

New Hampshire Department of Environmental Services
Response to Comments
Water Quality Certification 2025-NH0100447
Manchester Wastewater Treatment Facility Individual NPDES Permit (NH0100447)
May 13, 2025

From January 9, 2025 through February 8, 2025, the New Hampshire Department of Environmental Services (NHDES) Wastewater Engineering Bureau (WWEB) solicited public comments on a draft version of Water Quality Certification 2025-NH0100447 (Certification) for the U.S. Environmental Protection Agency's (EPA) Manchester Wastewater Treatment Facility (WWTF) Individual National Pollutant Discharge Elimination System (NPDES) Permit (NH0100447). NHDES is preparing the Certification in response to a request from EPA in accordance with Clean Water Act Section 401(a)(1) and pursuant to 40 CFR Section 124.55. The purpose of the Certification is to ensure that the Manchester WWTF Individual NPDES Permit is drafted in a manner that complies with New Hampshire's surface water quality standards specified under [Title L RSA 485-A](#) and [New Hampshire Code of Administrative Rules Env-Wq 1700](#).

During the public comment period, NHDES received comments from Jillian Aicher and Tom Irwin of Conservation Law Foundation. In the first section of this document, NHDES includes the comments that NHDES received in italicized font and provides responses to those comments in plain text.

The comments below were copied into this document and do not contain all original images, formatting, footnotes, links, and/or attachments. To obtain an original copy of the comments that were submitted to NHDES, please contact Hayley Franz at hayley.g.franz@des.nh.gov or [\(603\) 271-0671](tel:(603)271-0671).

NHDES revised the Certification as a result of comments received on the draft Certification and summarizes the revisions at the end of this document.

The final Certification and this Response to Comments document are posted on [NHDES' website](#). If you have questions regarding the final Certification or have difficulty accessing a copy, please contact Hayley Franz at [\(603\) 271-0671](tel:(603)271-0671) or hayley.g.franz@des.nh.gov.

Response to Comments

A. Comments from Jillian Aicher and Tom Irwin – Conservation Law Foundation (“CLF”)

A-1. *The Department Must Consider and Address Record Evidence of PFAS Discharges and Emissions, Revise its Certification Evaluation, and Deny Certification Based on PFAS Contributions.*

COMMENT: The draft 401 certification fails to evaluate the water quality impacts of, or even mention, PFAS contributions from the Manchester WWTF and its incinerator. Thus, the Department ostensibly failed to “develop a record to support its determination that an activity will or will not comply with applicable water quality requirements” with respect to PFAS.

NHDES Response:

EPA is the permitting authority for NPDES permits in New Hampshire. Per 40 CFR 122.44, the permitting authority is required to include permit limits and conditions in NPDES permits that will ensure state and federal water quality standards applicable to the designated receiving water are met. They prepare either a fact sheet or a statement of basis for draft permits, per 40 CFR 124.7 and 124.8, which explain in detail how the draft permit will ensure state and federal water quality standards are met.

EPA posted a draft individual NPDES permit for the Manchester WWTF, with a corresponding fact sheet, for public notice from April 10, 2024 through May 10, 2024 ("original draft permit"). They later posted a revised draft individual NPDES permit for the Manchester WWTF, with a corresponding statement of basis, from December 18, 2024 through February 3, 2025 ("revised draft permit"). The explanations of how the draft permit and revised draft permit meet state and federal water quality standards were included in these documents. NHDES' Certification provided a link to these documents and included all information required by the federal regulations in 40 CFR 121.7(d).

The "record to support its determination that an activity will or will not comply with applicable water quality requirements" with respect to PFAS is included on pages 33-35 of EPA's fact sheet for the original draft permit¹, which is linked in the Certification.

In addition, see the response below discussing NHDES' additional review based on revisions to state water quality standards since the public notice of EPA's draft permits and the Certification.

*COMMENT: To the contrary, the Department granted certification on June 6, 2024 in a brief, one-page document stating that "[t]he permit, as currently written, will ensure" compliance with water quality standards and that "no conditions" in the Original Draft Permit "can be made less stringent[.]" Then, when EPA issued a Revised Draft Permit with less stringent provisions that omit narrative limitations, the Department issued a brief, five-page draft certification only 22 days later. The brevity of both certification documents, the Department's failure to address water quality impacts of PFAS, and the Department's proposal to grant certification of a less protective Revised Draft Permit despite the Department's initial statement that the permit cannot "be made less stringent" indicate that the Department "pre-determined" the certification result before evaluating the water quality impacts of the Manchester WWTF and its incinerator. See *Islander E. Pipeline Co., LLC v. McCarthy*, 525 F.3d 141, 149 (2d Cir. 2008). These factors, individually and collectively, would render finalization of the draft certification unlawful and unreasonable.*

¹ <https://www.epa.gov/system/files/documents/2024-04/draftnh0100447permit-2024.pdf>

NHDES Response:

As discussed above, NHDES provided a link in the Certification to EPA's original draft permit and fact sheet and revised draft permit and statement of basis, which explain in detail how the draft permits will ensure state and federal water quality standards are met. The Certification includes all information required by the federal regulations in 40 CFR 121.7(d).

EPA can no longer include end result conditions in permits, per *City and County of San Francisco, California v. Environmental Protection Agency*, 604 U.S. ____ (March 4, 2025)². As such, EPA replaced the end result provisions in the original draft permit with alternative requirements in the revised draft permit and explained how those alternative requirements will continue to protect water quality standards in the revised draft permit's statement of basis. NHDES concurred with EPA's assessment that the alternative provisions are equally or more protective than the provisions they replaced.

COMMENT: The Department's draft certification is also premised on standards that are outdated and contrary to the language of EPA's current regulations. The Department must conduct an evaluation consistent with existing regulatory requirements and, after doing so, must deny certification due to the PFAS-related impacts of the WWTF on the Merrimack River.

First, the draft certification is incorrectly premised on "reasonable assurance" language, stating that "the permit will provide reasonable assurance that the discharges will comply with New Hampshire's surface water quality standards[.]" However, as detailed above, EPA explicitly removed the "reasonable assurance" phrase from 401 certification regulations. The statute requires the certifying state to determine that the permittee "will comply" with water quality requirements, 33 U.S.C. § 1341(a)(1), (d), and the current rules intentionally include the "will comply" language as well. 40 C.F.R. § 121.7(c)–(e). That language places a higher burden on the state to scrutinize water quality impacts of the activity at issue and to protect the state's surface water resources. The Department must therefore analyze whether the WWTF's operations under the Revised Draft NPDES permit—including its releases of PFAS with no effluent limits or source control requirements—"will comply" with state surface water quality standards prohibiting harmful levels of toxic pollutants and protecting fish consumption and aquatic life.

NHDES Response:

Each condition in the Certification notes that "*This condition assures compliance with [RSA citation].*" The "reasonable assurance" language that introduces the conditions was inserted due to a drafting error when NHDES changed the format of the Certification, and it does not reflect a

² https://www.supremecourt.gov/opinions/24pdf/23-753_f2bh.pdf

change in the quality or conclusions of the review. The “reasonable assurance” language has been corrected in the final certification as noted in the Summary of Changes below.

See the discussions above and below regarding EPA and NHDES’ evaluation of PFAS from the Manchester WWTF’s discharge.

COMMENT: In addition, the draft certification indicates that the Department considered only the impact of the WWTF’s discharge—rather than all WWTF activities, including sewage sludge incineration—in its evaluation. The draft certification states that “the permit will provide reasonable assurance that the discharges will comply with New Hampshire’s surface water quality standards[.]” The current rules, however, require states to consider not only the water quality impacts of discharges, but also all water quality impacts of the permitted activity. The Department must therefore consider the impacts of the WWTF’s discharges of PFAS, and the incinerator’s emissions of PFAS, on the Merrimack River.

NHDES Response:

40 CFR 121.3 states, “The certifying authority’s evaluation is limited to the water quality-related impacts from the activity subject to the Federal license or permit, including the activity’s construction and operation.”

Therefore, NHDES limited its evaluation to the permitted activities. Other activities from the facility with water quality impacts may be covered under separate permits. For example, stormwater discharges from the facility are authorized under EPA’s Multi-Sector General Permit (NHR053125).

The information provided by permittee, EPA, and the commenters did not indicate water quality impacts from Fluidized Bed Incinerator (FBI) emissions.

The commentors provide as CLF Exhibit B a copy of a study, Brannon A. Seay *et. al.*, *Per- and polyfluoroalkyl substances fate and transport at a wastewater treatment plant with a collocated sewage sludge incinerator*, 493 *Science of the Total Environment*, 162356 (August 1, 2024). The study is relevant in that it appears to involve the Manchester WWTF. The study’s authors concluded, “Nearly all environmental discharges of PFAS from the WWTP went to the adjacent river, with <0.5% being landfilled or emitted to the atmosphere. Consistent with these results, dispersion modeling showed the stack gas plume’s contribution to ambient air PFAS concentrations within the modeled domain were negligible on both study days.” This conclusion that the ambient air concentrations from the FBI were negligible does not indicate the need for certification conditions relating water quality impacts from the FBI emissions. The commenters did not provide any additional information or data supporting the need for certification conditions, or separate permit coverage, related to water quality impacts from the FBI emissions.

COMMENT: After evaluating the impacts of the WWTF's PFAS discharges and emissions based on data in the attached exhibits and otherwise collected by the Department as part of its analysis, the Department must deny certification, or at least condition certification on PFAS effluent limitations and source control, because it cannot determine that the Manchester WWTF will comply with state water quality standards. Both the narrative toxics standard and the designated use provisions require water quality that is safe for human health (including fish consumption) and aquatic life. The PFAS compounds detected in the Manchester WWTF's effluent likely contribute to violations of those standards.

For example, PFOS has been detected in edible fish in the Merrimack River at levels reaching 7.914 parts per billion (ppb). That level is harmful if consumed, as it closely approaches the 8.41 ppb level at which eating one standard serving of fish is equivalent to drinking water at 2,400 times EPA's PFOS health advisory level for an entire month. Given that the WWTF has discharged PFOS into the Merrimack River since the City began monitoring in 2019 (and likely since a much earlier time), the WWTF is likely contributing to those harmful concentrations in violation of New Hampshire's narrative toxics standard and fish consumption designated use. The EPA's Draft Permit for the WWTF contains no effluent limits or source control measures to reduce the PFAS entering or exiting the WWTF; thus, the permit will not remedy the harmful water quality impacts of the WWTF's PFAS contributions.

Because the Department cannot certify that the permitted WWTF and incineration activities will comply with water quality requirements considering PFAS discharges and air emissions from the Manchester WWTF, the Department must deny 401 certification or condition certification upon EPA including appropriately protective effluent limitations or source control measures for PFAS. See 33 U.S.C. § 1341(a)(1), (d).

NHDES Response:

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 apply as the surface water quality criteria in the Merrimack River at the location of the Manchester WWTF outfall.

In CLF Exhibit A, the commenters provided data that is referenced as "City of Manchester WWTF PFAS Monitoring Reports (2019-2023)" in the commenters' letter. The data was provided in summary format and did not include lab reports to verify the data. These reports were not

provided to NHDES upon request. NHDES notes that any Certification condition would need to be based on verified data.

However, NHDES reviewed the provided data summary to evaluate if the data, assuming it were verified, would result in the need for effluent permit limits for the Manchester WWTF. NHDES completed this evaluation using EPA's "Reasonable Potential and Limits Calculations" methodology outlined in Appendix B of the fact sheet for the original draft permit. In lieu of the 7Q10 flow upstream of the outfall, NHDES used the harmonic mean flow of the Merrimack River upstream of the outfall per Env-Wq 1705.02 (c), which says, "For non-tidal rivers and streams, permit limits for all human health criteria for carcinogens shall be developed based on the long-term harmonic mean flow, which is the number of daily flow measurements divided by the sum of the reciprocals of the daily flows." This flow was calculated using data from the USGS Merrimack River at Manchester, NH stream gage (01090500). NHDES' Environmental Monitoring Database contains one sample for the four PFAS parameters on the Merrimack River upstream of the Manchester WWTF at Station 27-MER on August 18, 2017. All parameters were non-detect, resulting in the use of zero as the upstream concentration. The results of this evaluation are summarized in Table 1 below and 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.

Table 1. Manchester WWTF Effluent PFAS Reasonable Potential Evaluation

Parameter	Q_d	C_d	Q_s	C_s	Q_r=Q_d+Q_s	C_r=(Q_dC_d+Q_sC_s)/Q_r	MCL	MCL*0.9	Reasonable Potential
Units	cfs	ng/L	cfs	ng/L	cfs	ng/L	ng/l	ng/l	C_r>MCL*0.9
PFNA	53	0.0	3004	0	3057	0.00	11	10	No
PFHxS	53	7.6	3004	0	3057	0.131	18.0	16.2	No
PFOA	53	18.4	3004	0	3057	0.317	12	10.8	No
PFOS	53	16.4	3004	0	3057	0.282	15	13.5	No

Q_d = permitted discharge flow of the Manchester WWTF

Q_s = harmonic mean flow of the Merrimack River upstream of the Manchester WWTF

Q_r = resulting flow in the Merrimack River downstream of the Manchester WWTF

C_d = concentration of the pollutant in the Manchester WWTF effluent

C_s = concentration of the pollutant in the Merrimack River upstream of the Manchester WWTF

C_r = resulting concentration of the pollutant in the Merrimack River downstream of the Manchester WWTF

The revised draft permit requires the facility to conduct quarterly influent and effluent sampling of 40 PFAS parameters. This data will be used to continue to monitor and evaluate the need for permit limitations.

It also requires annual sampling of certain industrial users for the same 40 PFAS parameters, and the submittal of a summary of those sampling results in an annual report.

The results of this evaluation show that no revisions are needed to the final Certification, and the Manchester WWTF individual NPDES permit will ensure compliance with water quality standards.

A-2. *The Department Must Strengthen Conditions in Any Future 401 Certification for the Manchester WWTF NPDES Permit.*

COMMENT: The Department’s draft certification conditions do not ensure that the WWTF’s activities will comply with New Hampshire’s water quality standards. Any future certification for the Manchester WWTF’s NPDES Permit must update its conditions to ensure compliance, as set forth below.

First, the Department’s certification conditions should account for the fact that EPA’s Revised Draft Permit removed narrative provisions, constraining EPA’s ability to ensure compliance with New Hampshire’s water quality standards and criteria through the permit. For example, as described in CLF’s January 30, 2025 comments on the Revised Draft Permit, appended as Exhibit D, the Revised Draft Permit removed a narrative provision from the Original Draft NPDES Permit that stated: “The discharge shall not cause a violation of the water quality standards of the receiving water.” The Revised Draft Permit also removed a provision that incorporated the language of New Hampshire’s narrative criteria for toxic pollutants.

*In place of the narrative provisions, the Revised Draft Permit includes enhanced Whole Effluent Toxicity requirements and a Pollutant Scan for specified pollutants. However, EPA implicitly recognized that the new monitoring provisions do not cover all pollutants encapsulated by the state narrative water quality standards. The agency’s Revised Draft Permit 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.” The narrative provisions in the Original Draft Permit, on the other hand, covered 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 Department’s draft certification fails to respond to, or address in any way, the Revised Draft Permit’s elimination of narrative provisions directly pertaining to the state’s surface water quality standards. Rather, the conditions cite only two statutory provisions and two regulatory provisions, without explaining how the certification conditions will ensure compliance with the remaining state water quality standards and criteria. The Department’s failure to address the

removal of narrative provisions pertaining to the state's surface water quality standards directly conflicts with the statement in the June 10, 2024 certification for the Original Draft Permit that "no conditions" in the Original Draft Permit "can be made less stringent[.]" To ensure that the permitted activity will comply with New Hampshire's water quality standards, in a future certification, the Department must include a condition stating that "The discharge shall not cause or contribute to a violation of the water quality standards of the receiving water."

NHDES Response:

See response to Comment A-1. Discussion regarding the replacement of the end result provisions with alternative provisions is included in EPA's statement of basis for the revised draft permit, which was linked in the draft Certification. DES concurs with EPA's assessment that these alternative provisions are equally or more protective than the provisions they replaced.

COMMENT: Second, the Department's revision to EPA's proposed benthic study permit requirement conflicts with the purpose of 401 certification to ensure compliance with water quality standards. The Department's proposed revision also incorrectly interprets the state water quality regulations it references. The proposed revision would remove an automatic permit requirement that Manchester WWTF conduct a benthic survey and would add a prerequisite to trigger the study requirement. The proposed prerequisite is a notification from the Department or EPA that benthic deposits are "known or suspected to have a detrimental impact on downstream benthic communities."

The Department states that the permit's effluent limitations on total suspended solids and metals already protect the benthic community near the WWTF's outfall and "meet surface water quality standards, specifically those in Env-Wq 1703.03(c)(1)(a) and 1703.08." However, neither Env-Wq 1703.03(c)(1)(a) nor 1703.08 narrowly apply to total suspended solids, metals, or other pollutants with specific numeric limitations in the permit. Rather, Env-Wq 1703.03(c)(1)(a) states that surface water shall be "free from substances in kind or quantity" that form harmful benthic deposits, and 1703.08(b) requires that "Class B waters shall contain no benthic deposits that have a detrimental impact on the benthic community, unless naturally occurring." Without an automatically-required benthic survey, the Department and EPA cannot make the requisite identification of harmful benthic deposits, rendering the proposed revision valueless for ensuring water quality standard compliance.

NHDES Response:

The Manchester WWTF's current permit includes a requirement that the "discharge shall be adequately treated to ensure that the surface water remains free from pollutants in concentrations or combinations that settle to form harmful deposits." EPA's original draft permit included requirements that the "discharge shall be free from substances in kind or quantity that settle to form harmful benthic deposits" and that the "discharge shall not result in benthic deposits that have a detrimental impact on the benthic community."

These requirements were included in accordance with Env-Wq 1703.03(c)(1)(a) which requires “All surface waters shall be free from substances in kind or quantity that settle to form harmful benthic deposits” and 1703.08 which requires that “Class B waters shall contain no benthic deposits that have a detrimental impact on the benthic community, unless naturally occurring.”

As these provisions were included as end result requirements without specified monitoring, compliance action related to a violation of these requirements would be initiated by an observation or evidence from the permittee, the regulatory agencies, or the public. In this way, NHDES’ proposed language requiring a triggering event to initiate a benthic survey is as protective as the above referenced permit language. Section I.G.5, with NHDES’ proposed language, is then more protective than the above referenced permit language by requiring the benthic survey as a specific path forward to address a potential violation. The benthic survey requirements are outlined in the permit and the survey is to be completed by a certified professional macroinvertebrate taxonomist. The resulting data, prepared by a certified professional, can help to determine if a violation of the above referenced water quality standards has occurred and if the facility may be contributing to that violation. If a violation has occurred and the facility may be contributing to the violation, EPA and/or NHDES will have data to determine appropriate action.

Adding further protection is EPA’s addition of monthly aesthetics monitoring to Part I.A.1, which requires the permittee to “conduct a visual inspection of the receiving water in the vicinity of the outfall and report any changes in the receiving water that may be caused by...the presence or absence of any visible settleable solids.” This reporting will ensure continuous monitoring that will provide information to EPA and NHDES on whether there may be deposits from the discharge that may be impacting the downstream benthic communities. This will be the minimum level of monitoring, and it can be supplemented by additional information from the permittee or other interested parties.

As discussed in NHDES’ draft Certification, the permit already includes effluent limitations, such as, but not limited to, metals and total suspended solids. Other limits include flow, CBOD, pH, Escherichia coli, total phosphorus, ammonia, and whole effluent toxicity. The permit also includes numerous other monitoring requirements so that EPA and NHDES can continue to assess the need for any additional limitations. NHDES has not received any evidence to date that the cumulative effect of all effluent limitations and monitoring requirements is not sufficiently protective of the benthic environment. The commenter has not provided specific concerns regarding benthic community health in the vicinity of the Manchester WWTF outfall, or data or observational evidence to support those concerns.

Therefore, NHDES has determined that the permit with the revision to Part I.G.5 included in the draft Certification will assure compliance with New Hampshire’s surface water quality standards and state law.

NHDES determined it is important to note this way in which the draft permit can be made less stringent without violating water quality standards. Requiring an expensive and time-consuming benthic survey for a wastewater treatment facility without justified concern for the benthic community health downstream of the facility is excessive and more than what is necessary to ensure that the discharge will comply with New Hampshire's surface water quality standards in the receiving water.

COMMENT: Third, DES should include a condition requiring PFAS monitoring of fish in the receiving water of the Manchester WWTF using method 1633. As discussed above, data shows that the Manchester WWTF discharges and emits PFAS, which can bioaccumulate in aquatic life to levels that harm humans and water quality. In addition, EPA has recommended that states monitor several PFAS compounds in fish and shellfish that "have been found to occur in the edible tissue of fish and shellfish at concentrations that may be of concern for human health."

NHDES Response:

See response to Comment A-1, discussing NHDES' reasonable potential evaluation using the current Protection of Human Health Water and Fish Ingestion criteria for PFAS in New Hampshire Code of Administrative Rules Env-Wq 1700.

Summary of Changes to the Certification

1. Revision of Section A. Introduction

Per NHDES' response to Comment A-1, NHDES has made changes, indicated in bold below, to Section A of the Certification.

The purpose of the certification is to ~~ensure provide reasonable assurance~~ that the Manchester WWTF Individual NPDES Permit is drafted in a manner that complies with New Hampshire's surface water quality standards specified under Title L RSA 485-A and New Hampshire Code of Administrative Rules Env-Wq 1700.

2. Revision of Section C. Decision

Per NHDES' response to Comment A-1, NHDES has made changes, indicated in bold below, to Section C of the Certification.

*Based on a review of the draft permit, and subject to conditions included herein, NHDES has determined that the permit, **as currently written**, will ~~ensure provide reasonable assurance~~ that the discharges will comply with New Hampshire's surface water quality standards specified under Title L RSA 485-A and New Hampshire Code of Administrative Rules Env-Wq 1700. NHDES hereby grants this certification in accordance with 40 CFR 121.7(d) and 40 CFR 124.53(e), subject to the conditions in Section D. CERTIFICATION CONDITIONS.*

3. Revision of Section D. Certification Conditions

Per NHDES' response to Comment A-1, NHDES has made changes, indicated in bold below, to Section D of the Certification.

The following conditions shall be included in the permit to ~~ensure provide reasonable assurance~~ that the discharges will comply with New Hampshire's surface water quality standards:....

4. Revision of Item 2 in Section E. 40 CFR 124.53(e) Statements

As a result of public comments received on Draft Water Quality Certification 2024-NHG590000 for EPA's Medium Wastewater Treatment Facility General NPDES Permit, NHDES has made minor changes, underlined below, to the proposed revision to Part I.G.5 Benthic Survey.

During the third calendar quarter (i.e., July through September) that begins at least 12 months after the effective date of the permit. 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 once per permit term to assess those impacts from the discharge 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.