom Mixing Services, Inc., 17 E.A.D. 700, 709 (EAB 2002),[7] EPA attempts to extend this EAB decision recognizing the Agency's authority to include monitoring requirements in NPDES permits, to provide authority to EPA to also require adaptation planning. But this case does not concern adaptation planning and EPA misunderstands its scope. This same situation is evident in the cited City of Moscow[8] EAB decision. Again, there is no reference in this case to adaptation planning. The EPA uses these references to demonstrate an inherent connection where none exists.

[7]https://yosemite.epa.gov/oa/EAB_Web_Docket.nsf/Decision%7EDate/81FE3FF52FDC1DA385257069005F7D71/$File/avon.pdf
[8] https://www2.deq.idaho.gov/admin/LEIA/api/document/download/15509

In footnote 30, EPA argues Congress intended to include adaptation measures in the scope of the CWA under section 223, added via the Infrastructure Investment and Jobs Act. Section 223 creates a grant program to support POTWs "at risk of being significantly impaired or damaged

by a natural hazard." Plainly, section 223 is a grant program, and does not extend to authority to require adaptation planning in NPDES permits. NPDES permits issued since the inception of the CWA in 1972 made clear that operation and maintenance are for the plant and all processes under its control for the effective treatment of wastewater. There was never an expectation previously, as in the new Draft Permit, that a WWTP would mitigate and offset the impacts of natural disasters, hurricanes, and floods.

The Supreme Court in the case of Loper Bright Enterprises vs. Raimondo overturned the longstanding Chevron USA vs. the Natural Resources Defense Council, under which regulatory agencies were given deference when determining the meaning of a statute when the wording was unclear, ambiguous, or nonexistent. CWA Section 223 only creates a grant program and does not authorize any NPDES requirements. The Chevron decision was overturned to prevent this exact type of overreach by EPA arguing this program now applies lawfully to every NPDES Permit holder.

Furthermore, implementation of the Adaptation Plan is infeasible. There are several models, monitoring stations, and planning that need to be completed by the USGS, USACE, and the NHDES Dam Control Bureau before the implementation of the adaptation plans produces reliable and cost-effective impacts on flood control. Additionally, before any adaptation plan can be accepted and implemented a look back at the historic flooding in NH should be performed by EPA.

Section 402 of the Clean Water Act (b)(1)(B) also requires the issuance of permits that "are for fixed terms not exceeding five years;" This requirement is outlined in the State designated programs also as indicated in Section 402 (a)(1)(B)(3). "EPA shall be subject to the same terms, conditions, and requirements as apply to a State permit program and permits issued thereunder under subsection (b) of this section." The administrative attempt in this Draft Permit is to set conditions that go well beyond the five-year permit period.

Due to the above reasons, the City of Manchester respectfully requests the adaptation planning requirements be removed.

Response 75

See Response 3.

Comment 76

BENTHIC SURVEY

Footnote 23 of the limitations table states the following:
During the third calendar quarter (i.e., July through September) that begins at least 12 months after the effective date of the permit, a benthic survey shall be conducted once per permit term to assess impacts from the discharge on aquatic life in the benthic environment. See Part I.G.5 for more details.

The EPA, Region 1, produced a document titled, 'Merrimack River, Watershed Protection

Initiative in November of 1987. The document was produced with the input of NHDES and MassDEP. The introduction described that the Merrimack River was once one of the 10 most polluted rivers in the nation. “In 1965, rafts of decomposing material floated along the Contoocook River (a major tributary); very little benthic fauna and no pollution-sensitive species were found along portions of the river near Concord.” Page 8. The report goes on to say that the Merrimack’s pollution was caused by sewage, tannery and textile wastes, industrial wastes, and tannery sludges. However, “[t]oday, two decades and a half of billion dollars in federal and state expenditures later, the Merrimack provides drinking water to well over a quarter of a million people and serves as an unparallelled resource for the region.” “One of the nation’s 10 most polluted in the 1960s, the river now fully or partially meets fishable/swimmable standards in 94.3% in its New Hampshire miles.” The report further states, “[t]he river has exhibited marked improvements in physical appearance as well as biological and chemical makeup. For example, these significant reductions in the input of pollutants have resulted in the reduction of sewage-laden sediments by re-established benthic fauna.”

Table I-1 on page 32 lists 24 major industries that contribute flow to the Merrimack or tributaries to the Merrimack River. The list of pollutants follows and includes BOD, chromium, ethylene dibromide, fluorides, ammonia, oil and grease, phosphorus, perchloroethylene, trichloroethylene, settleable solids, total suspended solids, total toxic organics, and a metal listing of cadmium, nickel, aluminum, lead, iron, tin, zinc, silver, copper, and cyanide. This is quite a list of likely legacy pollution with the likelihood that these pollutants are still retained in the upper sediment layers of the riverbed.

Page 40 begins a narrative on the ‘Present Situation’ at the time of the writing of the document. There is a listing of all the ways the Merrimack can continue to be contaminated, spills, urban runoff, transport accidents of tankers that are near or cross the river, contaminated groundwater, agriculture (farms), underground storage tanks, industrial landfills, hazardous waste sites, and road salts, all of which are unassociated with wastewater treatment facility operations.

Manchester believes that should the EPA demonstrate that the WWTP, through its NPDES Permit, has violated its permit in such a way that could cause adverse impacts on the benthic environment before requiring a benthic survey. Otherwise, there is no reason to believe the benthic environment in the Merrimack River has worsened in the 38 years since the writing of the 1987 report.

The City of Manchester respectfully requests to have the Benthic Survey requirements removed from the permit.

Response 76

See Response 71.

Comment 77

Section G, Special Conditions

In Section 4. Toxicity Violation Procedures, a. Accelerated Testing Procedures, there is a requirement for a WET retest at 14 days and at 28 days of a WET test failure, death of fish or shellfish in the vicinity of the outfall, or an oily sheen noted on the surface of the water in the vicinity of the outfall.

A WET test failure may indicate toxicity in the influent of the wastewater treatment plant, or it very well may result from upstream operational impacts of the Hooksett, Concord, and Franklin treatment plants, or some other source. The presumption that the failure is being caused by the City's WWTP effluent is unsupported. If there was an observable violation around the outfall, an operator could inspect the effluent by taking a sample from the effluent tap at the main building. The operator could test the effluent for pH, D.O., and Cl2 residual and even do a microscopic evaluation of the effluent discharge and MLSS blanket in the secondary clarifiers. If there is sufficient microbiological life, then there is no indication that the plant process is toxic. This with a test for residual chlorine in the effluent and the dissolved oxygen going to the outfall would be all that is needed to determine if it was any type of causal plant toxicity that killed the fish. These three measures would be more than logical to prove effluent toxicity without the need to spend $3,600 on another WET test and possibly another $3,600 after that. Manchester requests that the second bullet be stricken from the final permit and language to review effluent micro-life, and check effluent residual chlorine, pH and D.O. is more expedient and of no actual cost to the WWTP with results within an hour of the event rather than a month later.

The third bullet calls for a toxicity test if there is an oily sheen on the surface of the water in the vicinity of the outfall. Again, an examination of the plant effluent would easily determine if the cause of the oily sheen is coming from the WWTP. These actions are immediate and visually verifiable rather than the long waiting period between costly toxicity testing. The proposed action is a poor allocation of $3,600 from plant resources. Additionally, if the WWTP investigation demonstrates oily sheen in the effluent then the NHDES oil spill bureau would be immediately called for their assistance. For this reason, Manchester also requests that the third bullet also be stricken from the final permit.

Response 77

Regarding the second bullet under Part I.G.4.a, EPA acknowledges that a sudden and significant death of large numbers of fish and/or shellfish in the vicinity of the discharge may be caused by something other than the discharge. Therefore, EPA has added language to the Final Permit to clarify that the source "may have been due to the discharge" indicating that if the Permittee is able to identify that there is another source more likely than the discharge, then this requirement is not triggered. However, EPA does not agree that simply measuring pH, D.O., and chlorine or looking at the effluent or MLSS under a microscope is an adequate replacement for a WET re-test.

Regarding the third bullet under Part I.G.4.a, EPA agrees that the presence of an oily sheen in the receiving water is not sufficient justification for a WET re-test. Rather, EPA considers that an oil & grease test is more appropriate. Therefore, EPA has updated the Final Permit to remove the third bullet under Part I.G.4.a and added a requirement

under footnote 22 of Part I.A.1 to immediately test for oil & grease if an oily sheen is observed.

Comment 78

ALUMINUM
In Appendix B, Reasonable Potential and Limits Calculations the EPA calculated the 95th percentile and the background concentration from WET test data taken between December of 2018 and September of 2023. The resultant calculation relied upon the following data for aluminum:

TABLE 1 – EPA NPDES Al Data Used for Reasonable Potential Calculation

Date	Effluent	Ambient
Dec-18	43	160
Mar-19	68	120
Jun-19	42	210
Sep-19	44	300
Dec-19	42	0
Mar-20	26	61
Jun-20	28	96
Sep-20	69	34
Dec-20	52	270
Mar-21	53	62
Jun-21	45	120
Sep-21	59	300
Dec-21	30	63
Mar-22	59	240
Jun-22	42	110
Sep-22	77	31
Dec-22	36	370
Mar-23	240	150
Jun-23	260	370
Sep-23	54	140

The upstream 7Q10 is 436 MGD in the table. The upstream median concentration is 130 ug/l. The plant design flow is 34 MGD. The acute and chronic values for the plant effluent were listed as 132.5 ug/l. Combined Qd was 470 MGD. The calculated Cd was 130.2 for both acute and chronic criteria.

The allowable acute concentration with the 10% NH safety factor is 912.2 ug/l. The chronic concentration with the 10% safety factor is 105.8 ug/l. Cd does not exceed the acute value but does exceed the chronic value of 105.8 by 24.4 ug/l, hence the proposed NPDES permit limit of 118 ug/l.

A clean sampling program was performed for Manchester, Hooksett (upstream), and Derry (downstream) over the course of the summer of 2024. The ambient river results are listed in

the table below.

TABLE 2 – Manchester, Hooksett, Derry 'Clean Sample' Al concentrations

DATE	River Flow	Manchester	Hooksett	Derry
6/25/2024	5,070	47	45	51
6/27/2024	2,670	56	49	43
7/2/2024	2,720	93	61	51
7/18/2024	1,590	26	27	24
8/21/2024	2,450	93	86	84
8/23/2024	2,780	71	63	70
9/6/2024	1,530	46	40	37
c9/11/2024	1,150	26	30	27
10/4/2024	620	22	74	25
10/11/2024	970	24	32	28
Median		**46.5**	**47**	**40**

The cells are shaded lowest concentration (peach), middle concentration (straw), and highest concentration (powder blue) to determine trends. Hooksett samples were immediately upstream from their outfall (about 11 miles upstream from Manchester's 001 outfall). Manchester samples were taken at the Fisher Cat Stadium boat ramp (about 1.5 miles upstream of Manchester's 001 outfall), and the Derry samples were taken from a small beach area (about four miles downstream of Manchester's 001 outfall) about ½ mile below the Roger Wizorek bridge (new airport cutoff bridge).

The samples were all very close to each other except for the 7/2 sample (Manchester was a 1/3 higher than the other two samples and the 10/4 sample where Hooksett was three times higher than the other two samples). Employees were trained during most of the sampling events, which could explain the variations. However, when the measurements are below 100 ug/l multiple factors could contribute to contamination of the sample collected. The duplicates indicated that the samples were all collected uniformly.

The highest flow was on 6/25 at 5,070 cfs and the lowest flow was on 10/4 at 620 cfs. As all flows were below 7,000 cfs it is not believed that scouring of the riverbed contributed to any of the measured contamination in all samples. The table including EPA's WET test data and the latest Manchester Ambient data would be as follows.

TABLE 3 – Aluminum 'Clean Sample' Summer of 2024 Concentrations

Date	Ambient WET ug/l

Dec-18	160
Mar-19	120
Jun-19	210
Sep-19	300
Dec-19	0
Mar-20	61
Jun-20	96
Sep-20	34
Dec-20	270
Mar-21	62
Jun-21	120
Sep-21	300
Dec-21	63
Mar-22	240
Jun-22	110
Sep-22	31
Dec-22	370
Mar-23	150
Jun-23	370
Sep-23	140
6/25/2024	47
6/27/2024	56
7/2/2024	93
7/18/2024	26
8/21/2024	93
8/23/2024	71
9/6/2024	46
9/11/2024	26
10/4/2024	22
10/11/2024	24
Median	**93**

The median upstream value is 93 ug/l when the 'Clean Sample' ambient test data is included with the EPA data. According to the Dilution Factor the available dilution in the Merrimack River is 674.5 cfs (436 mgd). The WWTP design flow is 34 mgd. The formula for calculating reasonable potential is (Cs X Qs) + (Ce X Qe) / Qd.

132.5 ug/l Ce = Effluent Concentration 95th Percentile

34 MGD Qe = Avg Design Q for Chronic: Peak Q Acute

93 ug/l Cs = Median Concentration in Merrimack River upstream

436 MGD Qs = 7Q10 Stream flow Merrimack River

95.9 ug/l Cd = downstream concentration

470 MGD. Qd = Downstream flow (Qs + Qe)

(93 X 436) + (132.5 X 34) / 470 = 40,548 + 4,505 / 470 = 45,053 / 470 = 95.9 ug/l is the final downstream concentration including Manchester's effluent value of 132.5 ug/l.

This value is below the 105.8 ug/l chronic criteria and would not trigger a 'Reasonable Potential' value. Effluent aluminum samples had not been collected via 'Clean Methods' during most of the WET tests conducted between December of 2018 and September of 2023. The same sampling criteria were used for standard plant sampling. The sampling hose was not changed out, the strainer had a metal stainless weight at the end, algae was allowed to collect on the strainer, the pump hosing was not changed out and the 5-gallon carboy was used time and again without a consistent interior cleaning. During the summer sampling event, the staff was instructed in the proper way to set up the sample collection apparatus for the cleanest samples possible.

Clean sampling for effluent discharge can be accomplished in four easy steps. These include a clean bag insert in the composite carboy to avoid the addition of sloughings and organic matter that clings to the side of the carboy from previous composite samples. Use a new or ultra-clean sampling hose to take samples from the effluent channel and ensure the strainer is free of algae. Clean the thicker pumping tubing to pump the from the effluent channel into the bagged carboy. Use a metal-free strainer to avoid particulate pieces of stainless steel being drawn up into the sampling tube from the strainer rubbing against the concrete tankage.

The NHDES proposed a change to the aluminum criteria in the State's adopted CALM. The initial proposal was to use regression curves from DOC, pH, Hardness, and river/stream discharge cfs at the time of sampling. Comments were made and the NHDES again asked for comments removing the DOC, pH, and Hardness values from the calculation while only keeping the river/stream discharge values. The premise was to collect 24 samples, including analysis for DOC, pH, and Total Hardness, and run these values through the aluminum calculator. The below table has the clean sample data from the summer sampling event for Manchester as run through the aluminum calculator.

TABLE 3 – Aluminum Calculator with 5th percentile, 10th percentile and 50th percentile values

Total Al Ug/L	Date	DOC (mg/L)	Total Hardness (mg/L as CaCO3)	pH		FAV	CMC	CCC
47	6/25/2024	3	16	7.3	7542.874	2,517	1,300	550
56	6/27/2024	3.1	16	7.4	7542.874	2,831	1,400	620

93	7/2/2024	4.3	15	7.42	7542.874	3,242	1,600	670
26	7/18/2024	3.7	15	7.48	7542.874	3,243	1,600	700
93	8/21/2024	5.5	14	7	7542.874	2,278	1,100	470
71	8/23/2024	5.2	14	7.68	7542.874	4,366	2,200	910
46	9/6/2024	3.6	15	7.1	7542.874	2,148	1,100	460
26	9/11/2024	3.3	17	7.3	7542.874	2,662	1,300	570
22	10/4/2024	2.8	19	7.3	7542.874	2,559	1,300	550
24	10/11/2024	3.1	19	7.4	7542.874	2,952	1,500	630

5th 464.5
10th 469
50th 595

The NHDES has proposed a 50th percentile of the flow and the calculated CCC in instances where there is a significant relationship ($p<0.05$) with the data sets. A 10th percentile if there is not a significant relationship and a 5th percentile if there are endangered species around the discharge outfall. Taking the lowest 5th percentile from Table 3 above, the value is 464.5 ug/l. This is much higher than the current value of 118 ug/l.

Due to this new information, Manchester would respectfully request that the limit of 118 ug/l be removed from the final permit. The final permit value can be determined once the NHDES approves their version of the Aluminum Calculator in their proposed CALM.

Response 78

EPA appreciates the data collection described in this comment. As noted in Response 11, the Final Permit includes a monitoring requirement in lieu of an aluminum limit. In the next permit reissuance, EPA will determine whether any limits are appropriate based on the WQS in effect at that time and the sampling results collected pursuant to the monitoring requirements in this permit.

Comment 79

Ammonia
In the table of permit limitations, EPA has indicated an Ammonia limit of 10.4 mg/l from May 1st through October 31st. The 'Reasonable Potential' calculation has a 95th percentile limit of 0.17 mg/l for the plant effluent and an upstream concentration of 21.8 mg/l. The final acute and chronic values downstream would be 1.74 mg/l. The water quality value of 0.91 mg/l (10% NHDES safety applied) means there is reasonable potential. The permit value was calculated at 10.4 mg/l from the concentration values.

The amount of ammonia that must be removed is 11.4 mg/l from the stated value of 21.8 mg/l. The design capacity of the WWTP is 34 mgd. The daily removal of ammonia required is 11.4 x 34 x 8.34 or 3,233 pounds of ammonia/day. Multiply this by 184 days of required compliance from May 1st through October 31st and you have 594,872 lbs. of ammonia.

The EPA website[9] states that 40% of nitrous oxide comes from human sources and that one

pound of nitrous oxide (N2O) is equivalent to 265 pounds of carbon dioxide (CO2). In the chart, 6% comes from wastewater treatment. The Intergovernmental Panel on Climate Change (IPCC) [10] states that one pound of N2O equates to 300 lbs of CO2. Each agency indicates there is not a great method of estimating N2O discharges from wastewater treatment. The IPCC does state the following, "N2O emission from wastewater handling is estimated to contribute 26% to the total greenhouse gas emission (CO2, CH4, and N2O) of the water chain, being the sum of drinking water production, water transport, wastewater, and sludge treatment and discharge." (Frijns et al., 2008).

[9] https://www.epa.gov/ghgemissions/nitrous-oxide-emissions
[10] https://www.sciencedirect.com/science/article/pii/S0043135409001420

Ammonia is removed during the treatment process by first nitrification and then denitrification. During nitrification, ammonia is converted to nitrite or nitrate. These intermediate byproducts are converted to dinitrogen gas during denitrification. N2O can be produced in either the nitrification or denitrification stages and can be exacerbated by low D.O. or low COD/N ratios (Manchester has low COD in the influent due to I/I and at times there is not enough COD to produce the volatile fatty acids needed for permitted phosphorus removal).

Literature values indicate that a pound of ammonia can produce an estimated 0.08 pounds of N2O. At this conversion value, there would be a total of 47,590 pounds of N2O per seasonal ammonia removal. That is 23.8 tons of N2O emitted into the atmosphere. At the EPA equivalent value of 265:1, that is 6,307 tons of CO2 discharged annually due to ammonia treatment. By IPCC standards of 300:1 that would be 7,140 tons of equivalent CO2 discharged annually.

Adaptation Planning is focused on climate change and its impacts. The USCAE/CDM study of the Merrimack River from 2005 through 2012 in three separate phases indicated there were no observable problems on the Merrimack River due to any locations of elevated nitrogen or phosphorus. Matter is neither created nor destroyed but only changes form. Ammonia is a great example as it converts to N2O and CO2 equivalence in the thousands of tons.
There needs to be a review of the damage contributed to the climate change conditions and the real benefits of removing 11.8 mg/l of ammonia from the wastewater discharge. It has been 13 years since the finalization of the USCAE/CDM report and the river has not shown any evidence of additional impacts from the continued discharge of ammonia. The EPA cites a mountain of evidence of climate change catastrophes in NH and VT in Appendix C, Rational for Adaptation Planning. This is the chance to find the balance between the pollution caused by different wastewater treatment activities rather than shift the pollution from the discharge of ammonia (which the plant will need to spend several million dollars to achieve) to the atmosphere in the form of thousands of tons of equivalent CO2 greenhouse gas pollutants. The result is that 15 to 20 years down the road the EPA will be mandating the capture and treatment of methane from the phosphorus removal process and N2O from the nitrification/denitrification process costing the plant several more million dollars when a balance is available today to seek the road of less environmental damage by true evaluation of the cause and effect of unnecessary wastewater treatment.

Manchester requests that the evaluation of ammonia removal impacts be weighed against the greenhouse gases impacts and present a reasonable synopsis to the City of Manchester of the pros and cons of implementation and sound reasoning to go forth with ammonia treatment at the expense of climate change.

Response 79

This comment suggests that EPA balance toxic impacts from ammonia with impacts from greenhouse gases produced to treat ammonia. EPA understands the concern raised in this comment but must condition this NPDES permit to ensure protection of water quality standards. In this case, the discharge of ammonia has the reasonable potential to cause or contribute to toxic impacts in the receiving water and must contain a limit to protect these water quality standards. In other words, EPA is unable to allow a violation of water quality standards in the hope that impacts outside the scope of this permit (e.g., greenhouse gas emissions) would be lessened.

J. Comments from Philip D. Guerin, Executive Director of the Massachusetts Coalition for Water Resources Stewardship:

Comment 80

The overall theme of the revised draft NPDES permit was to make additional changes to the draft permit issued in March 2024 and with these changes undo decades of standard language and approaches used in past permits to demonstrate how the permit achieved compliance with narrative state water quality standards. To the best of our knowledge, past permits were certified by the State of New Hampshire through the 401 Water Quality Certification process. This would indicate that the State, which establishes water quality standards, agreed that the previous and long-held language regarding narrative water quality standards was sufficient to comply with the narrative standards.

So, what has happened to cause this dramatic change in language? Did NHDES suggest that the new language would be necessary now in order to receive Water Quality Certification going forward? The Statement of Basis does not provide any information that suggests a reason for this change. Has EPA notified and ordered all state agencies that NPDES permits must include the new language and requirements regarding narrative water quality standards as permits are renewed? Or is this yet another example of Region 1 "experimenting" with permits in New Hampshire and Massachusetts to determine what they might implement in terms of over the top, onerous novel requirements? Is this the federal government once again targeting two states with costly requirements that will not be applied elsewhere?

Response 80

EPA notes that these changes are in response to the Supreme Court case *City and County of San Francisco v. EPA*, 145 S.Ct. 704, which was decided on March 4, 2025.[36] The decision indicates that "end-result" requirements are not appropriate in NPDES

[36] Supreme Court decision available at: https://www.supremecourt.gov/opinions/24pdf/23-753_f2bh.pdf

permits. According to the Supreme Court decision, "end-result" requirements are "permit provisions that do not spell out what a permittee must do or refrain from doing but instead make a permittee responsible for the quality of the water in the body of water into which the permittee discharges pollutants."

Rather than including any provisions that may be considered "end-result" requirements in this permit, EPA's permitting approach includes several new permit requirements (as described in the 2025 Statement of Basis) designed to gather information needed to establish requirements and/or effluent limitations on the discharge in the future. EPA notes that this approach is in accord with the recommendations of the Supreme Court decision. Specifically, page 20 of the decision concludes with the following statement:

> "In sum, we hold that §1311(b)(1)(C) does not authorize the EPA to include 'end-result' provisions in NPDES permits. Determining what steps a permittee must take to ensure that water quality standards are met is the EPA's responsibility, and Congress has given it the tools needed to make that determination. If the EPA does what the CWA demands, water quality will not suffer."

In this case, EPA has determined that the monitoring requirements described in the 2025 Statement of Basis are necessary steps that the CWA demands to ensure sufficient information is available to protect water quality.

Regarding the comment that this only applies in New Hampshire and Massachusetts, EPA disagrees and notes that the Supreme Court decision applies nation-wide. See also Response 70.

Finally, in response to this comment, EPA made one additional revision to the Draft Permit to ensure that the permit is fully consistent with the Supreme Court decision referenced above. Specifically, Part I.H.2.b and c were revised to the following:

> "The discharge shall not contain color (unless naturally occuring), objectionable odor (unless naturally occuring), or visible floating materials such as foam, debris, or scum."

Contrary to the aesthetics monitoring requirements in Part I.A.1, footnote 22 of the permit, EPA notes that this provision in Part I.H.2 must be revised because it is a permit limitation and is not simply a monitoring requirement. In other words, a permit may include monitoring requirements of the receiving water but may not include "end-result" effluent limitations. Based on this revision to Part I.H.2.b and c from the Draft Permit, the revised effluent limitation clearly spells out what the Permittee must do to achieve compliance, i.e., ensure its discharge does not contain the elements contained in the limitation. Therefore, EPA confirms that the Final Permit does not include any "end-result" requirements and is fully consistent with the recent Supreme Court decision.

Comment 81

Among the more disturbing new requirements that are included in the revised draft permit for Manchester are:

Benthic Macroinvertebrate Surveys: Once during the permit term, the City of Manchester will have to evaluate benthic invertebrates upstream and downstream of its discharge by collecting 3 samples across 2 transects of the Merrimack River. Under the Clean Water Act, the assessment of water quality and stream health is a state function that should not fall on a permittee. The level of effort and cost involved in doing such surveys across the Merrimack River will be significant. Only certified freshwater macroinvertebrate taxonomists are allowed to perform the analysis. How many such individuals are there in the region that could do this work, especially if this requirement is applied to all other permittees in New Hampshire and Massachusetts. The financial resources necessary to conduct such surveys are better spent on infrastructure improvements. If EPA and/or NHDES want to assess benthic invertebrates in the Merrimack River then they are free to do so.

Response 81

See Response 71.

Comment 82

Pollutant Scans on Ambient waters, Effluent and CSOs: Once per year, Manchester must conduct a pollutant scan on ambient waters upstream of its outfall, its effluent, and at 4 selected CSOs. The pollutant scan is a multi-method analysis that essentially tests for everything that can be tested. The Statement of Basis offers that this is necessary, in addition to the long-standing toxicity testing requirement, because not all toxins may be "discovered" through toxicity testing. Once again, this is a drastic change from past permits and adds more new costs for compliance.

Response 82

For more details regarding the need for the new pollutant scan requirements described in this comment, see Response 80. Regarding EPA's authority to require monitoring, see Response 1. Regarding cost, see Response 4. Like PFAS monitoring and other permit requirements discussed in these Responses, EPA finds that the pollutant scans are necessary to ensure information is available to protect water quality.

Comment 83

Toxicity Testing Follow-up: Following any failure of a standard toxicity test, Manchester would have to conduct 2 accelerated retests within 14 and 28 days. The same would be required if there was a reported fish kill in the "vicinity" of the outfall or an oily sheen in the "vicinity" of the outfall. The term "vicinity" does not appear to be defined. If a fish kill were to occur it is expected that the NH Department of Fisheries and Wildlife would investigate and, if they had probable cause to suspect the Manchester WWTP as a source that would be the starting point for further investigation including possible additional testing at the outfall. Any fish kill somewhere near the outfall should not be justification for Manchester to be assumed guilty and

have to spend limited resources trying to prove otherwise. This is particularly troubling in a major river system where a fish kill far upstream of the outfall can get swept downstream by flows and potentially collect near the outfall. But the new toxicity follow-up does not end there. If one of the accelerated tests fails toxicity limits that triggers a Toxicity Identification Evaluation and Toxicity Reduction Evaluation (TIE/TRE). This constitutes a lengthy, costly and challenging series of investigations, action plans and progress reports to find out what in the effluent is toxic and what can be done to resolve the matter. There is already a scarcity of laboratories capable and certified to conduct toxicity tests. With this permit and others to follow in New Hampshire and Massachusetts, the demand for these limited laboratory services will increase. Has EPA or NHDES assessed lab capacity for an increase in toxicity test requirements, especially the accelerated testing?

Response 83

See Response 70 regarding the definition of vicinity.

See Response 77 regarding a change to the Final Permit clarifying these requirements.

Notwithstanding these changes, if the discharge violates multiple WET tests and/or a fish kill occurs that may have been due to the discharge, EPA finds that it is necessary for the Permittee to conduct a TIE/TRE to ensure that the discharge does not continue to cause persistent toxicity. However, regarding lab availability or any other factor outside of the control of the Permittee, see Response 72.

Comment 84

CSO Visual Assessment:

In order to assure that Manchester's CSOs are not causing or contributing to water quality violations (language that has now been stricken from the permit), the revised permit requires a visual assessment of each CSO at the point of outfall (end of pipe) during a discharge event. The visual assessment would look for evidence of oily sheens, floatables or other objectionable wastes emanating from the CSO discharge pipe. All observations would have to be documented and reported. The logistics of performing such observations during an event, that is during a heavy rainfall, are problematic and would divert staff, and put them in dangerous situations, when they would be needed elsewhere (e.g., to manage pump stations, assist with flood control activities, implement high water plans at WWTP).

All of these changes in narrative criteria compliance are a major shift from decades-long practices and NPDES permit language. These matters are far too drastic to first appear in a revised draft permit. If EPA intends to make such sweeping changes to the NPDES program, that would require a national discussion including EPA, the States and the community of wastewater infrastructure managers, operators and advocates. All of the changes in red in the revised draft permit should be removed and, if EPA desires to move these changes forward in future permits it should start with an open conversation among all the key parties.

Response 84

First, EPA clarifies that the monthly visual inspection requirement described in Part I.A.1, footnote 22 only applies to the WWTF Outfall 001 and does not apply to CSO outfalls. Regarding the commenter's safety concerns, EPA clarifies that the permit does not require that the visual inspection be done during a rainfall event.

Regarding the basis for these permit changes, see Response 80. EPA values input from and collaboration with interested parties and the public. For this and other reasons, public participation in NPDES permit proceedings is required by 40 C.F.R. Part 124. Specifically, under 40 C.F.R. § 124.11, "During the public comment period provided under § 124.10, any interested person may submit written comments on the draft permit…." *See also* 40 C.F.R. § 124.13 (obligation to raise issues and provide information during the public comment period). EPA considers and responds to all public comments consistent with 40 C.F.R. § 124.17. EPA has complied with these requirements and therefore finds that this revised Draft Permit has provided sufficient opportunity for the Permittee to review and comment on these provisions. EPA also notes that a significant number of comments were received by a variety of parties, suggesting that interested parties were aware and made use of the opportunity to comment.

Comment 85

Adaptation Planning: As stated in comments submitted on numerous recent draft NPDES permits for wastewater treatment facilities, MCWRS believes that adaptation planning requirements are not appropriate for inclusion in a NPDES permit. Adaptation planning does not fall under the category of Operations and Maintenance, has no place in a five-year permit, is not related to a discharge, cannot be applied solely to Massachusetts and New Hampshire permittees and would be better received if it were offered through a funded federal program as directed by Congress. Climate change planning is more appropriate when communities are undertaking significant planning efforts or when planning for major renovations to wastewater facilities. When designing renovations and major upgrades to wastewater facilities, engineers already follow protocols established by NEIWPCC that includes updated provisions for flood damage prevention. The requirement for adaptation planning should be stricken from this permit.

Response 85

See Response 3.

Comment 86

PFAS: PFAS monitoring as required in the draft permit imposes a significant cost burden on Manchester and its ratepayers. Each sample analyzed for PFAS costs $350-$500 and with trip blanks and other quality control samples the financial impact quickly multiplies. PFAS sampling should be limited to twice annually for the initial two (2) years with results allowing less frequent (annual) analysis thereafter. The draft permit also proposes that Manchester take quarterly grab samples of influent and effluent and test for Adsorbable Organic Fluorine (AOF),

using Method 1621, at the same time as samples are grabbed for PFAS Analytes. Method 1621 is a draft test method designed to capture all organic fluorine compounds in the wastewater. This method is still under development by EPA's Engineering and Analysis Division (EAD), which indicated it is not approved for CWA compliance monitoring. The multi-laboratory validation study has not yet been performed on this method. In addition, Adsorbable Organic Fluorine is not a pollutant and has never been identified as a cause of water quality violations in any surface water. Rather, Adsorbable Organic Fluorine is a surrogate measure for PFAS.
While it may prove useful as a better way to measure PFAS, the burden of proving its utility in this regard should not fall upon NPDES permittees. EPA should do its own research on the effectiveness of Adsorbable Organic Fluorine as a surrogate parameter for PFAS and spare permittees the costs and responsibility for performing this testing. This proposed requirement should be removed from the permit.

Response 86

See Responses 1, 2, 4, and 74.

K. Comments from Jillian Aicher of the Conservation Law Foundation:

Comment 87

As EPA is well aware, PFAS pollution represents a significant threat to human health and the environment that EPA and other regulators are still catching up to address.[37] Having explicitly

[37] Hiroko Tabuchi, *The EPA Promotes Toxic Fertilizer. 3M Told It of Risks Years Ago*. New York Times, (Dec. 27, 2024), *accessible at* https://www.nytimes.com/2024/12/27/climate/epa-pfas-fertilizer-3m-forever-chemicals.html ("The data suggested that the toxic chemicals, made by 3M, were fast becoming ubiquitous in the environment. The company's research had already linked exposure to birth defects, cancer and more. That sewage was being used as fertilizer on farmland nationwide, a practice encouraged by the Environmental Protection Agency.")
Hiroko Tabuchi, *Their Fertilizer Poisons Farmland. Now, They Want Protection from Lawsuits.* New York Times, (Dec. 6, 2024), *accessible at* https://www.nytimes.com/2024/12/06/climate/sludge-fertilizer-synagro-lobbying.html ("The E.P.A. continues to promote sludge as fertilizer. It regulates harmful pathogens and some heavy metals in biosolids, but not PFAS.")
Hiroko Tabuchi, *Her Children Were Sick. Was It "Forever Chemicals" on the Family Farm?* New York Times, (Sept. 21, 2024), *accessible at* https://www.nytimes.com/2024/09/21/climate/farm-pfas-meat-poison-sewage-sludge.html ("The E.P.A. has more recently said that no level of certain kinds of PFAS is safe. 'We're starting to find out that agricultural soil is a big source of PFAS,' said Samuel Ma, an associate professor of civil and environmental engineering at Texas A&M University who studies emerging contaminants. But regulators 'seem to only be focusing on drinking water.'")
Hiroko Tabuchi, *5 Takeaways from Our Reporting on Toxic Sludge Fertilizer.* New York Times, (Aug. 31, 2024), *accessible at* https://www.nytimes.com/2024/08/31/climate/takeaways-pfas-sludge-fertilizer.html ("For decades, the government has encouraged farmers across the United States to spread sewage sludge on their cropland and pastures. But now there's a growing awareness that sludge fertilizer can contain heavy concentrations of "forever chemicals" linked to cancer, birth defects and other health risks.")
Hiroko Tabuchi, *Something's Poisoning America's Land. Farmers Fear "Forever Chemicals."* New York Times, (Aug. 31, 2024), *accessible at* https://www.nytimes.com/2024/08/31/climate/pfas-fertilizer-sludge-farm.html ("E.P.A.'s own researchers have found elevated levels in sewage sludge. And in the

acknowledged the importance of monitoring for PFAS and *reducing* per- and polyfluoroalkyl substances (PFAS) contributions to WWTFs (*see, e.g., below*), EPA has an important opportunity to establish permit requirements consistent with its own recommendations and to proactively protect the Merrimack River and local communities from PFAS pollution.

> "Regardless of the management practice to use or dispose of sewage sludge, exposure and risk reduction is possible through pretreatment at industrial facilities discharging to a WWTP. By monitoring sewage sludge for PFOA and PFOS, WWTPs can identify likely discharges of PFOA and PFOS from industrial contributors, require pretreatment, and achieve significant reductions in PFOA and PFOS concentrations in their sewage sludge. **In some state programs, WWTPs with industrial sources have achieved a 98 percent reduction in PFOS sewage sludge concentrations through industrial pretreatment initiatives. *The EPA recommends that states, Tribes, and WWTPs monitor sewage sludge for PFAS contamination, identify likely industrial discharges of PFAS, and implement industrial pretreatment requirements, where appropriate. Doing so will help reduce downstream PFAS contamination and lower the concentration of PFOA and PFOS in sewage sludge*[.]**"
>
> – U.S. Environmental Protection Agency, January 25, 2025
> (90 Fed. Reg. 3863-64) (emphases added).

> "EPA-issued NPDES permits should include the permit conditions described below, as appropriate, for facilities where PFAS is expected or likely to be present in their discharge. . . Require [best management practices] and pollution prevention to address PFAS discharges to POTWs."
>
> – U.S. Environmental Protection Agency, April 28, 2022
> Memo from Radhika Fox to Water Division Directors.

As set forth below, CLF urges EPA to follow its own recommendations by including not only PFAS monitoring provisions in the final NPDES permit, but also PFAS prevention and reduction requirements. We also urge EPA to reinstate the narrative limits in Part I.A.3–8 of the Original Draft Permit and retain the Adaptation Planning measures in Part I.C of both Draft Permits. CLF incorporates by reference our comments on the Original Draft Permit[38] and submits the following comments on the Revised Draft Permit.

EPA Should Expand PFAS Monitoring and Must Include PFAS Reduction Requirements in the Final Permit.

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agency's most recent survey of biosolids, PFAS were almost universal. A 2018 report by the E.P.A. inspector accused the agency of failing to properly regulate biosolids, saying it had 'reduced staff and resources in the biosolids program over time.'")

[38] Conservation Law Foundation, Comments on Draft NPDES Permit No. NH0100447 (June 10, 2024), *accessible at* https://www.clf.org/wp-content/uploads/2024/07/2024-6-10-CLF-Comments-on-Manchester-NH-Draft-NPDES-Permit.pdf [hereinafter CLF June 10, 2024 Comments].

The bedrock purpose of the Clean Water Act is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." 33 U.S.C. § 1251(a). EPA has recognized that PFAS jeopardize the integrity of the Nation's waters and pose serious hazards to human health and the environment.[39] WWTFs like Manchester's do not remove or destroy PFAS, resulting in PFAS releases to the environment through WWTF effluent and sewage sludge disposal.[40]

As described in our June 10, 2024 comments, ample data shows that the Manchester WWTF receives PFAS-contaminated influent, discharges PFAS into the Merrimack River, and through its onsite incinerator emits PFAS into the air.[41] EPA also recently recognized that PFAS in sludge incinerator ash could potentially result in PFAS discharges through stormwater – and in doing so, the agency specifically cited the PFAS study conducted at the Manchester WWTF and its onsite incinerator.[42]

To mitigate hazards from PFAS in wastewater effluent discharges and air emissions, EPA should make the following changes to the Draft Permit.

EPA Should Include and Strengthen PFAS Monitoring Provisions in the Final Permit.

CLF supports EPA including PFAS monitoring in the permit. Monitoring and reporting for PFAS – both at the wastewater treatment plant and at individual Industrial Users – will benefit both EPA and the City by characterizing the sources of PFAS into the WWTF and better informing strategies to reduce PFAS in the WWTF's effluent and sludge. Monitoring information is essential because PFAS are a class of persistent and health-harming pollutants and their confirmed presence in the WWTF's effluent and sludge poses risks for both the Merrimack River and health in surrounding and downstream communities. The Merrimack River is designated under the Clean Water Act for aquatic life protection, recreation, fish consumption, and potential drinking water supply; the Manchester facility's PFAS contributions are harmful to these important designated uses.[43]

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[39] EPA, PFAS Strategic Roadmap: EPA's Commitments to Action 2021–2024 at 5, 7 (October 2021), *accessible at* https://www.epa.gov/system/files/documents/2021-10/pfas-roadmap_final-508.pdf.
[40] 90 Fed. Reg. 3859, 3861, 3863 (Jan. 25, 2025) ("Traditional wastewater treatment technology does not remove or destroy PFOA or PFOS, and these chemicals typically accumulate in the sewage sludge."); *see also* Ruyle et al., 122 PNAS 3, *High organofluorine concentrations in municipal wastewater affect downstream drinking water supplies for millions of Americans* (Jan. 6, 2025), *accessible at* https://doi.org/10.1073/pnas.2417156122 ("Data presented here suggest that US POTWs do not effectively remove most EOF prior to effluent discharge, regardless of whether they have secondary or tertiary treatment (Fig. 1*C* and Dataset S5). Aquatic discharges from POTWs contain elevated levels of PFAS, including PFAA, PFAA precursors, and polyfluorinated pharmaceuticals."
[41] CLF June 10, 2024 Comments at 2–11 & Attached Exhibits.
[42] EPA, National Pollutant Discharge Elimination System (NPDES) Multi-Sector General Permit (MSGP) for Stormwater Discharges Associated with Industrial Activity Fact Sheet at 3, 80–81, 89–90 (2024), *accessible at* https://www.epa.gov/system/files/documents/2024-12/proposed-2026-msgp-fact-sheet.pdf (citing Seay, 2023).
[43] CLF June 10, 2024 Comments at 18–21.

The Clean Water Act and its regulations provide EPA with authority to include monitoring requirements for PFAS and Adsorbable Organic Fluorine (AOF, a nontargeted measurement for the large class of PFAS chemicals) in the WWTF's influent, effluent, and sludge. The statute provides that EPA may issue permits that include conditions that the Agency "determines are necessary to carry out the provisions of" the Clean Water Act, "including conditions on data and information collection, reporting, and such other requirements as [EPA] deems appropriate." 33 U.S.C. § 1342(a). EPA regulations provide that the agency "shall establish conditions, as required on a case-by-case basis, to provide for and ensure compliance with all applicable requirements of" the Clean Water Act and its implementing rules. 40 C.F.R. § 122.4(a).

Additional EPA regulations not only authorize, but also require, every NPDES permit to contain conditions, including monitoring requirements, "when applicable." 40 C.F.R. § 122.44(i). Monitoring requirements for PFAS and AOF are applicable at the Manchester WWTF, as they will allow EPA and the City to "assess treatment efficiency, characterize effluents and characterize receiving water."[44] The statutory and regulatory authority to impose conditions and data-gathering requirements directly contradicts the City of Manchester's unsupported claim that EPA lacks authority to require PFAS monitoring without "clearly established water quality criteria."[45]

Even if water quality criteria were a prerequisite to PFAS monitoring, narrative criteria and recent numeric criteria developments satisfy that prerequisite. New Hampshire statutory and regulatory narrative water quality criteria state that "all surface waters shall be free from toxic substances or chemical constituents in concentrations or combination that injure or are inimical to plants, animals, humans, or aquatic life[,]" and PFAS fall within that narrative language. RSA 485-A:8, VI; N.H. Code Admin. 1703.21(a)(1).[46] Moreover, on October 7, 2024, EPA finalized numeric aquatic life water quality criteria for PFOA and PFOS and benchmarks for eight other PFAS compounds.[47] On December 26, 2024, EPA also proposed numeric human health water quality criteria for PFOA, PFOS, and PFBS.[48] The State of New Hampshire also has taken recent action related to water quality criteria, proposing, on October 29, 2024, numeric surface water quality criteria for PFAS.[49] Thus, not only do 33 U.S.C. § 1342(a) and 40 C.F.R. § 122.44(i) provide EPA authority to require PFAS monitoring, but final and proposed criteria also provide EPA with an additional basis and need for requiring monitoring.

Clean Water Act regulations authorize EPA to require monitoring for PFAS and AOF using methods 1633 and 1621. Regulations specify that "[i]n the case of pollutants or pollutant parameters for which there are no approved methods under" federal regulations, "monitoring

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[44] EPA. Off. Of Wastewater Mgmt., NPDES Permit Writers' Manual, Chapter 8, at 8-2 (2010), https://www3.epa.gov/npdes/pubs/pwm_chapt_08.pdf.
[45]City of Manchester, Comments on U.S. EPA Draft NPDES Permit, Wastewater Treatment Facility, NH0100447 (June 10, 2024) at 3.
[46] *See also* CLF June 10, 2024 Comments at 19–22.
[47] 89 Fed. Reg. 81077 (Oct. 7, 2024).
[48] 89 Fed. Reg. 105041 (Dec. 26, 2024).
[49] N.H. Dep't Env't Servs., *Rulemaking Notice for Env-Wq 1700* (October 2024), *accessible at* https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/env-wq-1700-rmn.pdf.

shall be conducted according to a test procedure specified in the permit for such pollutants or pollutant parameters." 40 C.F.R. § 122.44(i)(1)(iv)(B)). Because PFAS and AOF do not yet have monitoring methods approved in federal regulations, EPA has authority to specify methods 1633 and 1621 in the permit.

Both federal rules and state law also authorize EPA to include PFAS monitoring requirements for Industrial Users. Federal regulations authorize the Approval Authority in an Industrial Pretreatment Program – which, in the case of Manchester's program, is EPA – to require a WWTF to include "any other relevant information requested by the Approval Authority" in its annual pretreatment program report. 40 CFR § 403.12(i). Data on targeted and nontargeted PFAS in industrial wastewater will help identify sources of PFAS into the WWTF and will inform reduction measures to control discharges of toxic pollutants that the WWTF cannot remove.

New Hampshire law also explicitly authorizes WWTFs to monitor PFAS from industrial sources. RSA 485-A:5-e, I allows WWTFs to "require any industrial or commercial facilities . . . contributing discharge to its plant to test such discharge to determine the level of PFAS in the discharge." The law allows the WWTF to impose PFAS testing requirements such as:

> (a) Identification of potential sources of PFAS using safety data sheets or other specification sheets.
> (b) Sample test result of the discharge measuring levels of PFAS in the discharge provided to the wastewater treatment plant.
> (c) Submission of an annual report to the municipality in which the wastewater treatment plant containing [sic] a list of the test results.

RSA 485-A:5-e, I.

Recent scientific literature confirms that EPA should require Industrial User monitoring using both method 1633 and method 1621. A study of PFAS and organofluorine in WWTF influent and effluent determined that most PFAS monitoring in wastewater considers only "a few intensively studied PFAS," but nontargeted testing reveals that wastewater treatment plant effluent contains "large quantities of unknown organofluorine."[50] The authors state empirical data from "major organofluorine sources" is "critically needed."[51] Further analysis on "unknown organofluorine," according to the authors, is essential to determine "accumulation of any replacement PFAS used by industry following the phase out of legacy compounds[,]" demonstrating the basis for requiring nontargeted organofluorine monitoring through 1621 for Industrial Users.[52]

Including method 1621 monitoring requirements also corresponds with EPA's own recommendations in its April 2022 memorandum, "Addressing PFAS Discharges in EPA-Issued

[50] Ruyle et al., *supra* note 3.
[51] Ruyle et al., *supra* note 3.
[52] *Id.*

NPDES Permits and Expectations Where EPA is the Pretreatment Control Authority."[53] That memo states that EPA can require AOF monitoring in addition to method 1633, "if appropriate."[54] Here, it is appropriate to require both methods 1633 and 1621 for Industrial User sampling, given that recent literature emphasized the significant presence of "unknown organofluorine" in wastewater and emphasized that "[e]xperts have called for a class-based approach for regulating organofluorine, focusing on PFAS, due in part to the extreme persistence of these compounds and their transformation products[.]"[55]

Response 87

See Responses 51-62.

The commenter references EPA's Draft Sewage Sludge Risk Assessment for PFOA and POFS, published in the Federal Register on January 15, 2025. 90 Fed. Reg. 3859.[56] As suggested by the name, this risk assessment is a draft, not final. The draft risk assessment reflects the agency's latest scientific understanding of the risks to human health and the environment posed by the presence of PFOA and PFOS in sewage sludge that is land applied as a soil conditioner or fertilizer (on agricultural, forested, and other lands), surface disposed (*e.g.,* placed in a sewage sludge-only landfill called a monofill), or incinerated. The draft risk assessment focuses on those living on or near impacted properties where sewage sludge has been used or disposed. The intent of the draft risk assessment is to evaluate whether there may be risks to human health or the environment for the wide range of possible sewage sludge use and disposal scenarios. EPA will review public comments, particularly regarding scientific and technical aspects, and prepare a final risk assessment for publication. If the final risk assessment indicates that there are risks above acceptable thresholds when using or disposing of sewage sludge, the EPA expects to propose a regulation under CWA section 405 to manage PFOA and/or PFOS in sewage sludge to protect public health and the environment. The EPA may also consider developing regulations under other statutory authorities to further reduce PFAS discharged to WWTPs. The public comment period for the draft assessment has been extended; comments must be received by August 14, 2025. 90 Fed. Reg. 16128.[57]

EPA acknowledges that Manchester has limited amounts of existing PFAS data. However, EPA did not request Manchester to submit such data with its permit renewal application because EPA's national approach to PFAS regulations is to use Method 1633 for the collection of consistent data to ensure that permitting decisions are based on

[53] Memo from Radhika Fox to Water Division Directors, EPA Region 1–10, *Addressing PFAS Discharges in EPA-Issued NPDES Permits and Expectations Where EPA is the Pretreatment Control Authority* (April 28, 2022), https://www.epa.gov/system/files/documents/2022-04/npdes_pfas-memo.pdf.
[54] *Id.* at 2, 3.
[55] Ruyle et al., *supra* note 6.
[56] Available at: https://www.federalregister.gov/documents/2025/01/15/2025-00734/draft-sewage-sludge-risk-assessment-for-perfluorooctanoic-acid-pfoa-and-perfluorooctane-sulfonic#page-3863
[57] Available at: https://www.federalregister.gov/documents/2025/04/17/2025-06571/draft-sewage-sludge-risk-assessment-for-perfluorooctanoic-acid-pfoa-and-perfluorooctane-sulfonic

consistent, verified and robust datasets. See also Response 51. Given that Method 1633 was not fully multi-lab validated until January 2024, EPA only had very limited data during the development of this Draft Permit in 2024.

EPA acknowledges the commenter's general support of the PFAS monitoring conditions. While EPA agrees with the commenter's assertions regarding the usefulness of PFAS data from Industrial Users, EPA finds that annual PFAS monitoring is sufficient for the purposes of this initial permit term. EPA's intention is to ensure that both EPA and the Permittee are able to identify actual sources of PFAS throughout the collection system to inform future source reduction efforts. EPA finds that annual PFAS monitoring of the categories of IUs identified in the permit as potential sources is sufficient to make this preliminary identification of actual sources. EPA considers that quarterly monitoring or AOF monitoring of IUs is not needed to make this preliminary identification of actual PFAS sources. Given the large number of IUs in Manchester, EPA also considers that the cost and resources associated with expanding this monitoring requirement would be better directed elsewhere in complying with the permit. However, more frequent monitoring of these IUs may be necessary in the future to track actual PFAS reductions.

Comment 88

EPA Has Authority and Sufficient Basis to Include Industrial Source Control Measures and Must Do So in the Final Permit.

EPA should not only strengthen monitoring for PFAS in wastewater from Industrial Users as described above, but it must also include control requirements to reduce contributions of industrial PFAS to the WWTF.

Both the federal Industrial Pretreatment Program and New Hampshire state law authorize EPA to include PFAS reduction requirements. Federal Industrial Pretreatment Program regulations authorize the Approval Authority (here EPA) to "modify . . . a POTW's Permit" to include "a compliance schedule for the development of a POTW Pretreatment Program where the addition of pollutants into a POTW by an Industrial User or combination of Industrial Users presents a substantial hazard to the functioning of the treatment works, quality of the receiving waters, human health, or the environment[.]"40 C.F.R. § 403.8(e)(1). As described in our June 10 comments, the addition of PFAS to the Manchester WWTF from Industrial Users most likely presents a substantial hazard to the quality of receiving waters (i.e., impacts to designated uses), and to human health and the environment through both effluent discharges and incinerator emissions.[58] And under New Hampshire law, 485-A:5-e, "A wastewater treatment plant may refuse discharge from an industrial or commercial facility . . . that has reported a level of PFAS in its discharge above the level the wastewater treatment plant determines to be acceptable." RSA 485-A:5-e, III.

[58] CLF June 10, 2024 Comments, at 3–10, 13-46.

Not only is EPA authorized to require source reduction measures in the City's permit, but it is required to do so under federal pretreatment program regulations, as detailed in our June 10, 2024 comments.[59]

EPA itself has repeatedly underscored the need for not only PFAS monitoring, but also PFAS reduction, from industrial users. Most recently, in its January 2025 Draft Health Risk Assessment for PFOA and PFOS in Sewage Sludge, EPA highlighted that needed, stating:

> Regardless of the management practice to use or dispose of sewage sludge, exposure and risk reduction is possible through pretreatment at industrial facilities discharging to a WWTP. By monitoring sewage sludge for PFOA and PFOS, WWTPs can identify likely discharges of PFOA and PFOS from industrial contributors, require pretreatment, and achieve significant reductions in PFOA and PFOS concentrations in their sewage sludge. In some state programs, WWTPs with industrial sources have achieved a 98 percent reduction in PFOS sewage sludge concentrations through industrial pretreatment initiatives. The EPA recommends that states, Tribes, and WWTPs monitor sewage sludge for PFAS contamination, identify likely industrial discharges of PFAS, **and implement industrial pretreatment requirements, where appropriate.**[60]

According to EPA, industrial pretreatment requirements "will help reduce downstream PFAS contamination and lower the concentration of PFOA and PFOS in sewage sludge."[61] EPA similarly recommended in its April 2022 memorandum that EPA require best management practices "and pollution prevention to address PFAS discharges to" municipal WWTFs.[62] Those best management practices include product elimination or substitution, accidental discharge minimization, and equipment decontamination or replacement.[63] The Agency similarly stated in its PFAS Strategic Roadmap that "EPA will seek to proactively use existing NPDES authorities to reduce discharges of PFAS at the source[.]"[64] And in July 2024, EPA Region 1's Water Permits Branch Chief stated: "I do think eventually we will get to the point of including requirements in

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[59] *See id.* at 31 (citing § 403.8(f)(1)(vi)(B)) (EPA must establish PFAS source reduction requirements in the City's permit to ensure that the City "fully" implements its authority to . . . "[I]mmediately and effectively . . . halt or prevent any discharge of pollutants to the POTW which reasonably appears to present an imminent endangerment to the health or welfare of persons" and . . . "[H]alt or prevent any discharge to the POTW which presents or may present an endangerment to the environment[.]")

[60] 90 Fed. Reg. 3859, 3863–64 (Jan. 25, 2025) (emphasis added).

[61] *Id.* at 3864.

[62] Memo from Radhika Fox to Water Division Directors, *Addressing PFAS Discharges in EPA-Issued NPDES Permits and Expectations Where EPA is the Pretreatment Control Authority* at 3 (April 28, 2022), https://www.epa.gov/system/files/documents/2022-04/npdes_pfas-memo.pdf.

[63] *Id.* at 2–4.

[64] EPA, PFAS Strategic Roadmap: EPA's Commitments to Action 2021–2024 at 14 (October 2021), *accessible at* https://www.epa.gov/system/files/documents/2021-10/pfas-roadmap_final-508.pdf.

the permits themselves[,]" and "I think the initial focus will be on the pretreatment part . . . Find out where your biggest contributors are and restrict them first and foremost."[65]

Industrial pretreatment requirements are appropriate and necessary for Manchester's WWTF, given that EPA has access to data showing the plant has consistently received PFAS in influent and released PFAS through its effluent and sludge incineration since at least 2019.[66] EPA must therefore follow *its own recommendations* and include PFAS reduction requirements for Industrial Users in Manchester WWTF's NPDES permit.

Response 88

See Responses 52 and 87. Similar to WWTF effluent data, EPA's approach is to use this permit term to require industrial users to collect PFAS data using Method 1633 in order to identify the significant sources of PFAS within each municipality. Although EPA requires PFAS monitoring from a variety of industrial categories that are likely sources, EPA considers that actual monitoring is necessary to confirm which (if any) industrial users are significant sources of PFAS in the POTW's collection system. EPA notes that this is consistent with the citation in the comment that sources should be identified before pretreatment requirements are implemented. EPA also notes that PFAS criteria are also being developed which will provide further information regarding the scope of future source reduction requirements. EPA expects that the industrial user data will be used in the future to make informed decisions regarding PFAS reductions from the sources that are identified.

Comment 89

EPA Must Use Recently Finalized and Proposed Water Quality Criteria to Analyze and Determine PFAS Effluent Limitations and Include Such Effluent Limitations in the Final Permit.

As described in our June 10 comments, EPA must analyze the need for technology-based and water quality-based effluent limitations (WQBELs) for PFAS. When analyzing the need for WQBELs, EPA must conduct a reasonable potential analysis for PFAS.[67] Recently finalized and proposed numeric water quality criteria for PFAS serve as indicators for whether the City's discharges "may . . . have the reasonable potential to cause, or contribute to" violations of New Hampshire's narrative standards for toxics, and its standards protecting designated uses for both human health and aquatic life. *See* 40 C.F.R. § 122.44(d)(1)(i).[68] Therefore, those recently finalized and proposed criteria must inform EPA's reasonable potential analysis and subsequent WQBEL calculations. Specifically, in analyzing and establishing WQBELs, EPA must consider: (1)

[65] Mara Hoplamazian, *PFAS in, PFAS out: How wastewater in Manchester is a pathway for contamination* NHPR, (July 26, 2024), *accessible at* https://www.nhpr.org/nh-news/2024-07-26/pfas-in-pfas-out-how-wastewater-in-manchester-is-a-pathway-for-contamination.
[66] CLF June 10, 2024 Comments, at 3–8.
[67] *Id.* at 17–23.
[68] *See also* CLF June 10, 2024 Comments, at 17–21.

EPA's final aquatic life criteria and benchmarks for PFAS,[69] (2) EPA's proposed human health criteria for PFAS,[70] and (3) New Hampshire's proposed surface water quality criteria for PFAS.[71]

Response 89

See Responses 51-56.

Comment 90

EPA Must Reinstate Narrative Permit Limitations

EPA revised its original Draft Permit to remove narrative provisions from the Original Draft Permit, Part I.A.3-8, and the current permit, Part I.A 2-7. These changes indicate a preemptive response to *San Francisco v. EPA*, a case that the Supreme Court of the United States has heard but not decided. *San Francisco v. EPA*, 75 F.4th 1074, 1093 (9th Cir. 2023), *cert. granted,* S. Ct. No. 23-753 (May 28, 2024). EPA must reinstate the narrative provisions in the final permit, as they are not only authorized under Clean Water Act section 301(b)(1)(C), 33 U.S.C. §1311(b)(1)(C) but they also provide an essential backstop for protecting water quality and ensuring that permitted discharges do not violate water quality standards.

The Clean Water Act prohibits the discharge of a pollutant from a point source into waters of the United States unless in accordance with a NPDES permit or another specified provision. 33 U.S.C. § 1311(a). Federal regulations promulgated under the Clean Water Act prohibit EPA from issuing a NPDES permit that "cannot ensure compliance with the applicable water quality requirements of all affected States," 40 CFR § 122.4(d), and that cannot achieve water quality standards, including narrative water quality criteria. 40 CFR § 122.44(d). By removing the narrative permit provisions in Part I.A.3-8 of the Original Draft Permit, EPA removed provisions that "ensure compliance" with New Hampshire's water quality standards, including narrative standards. Finalizing the permit without reinstating those narrative permit provisions would thus violate the Clean Water Act and its implementing rules.

The Revised Permit's additional monitoring and reporting requirements do not "ensure compliance with applicable narrative water quality standards," as EPA claims in its Statement of Basis for the Revised Draft Permit.[72] Those additional provisions cover a limited range of pollutants as compared to state narrative water quality criteria, and removing the narrative provisions removes an enforcement mechanism to address violative discharges.
For example, the Revised Draft removes a narrative provision that stated: "The discharge shall not cause a violation of the water quality standards of the receiving water,"[73] narrowing EPA's ability to ensure compliance with New Hampshire's water quality standards and criteria through the permit.

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[69] 89 Fed. Reg. 81077 (Oct. 7, 2024).
[70] 89 Fed. Reg. 105041 (Dec. 26, 2024).
[71] N.H. Dep't Env't Servs., *Rulemaking Notice for Env-Wq 1700* (October 2024), *accessible at* https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/env-wq-1700-rmn.pdf.
[72] EPA, 2024 Statement of Basis for 2024 Revised Draft Permit NPDES Permit No. NH0100447 at 4 (December 2024).
[73] EPA, NPDES Permit No. NH0100447 Revised Draft Permit, Part I.A.6 (deleted) (December 2024).

The Revised Draft also removes a provision that incorporated the language of New Hampshire's narrative criteria for toxic pollutants.[74] In its place, the Revised Draft includes enhanced Whole Effluent Toxicity requirements and a Pollutant Scan for specified pollutants to "ensure that the Facility does not discharge combinations of pollutants into the receiving water in amounts that would be toxic to aquatic life or human health" in violation of state narrative criteria.[75] However, EPA implicitly recognized that the new monitoring provisions do not cover all pollutants encapsulated by the state narrative water quality standards. EPA's Statement of Basis for the revisions acknowledges that Whole Effluent Toxicity requirements may not capture "other sources of toxic effects (including to human health)" and that the Pollutant Scan includes "many" but not all "common toxic pollutants."[76]

The Pollutant Scan covers only pollutants listed in Attachment G, which is the same list of pollutants specified on permit application forms.[77] Attachment G does not include PFAS or AOF – toxic pollutants with the potential to violate New Hampshire's narrative water quality criteria.[78] The prior narrative permit provisions, on the other hand, cover pollutants that the permittee did not list on its application but that nonetheless may violate water quality standards. *See Ohio Valley Env't Coal., Inc. v. Marfork Coal Co.*, 966 F. Supp. 2d 667, 685 (S.D.W. Va. 2013) (permit provisions incorporating state water quality standards function "[a]s a backstop" that "protects water quality standards that [the permitting authority] did not anticipate would be threatened based on the discharge levels reported in a permit application.").

The agency should include the new provisions in the Revised Draft Permit in addition to, not in lieu of, narrative limitations. It should also add PFAS and AOF to Attachment G, as the City has consistently documented PFAS in its influent and effluent and those pollutants have the potential to violate New Hampshire's narrative water quality standard for toxics.

Response 90

As described in Response 80 and as a result of the Supreme Court decision in *City and County of San Francisco v. EPA*, EPA is unable to include the narrative permit limitations described in this comment. However, EPA finds that the permit remains fully protective of all state water quality standards based on all currently available information.

In any case, EPA is able to modify or reissue the Permit to incorporate any more stringent effluent limitations necessary to protect water quality standards based on the results of the permit's monitoring requirements. To make this more clear, EPA has revised the second sentence in Part I.B.1 (Unauthorized Discharges) to indicate the following:

[74] *Id*.
[75] *Id.* at 7.
[76] *Id.* at 7–8.
[77] *Id.* at 8.
[78] CLF June 10, 2024 Comments, at 19–22.

> "For any pollutant without an effluent limitation in this permit, any pollutant loading greater than the proposed discharge (the "proposed discharge" is based on the chemical-specific data and the facility's design flow as described in the permit application, or any other information provided to EPA during the permitting process) must be reevaluated, and the permit must be modified or reissued if the need for any new effluent limitations is identified."

Regarding enforceability, EPA notes that the narrative limitations described in the comment generally required additional data to support an enforcement action. Under the new permitting approach, EPA expects that much of this additional data will be readily available and that any effluent limitations established in the future based on this data will be enforceable.

Finally, the commenter notes that the list of pollutants listed as Attachment G required for the pollutant scan requirement does not include PFAS or AOF. EPA notes that PFAS and AOF are required to be sampled quarterly for the facility influent, effluent, and sludge and EPA finds that additional annual sampling through a pollutant scan is unnecessary.

Comment 91

EPA Should Retain Adaptation Planning Measures in the Final Permit.

CLF supports the Adaptation Planning Measures in the Original and Revised Draft Permit. There is widespread consensus that climate change has already caused dramatic changes in the frequency and severity of precipitation and major storms, has caused and contributed to sea level rise, and has dramatically shifted air, water, and surface temperatures. Increased impacts in the near and long-term are already assured as a result of emissions to-date and will be severely exacerbated by continued emissions of greenhouse gases. It is beyond any reasonable dispute that climate disruption poses severe risks to riverine infrastructure, water quality, and human health.

EPA has recognized that in the Northeast specifically, climate change places strains on "aging infrastructure" and creates risks for surface waters and human health.[79] The agency specifically acknowledged that "[m]illions of Northeastern residents" living in coastal and river floodplain areas "are potentially more vulnerable" to climate change-induced "[s]ea level rise, heavy precipitation, and storm surge" and resulting impacts on infrastructure, surface waters, and human health.[80]

The Clean Water Act and federal regulations authorize EPA to require the Adaptation Planning measures in Draft Permit Part I.C. Section 402 of the Clean Water Act authorizes EPA to include permit conditions that the Agency "determines are necessary to carry out the provisions of" the

[79] EPA, *Climate Impacts in the Northeast* (last updated January 19, 2017), *accessible at* https://19january2017snapshot.epa.gov/climateimpacts/climate-impacts-northeast_.html#Reference%201.
[80] *Id.*

statute. 33 U.S.C. § 1342(a). Federal regulations state that the EPA Regional Administrator "shall establish conditions, as required on a case-by-case basis, to provide for and ensure compliance with all applicable requirements of" the Clean Water Act and its implementing rules. 40 C.F.R. § 122.4(a). [81] EPA highlighted several additional statutory and regulatory authorities for Adaptation Planning requirements in the Fact Sheet to its Original Draft Permit, including CWA §§ 301(b)(1)(C), 401(a)(1)-(2) and 40 C.F.R. §§ 122.4(d), 122.41(d), (e), (n).

Wastewater treatment plants like Manchester's are particularly susceptible to non-speculative climate change impacts within the purview of the Clean Water Act, including combined sewer overflow events due to increased precipitation causing discharges of raw sewage from point source outfalls into surface waters that serve as recreation sites or drinking water sources.[82] Moreover, the City's claims that Adaptation Planning requirements pose environmental justice concerns ignores the environmental injustices and disparate impacts of pollution that will likely result if the City is *not* required to engage in adaptation planning.[83]

Response 91

See Response 3.

L. Comments from Andrea Amico, co-founder, Testing for Pease:

Comment 92

My name is Andrea Amico. I am a Portsmouth, NH resident and co-founder of a community action group called Testing for Pease. Over 10 years ago, my life changed forever when I learned my family was exposed to high levels of PFAS through contaminated drinking water at the former Pease Air Force Base. PFAS are manmade chemicals that are toxic at low levels and they build up in the body and have been associated with multiple adverse health effects to humans.

I have dedicated a decade of my life advocating for answers and actions for my community. I have also partnered with many other communities over the nation impacted by PFAS contamination, as well. A lot of the work we are doing on PFAS is reactive to the decades of pollution to communities. It is long overdue that we take a proactive approach to PFAS

[81] *See also* Off. of Wastewater Mgmt., Memo from Christopher Kloss to Regional Water Division Directors, Regions 1-10, *Incorporating Resiliency Considerations in NPDES Permitting* (Dec. 13. 2024), *accessible at* https://www.epa.gov/system/files/documents/2024-12/resilience-npdes-permitting.pdf.
[82] EPA, *Climate Impacts in the Northeast* (last updated January 19, 2017), *accessible at* https://19january2017snapshot.epa.gov/climateimpacts/climate-impacts-northeast_.html#Reference%201.
[83] *See generally* Union of Concerned Scientists, Looming Deadlines for Coastal Resilience at 6 (June 2024), *accessible at* https://www.ucsusa.org/resources/looming-deadlines-coastal-resilience ("During this decade, our results show a 10 percent increase in public and affordable housing exposed to disruptive flooding twice per year in nondisadvantaged communities but a 40 percent increase in disadvantaged communities. . . . During the same period and with the same inundation frequency, the numbers of brownfields and K–12 schools exposed to flooding also increase more rapidly in disadvantaged communities than in those that are nondisadvantaged."); *see also EJScreen Community Report: Manchester, NH* (last visited January 28, 2025), *accessible* at https://ejscreen.epa.gov/mapper/ (listing the City's flood risk at the 74th national percentile).

exposure and do everything in our power to prevent PFAS from entering into our environment and exposing innocent communities.

I am concerned about PFAS at the Manchester wastewater treatment plant and because it is emitting PFAS through wastewater and through the on site incinerator. PFAS chemicals don't break down. PFAS are harmful to human health and impact multiple systems of the human body. PFAS get into our air, water, soil, wildlife, food supplies, and more. The EPA is well aware of the danger of PFAS to human health as evidenced by their actions last year to deem two common PFAS as hazardous substances and for EPA establishing the first ever national drinking water standards for some PFAS. These historical actions by EPA demonstrate that EPA knows the harms of PFAS to human health and the environment. Therefore, EPA should do everything in their control to stop the spread of these harmful contaminants in all communities, including Manchester and the surrounding towns impacted by the PFAS emitting from the wastewater treatment plant and its on-site incinerator.

It is concerning that the Manchester wastewater treatment plant is receiving wastewater that contains PFAS, but the plant cannot remove PFAS. As a result, the plant is sending these harmful chemicals directly into the Merrimack River which provides drinking water for more than 700,000 people, including communities downriver from Manchester's wastewater treatment plant. Manchester's wastewater treatment plant and its on-site incinerator are also sending PFAS into the air. We have seen the devastating effects of air born PFAS in Merrimack, NH and surrounding communities from the St Gobain Performance Plastics Factory and the widespread impacts from that contamination. How many more communities in NH have to be contaminated by these harmful chemicals and suffer the consequences before we take action to stop the exposure?

To advance environmental justice and better protect human health and the environment, EPA should strengthen the PFAS provisions in Manchester's final permit. And EPA should include effluent limits for PFAS in the permit, and should require "upstream" PFAS reduction to curb PFAS coming into the plant from industrial sources. This permit process gives EPA an important opportunity to reduce PFAS pollution in Manchester and in surrounding areas. EPA should make the following changes when finalizing the draft permit:

Response 92

EPA acknowledges the commenter's concerns. Administrator Zeldin has announced major EPA actions to combat PFAS contamination. *Administrator Zeldin Announces Major EPA Actions to Combat PFAS Contamination* (April 28, 2025).[84] In line with Administrator Zeldin's Powering the Great American Comeback initiative, EPA's work in this space will advance Pillar 1: Clean Air, Land, and Water for Every American, and Pillar 3: Permitting Reform, Cooperative Federalism, and Cross-Agency Partnership. *Id.*

[84] Available at: https://www.epa.gov/newsreleases/administrator-zeldin-announces-major-epa-actions-combat-pfas-contamination

Accordingly, EPA is requiring PFAS monitoring in this and other NPDES permits for the reasons described in the 2024 Fact Sheet. Also see, e.g., Response 1.

Regarding the request to include effluent limits, see Responses 51-56.

Regarding the request concerning industrial users, see Responses 58-60.

Regarding the incinerator, see Response 62.

Comment 93

EPA should follow its own policy from 2024 and conduct an environmental justice analysis before finalizing this permit. The agency should fully consider and include permit measures that address the impact of the plant's PFAS air and water pollution on communities facing cumulative environmental burdens in Manchester and downstream locations.

Response 93

See Response 49.

Comment 94

EPA must consider the need for effluent limits at the wastewater treatment plant and include necessary limits in the final permit. In its analysis, EPA must evaluate all existing data on PFAS at the Manchester plant, relevant control technologies, and conditions and uses of receiving waters.

Response 94

See Responses 51-56.

Comment 95

EPA must strengthen monitoring and source reduction requirements for industrial users – including the Manchester municipal landfill – to reduce PFAS before it even gets to the wastewater treatment plant. The City has clear authority to do this under NH law, RSA 485-A:5-e.

Response 95

See Responses 58-60 and 86.

Comment 96

EPA should require monitoring and reporting of PFAS in air emissions from the plant's sludge incinerator.

Response 96

See Response 62.

M. Comments from Rebecca Backman:

Comment 97

I urge EPA to meaningfully consider community concerns before finalizing this permit.
I am concerned about the Manchester wastewater treatment facility and its onsite sewage sludge incinerator contaminating the Merrimack River and ambient air with toxic PFAS pollution. PFAS chemicals, nicknamed "forever chemicals" for their persistence in the environment, have been linked to serious health effects, including cancer, and they disproportionately affect environmental justice communities. These "forever chemicals" are released from the Manchester wastewater treatment facility and its incinerator, threatening the health of Manchester residents and residents of downstream communities.
I urge EPA to strengthen the Manchester wastewater treatment facility's National Pollutant Discharge Elimination System Permit by: conducting an environmental justice analysis, including expanded PFAS monitoring at the wastewater treatment facility and at industrial facilities; incorporating provisions to control PFAS and reduce PFAS contributions from industrial sources; and adding PFAS air monitoring requirements for the sewage sludge incinerator.

Response 97

See Responses 49, 50, 58-60, and 62.

N. Comments from Marc Feigl:

Comment 98

EPA must strengthen monitoring and source reduction requirements for industrial users – including the Manchester municipal landfill – to reduce PFAS before it even gets to the wastewater treatment plant. The City has clear authority to do this under NH law, RSA 485-A:5-e.

Response 98

See Responses 58-60 and 88.

Comment 99

EPA should require monitoring and reporting of PFAS in air emissions from the plant's sludge incinerator.

Response 99

See Response 62.

O. General Response to Comments Submitted by Residents of the Manchester, NH area

EPA received comments on the revised Draft Permit from approximately fifty individuals who reside in the Manchester, NH area which were submitted as a single document. Due to the length of this document as well as overlapping issues raised by the commenters, EPA is providing the following summary of the issues and concerns raised as well as general responses to these issues. This document is included as an attachment to this response to comments document.

The issues and concerns raised by the individual commenters as well as general responses are described below:

- **PFAS emissions from the sludge incinerator**

  See Responses 49 and 62.

- **PFAS being discharged from the WWTF into the Merrimack River, which is a drinking water source**

  See Response 1.

- **PFAS requirements in the permit should be strengthened**.

  See Responses 50-62.

- **EPA should conduct an EJ Analysis to address cumulative impacts on affected communities.**

  See Response 49.

- **Final permit should contain PFAS effluent limits and limits for the upstream receiving water.**

  See Responses 51-56.

- **PFAS source control.**

  See Responses 58-60.

- **EPA should require monitoring and reporting of PFAS in air emissions from the plant's sludge incinerator.**

  See Responses 49 and 62.

- **Include PFAS limits based on PFAS data from the Manchester WWTF.**

  See Responses 51-56.

- **Monitoring results should be made available to the public.**

Most monitoring results will be available to the public through EPA's website: https://echo.epa.gov/. Any results not available through this website are available upon request.

- **Chlorine smell in tap water.**

  While EPA acknowledges the concern expressed by the commenter regarding the chlorine odor being detected in drinking water, this issue is outside the scope of this permit, which regulates chlorine discharged from the WWTF and not in the tap water.

THE COMMENTS BELOW WERE PROVIDED AS TESTIMONY AT THE PUBLIC HEARING

P. Testimony Provided by Jillian Aicher, Conservation Law Foundation, January 21, 2025.

Comment 100

We submitted comments on the original draft permit on June tenth and we will also be submitting written comments on February third. Thank you, first of all, for holding this public hearing on the draft permit to ensure that the permit complies with the Clean Water Act, advances environmental justice and protects public health and the environment. We ask EPA to take specific actions related to 3 categories. The 1st is environmental justice, the second is PFAS provisions in the permit, and the third is narrative permit provisions.

Response 100

EPA acknowledges the comment. Detailed responses are provided in the following responses.

Comment 101

With respect to environmental justice, we urge EPA to follow its own 2024 EPA program policy, entitled Addressing Environmental Justice and Equity and NPDES permitting. As we identified in our June tenth comments on the original draft permit, there are at least two communities in Manchester that are located nearby the wastewater treatment plant and incinerator, roughly 2 miles away, that are often downwind of the sewage sludge incinerator, and are already overburdened by environmental pollution. Those communities are ranking at or above the 94th state percentile for almost all of EPA's environmental justice indexes as are indicated on the EJ screen tool. So, to comply with the NPDES EJ policy that EPA has, EPA should first conduct a thorough screening of potential environmental injustices that are caused or exacerbated by the wastewater treatment plant and its sewage sludge incinerator. And it should do so, using EPA's EJ screen tool. EPA should also then conduct a thorough environmental justice analysis which includes, but is not limited to, the impact of the plant's PFAS pollution, both through the water and through the air from the sewage sludge incinerator.

And then finally, with the results of that analysis, EPA must include measures in the permit that minimize, avoid, or mitigate the disproportionate and adverse effects from the wastewater

treatment plant and its incinerator, and those mitigation measures include the PFAS permit requirements that we're advocating for.

Response 101

See Response 49.

Comment 102

With respect to those PFAS permit requirements, first, we reiterate that we support EPA, including PFAS monitoring requirements in this permit. EPA has the clear authority to require those monitoring requirements with methods 1633, and 1621, clearly under regulations at 40 CFR. 122.44.I. EPA's authority is even more clearly supported by its recently finalized aquatic life water quality criteria and benchmarks for several PFAS compounds. But monitoring alone is not enough to protect public health and the environment. EPA must also take steps to reduce PFAS through both effluent limits and through industrial source control.

So first, with respect to effluent limits, EPA must analyze the need for both technology based and water quality based effluent limits. And with water quality based effluent limits, EPA must conduct the reasonable potential analysis that takes into account PFAS data taken at the plant which we've provided in our previous comments, as well as the final EPA water quality criteria for aquatic life, the proposed criteria for human health, and New Hampshire's proposed surface water quality standard for PFAS.

Response 102

See Responses 50, 87, 51-56.

Comment 103

With respect to industrial source control, the agency recommended in April of 2022, that permits for plants like Manchester's, where EPA is the permitting authority and the pretreatment control authority, that those permits require not only monitoring for PFAS, but also measures to address PFAS and discharges to the to the POTW. And that includes best management and practices, local limits and other methods of PFAS pollution prevention.

Manchester has clear authority to implement source control. Under RSA. 485 a. 5.e. and under the Clean Water Act, which is described further, in our written June 10th comments. EPA also recently recognized in its sewage sludge risk assessment for PFOA and PFOS that, regardless of the method of sludge disposal (So here, that's incineration), regardless of that method, exposure and risk reduction is possible through pretreatment at industrial facilities that discharge into a wastewater treatment plant. EPA went on in that health risk assessment to recommend that wastewater treatment plants implement industrial pretreatment requirements where appropriate. And here it is absolutely appropriate and necessary for EPA to require industrial source control measures given the ample data that EPA has, showing that the Manchester plant is both receiving PFAS and its influent and discharging. PFAS into the Merrimack River through its effluent and emitting PFAS into the air through sludge incineration.

Response 103

See Responses 58-60.

Comment 104

Regarding narrative limits, we object to EPA's removal of narrative provisions in the original draft permit in Part I.A. These changes indicate a premature response to the case San Francisco versus EPA, which the Supreme Court has heard, but has not yet decided. EPA should be retaining these narrative provisions that were listed in the original permit. As they are an essential backstop that protect water quality and ensure compliance with codified state water quality standards.

Response 104

See Responses 80 and 90.

Q. Testimony Provided by Lois Cote, volunteer with NAACP Manchester, NH branch/Environment and Climate Environmental Justice Committee, January 21, 2025.

Comment 105

In my first 20 years of a relationship with the mighty Merrimack, it was one of the 10 most polluted rivers in the country, smelling bad and having weird colorations floating around. But I loved the river valley nonetheless, and I used to fantasize to imagine what it was like before it was settled and developed. Fortunately, the arrival of the Clean Water Act and the EPA's interventions started a cleanup that took decades but brought the river to the class B level (swim boat fish) and provided much better sourcing of drinking water for the communities downstream, now numbering probably about 700,000 people. Sadly, the Merrimack is at risk again. It's in danger of becoming dangerously polluted, and it has been more than a decade ago that increasing amounts of raw sewage were flowing in, partly at least, due to the aging and inadequate combined sewage overflow systems used during heavy rainwater events.

In the same period the wastewater treatment facility incinerator in which the sludge byproduct was burned, it was found to be inadequate and was releasing mercury into the air in unsafe amounts along with other pollutants. Thus, as I'm sure you know, Manchester had to remediate its incinerator, and is in a 20 year consent decree with you, in the fifth year of phase two, to resolve the CSO problems with a full upgrade of the system. And this is all good news.

Response 105

EPA acknowledges receipt of these comments.

Comment 106

But now we have PFAS. And why? Why is it that our response to this crisis is so often deer in the headlights, or a very slow move toward remediation and restriction of these substances? Is it because PFAS, unlike floating sewage is, they are invisible and odorless, allowing us to avoid accepting the real dangers? It took the Merrimack over 100 years to become the toxic soup of

my childhood, when an accidental dunk in it might cost you your life. PFAS have been with us since the 1940s. Are we not yet at a crisis level?

I'm a retired child and family therapist. A number of my clients lived in the two Manchester environmental justice tracks that you, EPA, monitor. Many of them had learning disabilities and childhood asthma. Some had early life lead exposure with the concomitant lifelong impairments. Now come the toxic almost forever chemicals, PFAS, adding to the environmental burden these families carry, spewed by the local incinerator into the air they breathe, and for the environmental justice communities of the 700,000 down river. Well, it comes in the water.

The first environment experienced by every human is the uterus. There is mounting evidence of in utero exposure to PFAS with some certainty regarding negative developmental impacts. What multigenerational harms are we risking and avoiding or further delaying, acting effectively to stop the threat of PFAS.

Response 106

EPA agrees that PFAS contamination is a serious threat to human health. See Response 49 and Response 92 and the other responses referenced therein.

R. Testimony Provided by Leslie Want, Resident of Manchester, NH

Comment 107

I am testifying to ask that the Manchester Wastewater Treatment Plant be required to test for PFAS, a forever chemical known to cause cancer and that we require companies that are sending their wastewater to Manchester to reduce or eliminate PFAS as a byproduct sent to the treatment plant.

The Manchester wastewater treatment plant is the only one in the state that incinerates its sludge sending harmful pollutants into the air of the surrounding neighborhoods. My son works less than a quarter of a mile from the treatment plant and has told me that on most days the air smells terrible. Not only does the water treatment plant send these pollutants into the air through incineration but dumps the overwhelming majority of them into the Merrimack River to be sent to the many communities downstream like the town of Merrimack and city of Nashua among others. It is important to stop carcinogenic pollutants like PFAS at the source because once they are in the environment, we are forever unable to remove them. For the most part, we don’t even know the magnitude of the problem because the wastewater treatment plan is not required to test for PFAS. It is time to make that change and require the data be collected so we understand the scope of the impact on not only the environment but our own health.

Please help our community by testing for PFAS. We know it is there but need a clearer understanding of the magnitude of the problem.

Response 107

EPA notes that Permit Part I.A.1 requires PFAS monitoring. See also Responses 1 and 50.

See Response 92 and the Responses referenced therein.

Regarding the incinerator, see Response 62.

R. Testimony Provided by Jose Tapia, Merrimack River Watershed Council

Comment 108

The incineration of sludge at the Manchester wastewater treatment plant concerns me as an individual and MRWC as an environmental organization and stakeholder. PFAS is widely accepted to be a forever chemical, derived from the industrial processes, and these can linger for thousands of years.

Treatment plants are always under scrutiny and have a thankless job, literally filtering excrement. But the wastewater treatment plant, Manchester is directly discharging PFAS into the Merrimack. It's a drinking source for over half a million people and it's spreading PFAS around this portion of the watershed through the incineration process of their sludge.

I believe the EPA should very strongly consider setting effluent limits and using whatever enforcement mechanisms it has to encourage or mandate source production from industry to mitigate the further spread of PFAS into New Hampshire and the rest of the country.

Response 108

See Responses 51-62.

S. Testimony Provided by Ricardo Cantu, OspreyOwl Environmental

Comment 109

December of this year of 2024, a month ago there was a proposal for a docket number for the Method 1633A, which has changed again. That's EPA-HQ-OW-2024-0328. So in that it states that while a method is not nationally required for clean water acceptance, the compliance monitoring until the EPA has promulgated it through rulemaking. So it actually hasn't been promulgated yet. There's not a final action on absorbable organic fluorine or PFAS. So the testing we're doing is legally indefensible. If we had to go to court for an industry or with the EPA or the EPA with the City of Manchester. We're waiting for that to happen, and it's the same thing under Method 1621. It says the same thing, that CWA compliance monitoring is not nationally required until the EPA has promulgated this through rulemaking. So those are 2 things that need to be done before this is officially used for compliance, compliance monitoring, setting limits.

Also, the EPA right now is doing a large PFAS study. It's been noted in the Federal Register on March 26, 2024. This was a study of the large plants over 10 MGD. I asked Rob at Manchester if he had been contacted to do that study. He said, no. I looked at a review of the PNAS site, and there were 8 large plants that service 70% of the population, water-wise, wastewater plants. So

they must be the big plants like Chicago, probably New Orleans, Houston. Things like that, but it says their names will remain anonymous until the study is done. Through that study they looked at the information that they gathered, and they found out that adsorbable organic fluorine actually measures a lot more pharmaceuticals than it does PFAS. It's about 10 to 12% PFAS and probably 70% well, it says less than 10%, and then the rest is pharmaceuticals, prescribed fluorinated pharmaceuticals. So that test really has no bearing on the PFAS to determine PFAS. It'll measure about 1,400 compounds. It can't determine which ones it is. So the adsorbable organic fluorine is kind of a really a worthless test in the scheme of things when you look at what it can do. And, as pointed out in that study as it's going is information on the study, the removal rates from the 8 plants. Things like that. But it doesn't look hopeful from what I read. So, I just wanted to make that clear. The Office of Management and Budget had said that the cost for the study, that study that they were going to do, was with 2 to 300 large plants within the country. And that's about 3% of the total, 15,000 plants that are in the United States. So what they want to do with the study is they're looking to do one set of PFAS sampling, influent, effluent, sludge.

You've required 4 of not only Manchester, but the small and medium general permits, and the EPA states in that study that there is only enough laboratories, 7, that they should only do about 700 samples every 4 months. They've taken the 200 plants they're looking at, they're doing 10 industrial samples, and they're going to break that down. So there's no capacity out there to do all this additional testing that the EPA is requiring. So that needs to be looked at seriously, because all of these plants that are being required to do this much PFAS sampling and adsorbable organic fluorine will not be able to find a facility that do those testing, so that needs to be looked at. Also the Office of Management and Budget said that it would take about 25,640 hours for those 200 plants at a cost of 5.5 million dollars. When you look at the cost of each test, it's about $2,115. Then the cost for a PFAS sample is about $500 and adsorbable fluorine is about $440. So it comes out to be about $3,055 a sample. And what you're requiring the 22 samples, it's about $67,000 a year that the wastewater plants are going to have to pay, and that's all of them. Not only Manchester, but all the other ones also.

Yesterday there was an executive order that was signed that actually eliminated Executive Order 14008, which was part of the climate crisis for home and abroad. So that impacts greatly. I'm moving on now to the rulemaking of what do you call that there the adaptation plan. But just one more thing, there was another executive order that actually asked that all rulemaking that has not been finalized be held up. So they're looking at 60 to 90 days until the new administration can review those policies and procedures. So at this point I don't know if you can actually get those rolling until they've been reduced. So those are probably being held for the time being.

And in the adaptation planning, there's a whole list of items that the EPA is looking to have completed. They referenced a Federal Register document of May of 1980. And I read through that. They talk about that it gives them the ability to enforce the regulations. I read through that register notice, and nowhere in there did it say anything about flooding or prevention of future flooding. It's basically the maintenance and operation of the plant: make sure it's working in good order, it's efficient that the treatment systems and controls are installed and

used appropriately. So it goes into proper operation and effective performance based on facility, removal, and design.

Now these facilities removals, we all know they've been designed 40-50 years ago, initially conventional treatment. Then they move to some tertiary treatment with phosphorus removal. They're looking at also nitrogen removal in the future. But it's harder and harder to take these plants and modify them for the type of work that they weren't initially intended for.

There was a document in 1940 that was written by the Department of the Interior and the Army Corps of Engineers. It was about the flooding from 1937, 1927, 1936, 1934. And as you read it, it sounds very similar to the document that's mentioned in 1980. It's called the Hurricane Floods in 1938, published by the USGS. And you go through that, it actually tells you about the curve numbers, intensity monitors, rain, climate. Everything that we have issues with today was spelled out in that document. So, I just don't know why that we didn't look at that when they were building the plants in the sixties and seventies. It's kind of tough that we're going. I had to do stuff that we should have done in the beginning, and the only people that suffer from that are the rate payers, because initially, it was 95% funded by the State and the Federal Government. Nowadays, it's funded basically by the communities borrowing through SRF funding.

Also, I looked at the there's a brick building resilience and infrastructure and communities, and they have a grant program. They have a 25 million dollars grant program. Fifty-six grants were awarded for general competition. Forty-nine were for justice, 40 communities, which is expected and reliable. Only 2 of those were for a wastewater resilience, 17.1 and 19.3. Those are for wastewater plants. Most of the grants were for safe rooms, protecting neighborhoods from flooding, securing collection system, piping, wildfire mitigation. And going through those, everything mentioned, the baseline conditions of a 100-year flood. There wasn't 1 grant that was mentioned for the 500-year flood. So any adaptation plan that's put into the permit, the EPA is looking for resilience up to the 500-year flood. That is not anything that I've seen in any of these brick releases, the money that's been funded. There's 25 million dollars that's in funding each year, and it really says it's for eligible plants. And nowhere in that does it say that it's for NPDES. So it's really not a requirement. The EPA cites a lot of law that says it's required, but we don't see that in there at all. It's just that when you read the law itself, there's nothing mentioned about flooding or flood resiliency.

And then the final thing on the benthic study. EPA along with the State of New Hampshire and the State of Massachusetts, a document in 1987 called The Merrimack River Watershed Protection Initiative. And in that time, they said in the sixties, that the Merrimack was one of the 10 most polluted rivers in the nation, which it was. On page 8, it says that in 1965 there were rafts, decomposing material, floating along the Contoocook River, and that the Benthic fauna and the pollution sensitive species around Concord area were not found. So the pollution was very severe. As you get reading that further, it goes on, and it says that a lot of that was caused by road salt, urban runoff, contaminated spills, tanker trucks overturning next to the river, contaminated groundwater, agricultural farms, underground storage tanks, industrial landfills, hazardous waste sites, road salts, etc. And then it says in wastewater treatment plants

are also, if there's an ever-present possibility from the industrial municipal wastewater treatment plant if they're running with poor maintenance practices, irregularities. So I would say that in the Fact Sheet, I would like to see at least one instance where a benthic problem was found from a treatment plant and the study. I think that it's just that they're about $30,000 to do these studies. So they're not cheap.

And the book says that in 1987, when it was written, that the class B was attained and everything looked fine in the Merrimack River. This was in 1987. In that book it was written again by the EPA, the State of Massachusetts, and the State of New Hampshire. So what changed between 1987 and today, that's what we need to know. And I would like to see that explained further in the fact sheet rather than just go on an expedition to do this additional sampling.

And then just another thing on the ammonia reduction to 10.4. You're looking to set that in there the 95th percentile was 21.8. The difference is 11.6. If you look at what that generates for carbon footprint, when you remove ammonia, you're actually nitrifying and denitrifying, which releases nitrous oxide. Nitrous oxide is 3 times more potent a greenhouse gas than carbon dioxide. So when you're sending that up into the atmosphere, you're actually going to create about 7,000 tons a year of carbon dioxide equivalent in order to treat ammonia, that the CDM Study, that was paid for by the Army Corps of Engineers from 2003 to 2012, actually looked at the river and said there were really no major problems, even minor problems, with ammonia contamination, nitrogen, or phosphorus. So you're looking, you're actually like the folks said with the PFAS, you're creating a worse problem for the atmosphere, the climate change, by trying to treat down to these low levels for ammonia and phosphorus. So there needs to be an actual model to look at those and see cause and effect and benefit. Benefit versus pros and cons.

Response 109

Regarding Methods 1633A and 1621, see Responses 1 and 74.

Regarding lab availability, see Response 35.

Regarding cost, see Response 2.

Regarding the Adaptation Plan, see Response 3.

Regarding the benthic survey, see Response 71.

Regarding ammonia reduction and nitrous oxide, see Response 79.

T. Testimony Provided by Hayley Jones, Slingshot

Comment 110

Good evening, everybody. My name is Hayley Jones. I use they and them pronouns, and I am the Vermont and New Hampshire State Director, with Slingshot, which is an environmental health and justice organization.

We work alongside 50 community groups across the northeast to tackle some of the most pressing pollution threats of our time, including the devastating PFAS contamination crisis.

Since receiving the first call back in 2016 about elevated PFOS levels in North Bennington's drinking water, we've been supporting communities most impacted by this public health crisis, whether they be firefighters, military veterans, or simply families living downstream from really notorious polluters like St. Gobain.

For years we've been seeing the horrific impacts of this contamination, including, but not limited to, hormone disruption, liver and thyroid problems and numerous types of cancer. So as a community organizer with significant experience in this field, I am concerned about the toxic forever chemicals spewing from Manchester's wastewater treatment facility and its on-site incinerator. So I'm here, along with the folks who have spoken before me, to request that the EPA significantly strengthen the PFAS provisions and environmental justice considerations in Manchester's final Clean Water Act permit.

First of all, we're asking that the EPA follow its own policy from 2024 and carry out an environmental justice analysis before finalizing the permit.

The agency must fully consider and include permit measures that address the impact of the facilities pollution, particularly on communities that are facing compounding environmental health burdens. Yes, we're talking about Manchester, but we're also thinking about Nashua, Lowell, Lawrence, and Haverhill, cities that are well known to meet several of the Federal criteria for environmental justice communities.

Secondly, we ask that the EPA not only use all available data to set health protective PFAS limits on the discharges from this Manchester facility, but also to look upstream at industries that are employing these toxic forever chemicals.

We've done the research, and under New Hampshire law the City does have clear authority to strengthen monitoring and source reduction requirements for industrial users, which means that we can be reducing PFAS loads before they're even coming to the facility for treatment.

Finally, we're calling on the EPA to require monitoring and reporting of PFAS emissions from the facility's sludge incinerator and ideally move towards a phase out of this technology. We've known for decades that burning our waste really only makes our problems worse. We're creating often highly concentrated toxic ash that then gets buried in landfills regardless, or we're just blowing the original pollutants out of smokestacks and into people's lungs.

So to all the EPA officials present, thank you so much for holding this hearing. And we at Slingshot hope that you'll consider this permit renewal as an opportunity to carry out your current Federal mandate of safeguarding human and environmental health in order to protect the vulnerable communities of New Hampshire, Massachusetts, and beyond. We urge you to place even more stringent guardrails on this permit.

Response 110

See Responses 49, 51-56, 58-60, and 62.

U. Andrea Amico, Co-founder, Testing for Pease

These oral comments provided at the public hearing were identical to Comments 92-96. See Responses 92-96.

V. Testimony Provided by Colleen Naus, Citizen

Comment 111

First of all, I want to thank the EPA and all of you who are so much more knowledgeable about this than me. I recently, just months ago, found out about the incinerator. I do live within the two-mile radius. and myself, and most of my neighbors, had no idea that the incinerator is burning toxic sludge.

Some of the things that I've read from Jillian's report, and other places, that Manchester was allowing very toxic sludge being shipped in from many industrial places. Some of that has stopped.

We have so much toxic sludge, and now we're burning it in my own neighborhood, and we had no idea we were breathing this toxic substance.

So, I just am learning more about it, and I am hoping, like when I grew up in Nashua in the seventies and in the late eighties, the EPA helped me in cleaning up some of the, not the toxic, but the asbestos dump site, and I'm hoping that you'll step in to help us again, because it just is scary how toxic this stuff is, or we don't know how bad and toxic it is unless you test it.

I recently had a water waste main pipe break on my road. It goes from the Water Waste Company partially treated wastewater over to the Energy Company for cooling. I am telling you, when that pipe broke, there was stuff that came out of it. I got sick, I got eye infections, and it was almost impossible to look to find out exactly what was in it. So I don't feel confident that it's really transparent. You know one person saying you may not want to eat your vegetables, or you know the high levels of chlorine, or this, and I can tell you it was stuck, and still some is from September to now, after rain, snow. So that scares me, and that's how I was led on to finding out about this, and had no idea. And I hope the EPA will step in to protect us and be transparent about finding solutions, and maybe, you know, talking to limiting the amount of industrial waste that is being dumped down there for us to breathe, and into the water that I was drinking as well (I grew up in Nashua).

Response 111

EPA appreciates the concerns raised by the commenter regarding the impact of PFAS on public health. See Response 92 and the other responses referenced therein.