

**BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.**

In re: City of Portsmouth, New Hampshire
NPDES Permit No. NH0109000

Case No. _____

PETITION FOR REVIEW

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INTRODUCTION

Pursuant to 40 C.F.R. §124.19(a) the City of Portsmouth, a municipality of the State of New Hampshire (“Petitioner” or “City”), petitions for review of the conditions of NPDES Permit No. NH0109000 (the “Permit”), which was issued to the City on August 8 by the U.S. Environmental Protection Agency, Region 1 (“EPA” or the “Region”). The Permit was received by the City via electronic mail on August 8.

The NPDES Permit in effect prior to the reissuance was issued by EPA on August 8, 2000, and the City timely applied for reissuance prior to the nominal expiration date of September 30, 2005. By EPA regulation the Permit remained in effect until the November 1, 2022 effective date of this reissuance.

The Permit at issue in this proceeding authorizes the City to continue to discharge treated wastewaters to surface waters of the United States and to allow for a necessary upgrade and expansion to meet the growing commercial and industrial needs of the Pease International Tradeport, one of the economic engines of the State of New Hampshire.

The appeal of this Permit should not be construed as any hesitancy on the part of the City of Portsmouth to take its environmental responsibilities seriously. To the contrary, as an Eco-Municipality since 2007, with two wastewater treatment facilities and a historically combined sewer system, Portsmouth has invested over \$200,000,000 in wastewater infrastructure over the last 20 years. That investment included a \$90 million investment in a state-of-the-art, multiple award-winning treatment facility at Peirce Island. That facility, which became operational in early 2020 in spite of Covid-19 pandemic challenges, has been performing remarkably well in spite of wastewater operator labor shortages, supply issues, and increasing costs for chemicals and energy. These investments are significant for a

community of only 22,000 and have resulted in reduced local flooding, fewer combined sewer overflows, and reduced nutrient pollution to the Piscataqua River Estuary. The City of Portsmouth has also been, and will remain, a leader in the Municipal Alliance for Adaptive Management, which is an organization of seven municipalities and towns dedicated to implementing and working under the innovative Great Bay Total Nitrogen Permit issued by EPA Region 1 in 2020.

The City of Portsmouth has identified an additional \$60,000,000 in upgrades in potential upgrades at the Pease Wastewater Treatment Facility. The appeal of this Permit in no way changes the City of Portsmouth's commitment to environmental leadership.

Petitioner contends that certain permit conditions are based on clearly erroneous findings of fact and conclusions of law. These crucial errors leave the City with a Permit that includes requirements and provisions that are in part arbitrary and capricious and otherwise not in compliance with law; that exceed EPA's legal authority; that are unnecessary, counterproductive, and not consistent with the efficient and effective protection of water quality; and that impose inconsistent compliance requirements.

Several of the issues the City presents are of national significance, and merit the Environmental Appeal Board's approval of our request herein for oral argument before the Board.

Specifically, Petitioner challenges the following Permit conditions.

1. Rolling Annual Average Effluent Flow, Permit Part I.A.1
2. Daily Maximum BOD & TSS Limits, Permit Part I.A.1
3. BOD & TSS Loading Limits at 1.77 mgd, Permit Part I.A.1
4. Instream Mixing/Dilution Analysis, Permit generally

5. General Water Quality Standards Compliance Language, Permit Part I.A.2
6. Total Residual Chlorine Limits, Permit Part I.A.1

As detailed in the Conclusion, the City requests the opportunity for oral argument before the Board. The City bases this request on (1) EPA Region 1 imposition of permit provisions inconsistent with EPA's national NPDES program regulations; and (2) inconsistencies nationally and within Region 1 in NPDES permit monitoring, general water quality standards compliance provisions, and other permit provisions.

THRESHOLD AND PROCEDURAL REQUIREMENTS

The Petitioner satisfies the threshold requirements for filing a Petition for Review under 40 C.F.R. Part 124, to wit:

1. Petitioner has standing to petition for review of the Permit because it is the permittee and is thereby particularly affected by the conditions of the Permit, and it participated in the public comment period on the Permit. *See* 40 C.F.R. §124.19(a). The City's written comments will be included by the Region in the Administrative Record.
2. The issues raised by Portsmouth in its Petition were raised during the public comment period, and were therefore preserved for review. *See* Response to Comments (EPA Region 1).

FACTUAL AND STATUTORY BACKGROUND

The Permit addresses and authorizes the treated wastewater discharges from the City's Pease Wastewater Treatment Facility ("WWTF") and the City's wastewater collection system, including an expansion in wastewater treatment capacity from the current 1.2 million gallons per day ("mgd") to 1.77 mgd.

The City operates a separate sanitary sewer collection system. The receiving water is

the Piscataqua River in the Piscataqua-Salmon Falls River Basin.

ISSUES PRESENTED FOR REVIEW

The City of Portsmouth presents the following issues for review.

1. Rolling Annual Average Effluent Flow
2. Daily Maximum BOD & TSS Limits
3. BOD & TSS Loading Limits at 1.77 mgd
4. Instream Mixing/Dilution Analysis
5. General Water Quality Standards Compliance Language
6. Total Residual Chlorine Limits

ARGUMENT

1. Rolling Annual Average Effluent Flow

At Permit Part I.A.1 and footnote 5 the Region imposes a rolling annual average treated effluent discharge volume of 1.2 and 1.77 mgd for the current and expanded wastewater facility. These numeric Permit limitations (as opposed to effluent volume monitoring and reporting requirements) are arbitrary and capricious, not in accordance with law, and they are contrary to standard good facility operations and management practices that contribute positively to water quality in the receiving waters.

The Region's Response to Comments (Response 2, paragraphs two (2) through five (5) on City's objections) asserted that the numeric effluent flow limitations are necessary to control discharge of pollutant parameters to proper levels. In fact, flow limits are wholly unnecessary given the imposed mass and concentration limits for specific pollutant parameters, which are based on the maximum design flow statistics and worst case instream drought level flows. In other words, all of the relevant pollutant parameters for which the Region has determined a necessity for limitations are limited as (1) mass or (2) mass and concentration, the mass calculation based on the 1.2 or 1.77 mgd design flow. If effluent flow should exceed the design flow statistic, the mass-based limit necessarily also restricts discharge to a proper concentration.

The City's principal objection focuses on the mutual exclusivity of maximum effluent flow and instream critical low flow conditions, a fact that undermines nearly all of the Region's Fact Sheet arguments about ensuring that flows above the design statistic are not discharged during "worst case conditions." The City demonstrated this mutual exclusivity both rationally and by reference to all of the relevant Pease WWTP data. The Region asserts in response, *see e.g.* Response 2, paragraph nine (9), that this mutual exclusivity is not necessarily the case. This theoretical worst case argument is arbitrary, and in any event serves no purpose in limiting the discharge of pollutant parameters in light of the structure of the Part I.A.1 numeric limitations.

Further, the annual average flow limit does not limit the City's discharge during low-flow or any other conditions. It is an annual average limit. The City could discharge many times its annual average during low flow conditions and still readily meet the annual average flow limit. Thus, EPA's asserted rationale for it is clearly erroneous. We note that EPA's rationale (while still wrong) made more sense when it asserted it in defense of monthly average flow limits in other permits in the Region, but makes no sense as a legal/practical basis for an annual average flow limit.

Most importantly as a legal matter, flow is not a Clean Water Act "pollutant" and the Region lacks the legal authority to directly limit flow in the manner it has done, as explained in the City's written comments. *Virginia Dept. of Transportation v. EPA, et al.*, case no. 1:12-cv-00775 ("VDOT"). The Region in its Response attempts to limit the VDOT holding to TMDLs. This is incorrect. EPA is too quick to discount the impact and breadth of the VDOT holding. In that case, the U.S. District Court for the Eastern District of Virginia determined that EPA could not use flow (a nonpollutant) to regulate sediment (a pollutant). *See Va. DOT v. United States EPA*, 2013 U.S. Dist. LEXIS 981, *1, *9 (E.D. Va. Jan. 3, 2013) ("EPA may not regulate

something over which it has no statutorily granted power—annual loads or nonpollutants—as a proxy for something over which it is granted power—daily loads or pollutants.”) The court’s logic in VDOT is straightforward: “EPA is charged with establishing TMDLs for the appropriate pollutants; that does not give them authority to regulate nonpollutants.” *Id.* at *7. The same reasoning is relevant to the NPDES permitting at issue in this case. The City is not allowed to discharge “any pollutant” without proper discharge permitting. *See* 33 U.S.C. § 1311(a) (“Except as in compliance with this section and sections 302, 306, 307, 318, 402, and 404 of this Act [33 USCS §§ 1312, 1316, 1317, 1328, 1342, 1344], the discharge of any pollutant by any person shall be unlawful”) (emphasis added). The term “pollutant” analyzed in VDOT is the general definition for the Clean Water Act, found in 33 U.S.C. § 1362(6), and is applicable to NPDES permits. We need not needlessly parse section numbers. Without authority to regulate flow as a pollutant, there should be no associated permit limitation. As the courts have recognized, a useful tool of statutory interpretation is

constru[ing a] statute ‘as a whole,’ considering its various subparts and the ways in which these subparts relate to one another. Words or phrases that “may seem ambiguous in isolation [are] often clarified by the remainder of the statutory scheme,” such as when “the same terminology is used elsewhere in a context that makes its meaning clear.”

Martin v. Fayram, 849 F.3d 691, 696 (8th Cir. 2017) (quoting *Cody v. Hillard*, 304 F.3d 767, 776 (8th Cir. 2002); *United Sav. Ass'n of Tex. v. Timbers of Inwood Forest Assocs.*, 484 U.S. 365, 371 (1988)). A decision on EPA reaching for (and failing to get) TMDL authority over flow informs whether EPA can reach for the same in NPDES permits. The VDOT opinion clearly underscores that “pollutants are carefully defined” and do not include flow. *See Va. DOT*, 2013 U.S. Dist. LEXIS 981 at *15.

Accordingly, the annual average limitation on effluent flow is arbitrary and capricious

and without proper legal authority.

2. Daily Maximum BOD & TSS Limits

At Permit Part I.A.1 the Region imposes numeric Maximum Daily concentration and mass limitations for effluent BOD and TSS. These numeric Permit limitations are arbitrary and capricious, not in accordance with law, and they do nothing to contribute positively to water quality in the receiving waters.

The legal basis for the BOD and TSS effluent limitations in the Pease permit is EPA's secondary treatment regulation in conjunction with its generic NPDES regulations. Limits for continuous discharges are expressed as and necessarily limited to expression as (1) monthly average and (2) weekly average, "unless impracticable." 40 C.F.R. §122.45(d)(2). It clearly is not impracticable to so limit BOD and TSS here, as the Region has done so. Secondary treatment is specifically defined as BOD and TSS limits (in the concentrations expressed in the permit) expressed as monthly and weekly averages. *Id.* §122.45(d)(2).

The Region's sole substantive response is that the prior Pease permit included daily maximum limits and "antibacksliding" prohibits their removal in this subsequent permit. This is clearly incorrect as a matter of law. The antibacksliding concept is far more limited than what Region 1 puts forward. It is divided into separate provisions for (1) technology-based and (2) water quality-based permit limits. The limits at issue are by definition technology-based, focusing on reasonably achievable BOD and TSS reductions at Publicly Owned Treatment Facilities. 33 U.S.C. §1342(o)(1) (antibacksliding "General Prohibition").

In the case of effluent limitations established on the basis of subsection (a)(1)(B) of this section, a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under section 304(b) subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit.

This General Prohibition addresses permit limits for non-POTWs based initially on “Best Professional Judgment” in the absence of promulgated technology-based guidelines for the particular category of non-POTWs, and later modified in a subsequent NPDES permit after such categorical guidelines are promulgated by EPA. This is the only technology-based antibacksliding provision. It is clearly inapplicable here, and no resort to any exceptions is necessary (the Region’s Response 3, paragraph one (1) (“EPA does not find that any antibacksliding exceptions apply”)).

Even if antibacksliding were to apply, there is a clear exception for permit writer error: technical mistakes or mistaken interpretations of the law were made in issuing the permit under CWA section 402(a)(1)(b). *See* 40 CFR §122.44.1(iii)(B)(2). Significantly, EPA did not provide any analysis of the exceptions, including 1(iii)(B)(2), which is clearly applicable. As the City noted in its comments, EPA’s regulations require that POTW limits be expressed as monthly/weekly averages unless impractical. The permit at issue contains monthly and weekly average limits, which the City does not contest. Accordingly, the daily maximum BOD and TSS limits are contrary to EPA’s regulation. It was an error/mistaken interpretation of law for EPA to add those limits to the City’s permit. Thus, even if antibacksliding were applicable the exception applies and the limits must be removed – as was done in the Lowell, Massachusetts permit.

3. BOD & TSS Loading Limits at 1.77 mgd

At Permit Part I.A.1 the Region imposes BOD and TSS mass loading limits for the 1.77 mgd facility expansion at the same numeric values as the comparable limits for the 1.2 mgd facility. These numeric Permit limitations are the result of a mischaracterization of a 2020 Antidegradation Review of the New Hampshire Department of Environmental Services (“DES”), and they are arbitrary and capricious, not in accordance with law, and they do nothing

to contribute positively to water quality in the receiving waters.

The Region's initial response in the Fact Sheet accompanying the City's Permit was that antibacksliding prevents the mass loading limits from being changed. This is incorrect as a matter of law for the reasons expressed immediately above – antibacksliding has no applicability to POTW secondary treatment limits.

In response to the City's comments, Region 1 then changed its rationale and referred to a claimed antidegradation issue, relying primarily on the New Hampshire DES letter to the City of March 4, 2020 including the State's results and conclusions for specified pollutant parameters on its antidegradation review. Att. 1. Response to Comments, Response 4. Generally, in its review, the DES determined pollutant parameter limits for the 1.77 mgd expansion reflecting the State's 20% parameter *de minimis* increase threshold below which the effluent flow increase is anticipated to cause an insignificant increase in pollutant discharge. DES letter p. 1. However, for the secondary treatment-based BOD and TSS limits DES merely stated that "loading limits to remain the same." *Id.* p. 2.

There is no indication in the State's letter on which the Region relies (or to our knowledge otherwise in the Record) that an antidegradation review was performed as to the BOD and TSS mass limits. Instead it appears that there was simply an assumption at the time that the mass limits would remain unchanged despite the increase to 1.77 mgd and the secondary treatment concentration limits for BOD and TSS.

Even if there were an articulated antidegradation basis for the limits to continue to be based upon a 1.2 mgd flow, the City should have been given the opportunity to perform an antidegradation review to justify higher mass loading limits.

Finally, the City has had no opportunity to comment on EPA's assertion of

antidegradation as the basis for imposing the 1.2 mgd-based BOD/TSS flow limits given that EPA's Fact Sheet asserts only antibacksliding (which the City addressed in its comments).

Accordingly, there is no basis in the Record to support the Region's new purported antidegradation basis for the mass limits to which the City objected, and those limits are arbitrary and capricious and inconsistent with EPA's secondary treatment regulation.

4. Instream Mixing/Dilution Analysis

In developing and issuing the Permit the Region applies an instream mixing and dilution analysis using a dilution factor of 100 times, rather than a dilution of 149 as defined by evidence and engineering analyses in the Record that are unchallenged. The dilution factor of 149 was determined by "CORMIX" analysis by New Hampshire DES. The dilution used in the Region's development of the Permit affects whether the City will receive permit monitoring requirements and limitations for pollutant parameters, and how stringent any limits will be. We note that the City has designed a state-of-the-art multiport effluent diffuser for the Pease facility. Permit Fact Sheet. The City's investment in the diffuser effectively speeds up instream dilution of the treated wastewaters, providing and accelerating valuable instream environmental benefits. The improper dilution limitation of 100 adversely affects those numeric determinations throughout the Permit; and it is arbitrary and capricious, not in accordance with law, and does nothing to contribute positively to water quality in the receiving waters. The improper dilution statistic also improperly takes from the City much of the benefit of its efforts and investment in the effluent diffuser.

The DES regulation on mixing/dilution mandates that:

Low Flow Conditions

(a) The flow used to calculate permit limits shall be as specified . . . below.

(b) For tidal waters, the low flow condition shall be equivalent to the conditions that result in a dilution that is exceeded 99% of the time.

N.H. Admin. Rules, WQ 1705.02 (emphasis added). For a tidal setting in which mixing/dilution is primarily the result of tidal movement, rather than any net downstream flow of the stream, mixing may be modeled strictly based on the tidal effects. This is the case here. The DES CORMIX Report, Permit Fact Sheet App. B, illustrates that its analysis refers to and includes no effects from any net downstream flow. Accordingly, the CORMIX analysis, based on a suite of consistent conservative inputs, produced a dilution statistic (the factor of 149) representing a dilution that is exceeded essentially all (100%) of the time. This meets the regulatory specification of a dilution that is exceeded 99% of the time.

Notwithstanding this DES proof of the 149 dilution factor and its consistency with the regulatory requirement, the Region reduced the dilution factor used to 100. It did so citing the requirement of WQ 1705.02(b) quoted above, but relying solely on an apparent DES guidance document (not included in the permit package) on NH Method for Determining Dilution Factors for Marine/Estuarine Discharges. Response to Comments, Response 1. The guidance is quoted as restricting dilution to “a maximum dilution factor of 100.” *Id.* Although there may be tidal mixing settings in which it is appropriate to arbitrarily so limit a dilution allowance, this designed multipoint diffuser case is not such a situation.

The Region is not in any case justified in using a state’s unpromulgated guidance to effectively nullify the state’s regulation and uncontroverted scientific evidence such as the present CORMIX analysis that 149 instead of 100 dilutions are available. That EPA applies this guidance value of 100 dilutions as a maximum in all New Hampshire NPDES permits reinforces that this is an unpromulgated rule. It was legal error for the Region to supersede the specific and clear regulatory requirements of WQ 1705.02(b) by reference to a generic and unpromulgated guidance document.

Accordingly, the Region's limitation of the dilution factor to 100 instead of the demonstrated 149, was arbitrary and capricious, and not in compliance with law. In addition to other appropriate relief, because the improper dilution factor affects determinations made throughout the permit process and thereby affects monitoring and limitations requirements throughout the Permit, the Board should instruct EPA Region 1 to, on remand, reevaluate the Permit in full to correct all of the affected Permit requirements.

5. General Water Quality Standards Compliance Language

Permit Part I.A.2 requires that "the discharge shall not cause a violation of the water quality standards of the receiving water." The Permit provision is arbitrary and capricious, and it is not in conformance with law as not providing the City with fair notice of the conduct that is proscribed. In its comments the City stated as follows.

This language is legally incorrect and fundamentally unfair. Legally, this provision deprives the City of its Clean Water Act permit shield in that the City will never know what it can or can't discharge at any given time. The provision deprives the City of its right to fair notice of what it must do to comply. More importantly, there is no opportunity for due process. In this context, due process is the City's (and all stakeholders') right to know what limits EPA/NHDES believe are warranted, an opportunity to comment on the correctness of such limits and the right to appeal such determinations. Moreover, for a public body, the provision deprives the City of a compliance schedule to come into compliance with a new or more stringent requirement.

The Region's Response 18 does not squarely address the City's objections. First, it emphasizes its authorizations under the NPDES program regulations to fashion both specific and numeric permit limitations. This entirely misses the point – the City does not object to properly developed and expressed narrative requirements such as those addressing proper facilities operations and maintenance. Rather, the brief, generic Permit language ignores the factors and variables that necessarily must contribute to any determination that a permitted wastewater discharge may cause an instream "violation" of water quality standards. Those include

considerations of effluent concentration and volume, mixing zone and zone of initial dilution delineations, duration and frequency of any criteria exceedances as compared with the duration and frequency that underlie the standards themselves, and other factors. It is, as the Region concedes, its own responsibility to evaluate data and determine during the permit process what pollutant parameters should have numeric limits, and at what numeric values. Those determinations are the essence of the permit process. The Region has done that as illustrated in its Fact Sheet, and it is fundamentally unfair for the Region to also try to cover any omissions it may have made with the generic language to which the City objects. The Region's Response simply does not specifically address these matters.

The City also commented that the Permit provision deprives it of the Permit Shield mandated by the Clean Water Act. This again is not squarely addressed by the Region – it in circular fashion refers to the generic requirement itself as one of the Permit provisions with which there must be compliance for the protections to apply. The statute is more straight forward than that, providing that “Compliance with a permit . . . shall be deemed compliance” with the various relevant requirements of the Act. 33 U.S.C. §1342(k). Those protections are rendered meaningless if the permit issuing authority is able to cover its otherwise more specific permit obligations and decisions in the unlimited broad manner for which the Region asserts authority.

Finally, the Region attempts to defend its actions by claiming the City's invocation of due process was not specific enough. In fact, considered in proper context the City objected on both substantive and procedural grounds. The restrictions imposed by the challenged provision are substantive and impose substantive obligations (if they were capable of determination) on the permittee. The Act's Permit Shield is also a procedural protection for permittees, allowing

them some comfort that their compliance with determinable, specified numeric and other permit provisions is a defense to the serious legal risks specified in subsection 402(k).

Further, the City incorporated by reference the briefs in the City of San Francisco's appeal of this same permit condition which is pending before the federal Court of Appeals for the Ninth Circuit. That briefing also includes an extensive due process argument.

Accordingly, the general water quality standards compliance language is not in conformance with law.

6. Total Residual Chlorine Limits

Permit Part I.A.1 imposes Total Residual Chlorine numeric limitations that are arbitrary and capricious and unnecessary for the protection of water quality and beneficial instream uses. The City has a very challenging bacteria limit due to shellfish areas downstream of the discharge. Currently, the City's only option is to add significant amounts of chlorine to disinfect the wastewater and then the City must add a chemical to neutralize any residual chlorine to protect instream aquatic life. These challenges are hard enough without Region 1 imposing additional restrictions which it has done in two ways. First, even with 100 dilutions (instead of 149), the Region admits that the City's TRC limit should be 1.3 milligrams per liter ("mg/L"). Permit Fact Sheet p. 20. However, the Region's position (erroneously) is that antibacksliding requires that EPA limit the City to the prior limit of 1.0 mg/L. Adding insult to the injury of a TRC limit that is 30% too low, the Region retained a requirement that the City minimize chlorine use. Thus, the City must meet a very challenging shellfish-based disinfection requirement while the Region arbitrarily restricts its allowable chlorine limit and then imposes a chlorine minimization requirement on top of that. These permitting errors impose significant harm to the City given that it has experienced excursions of the bacteria limit as EPA acknowledges in the Fact Sheet.

As noted, the City challenges the Daily Maximum TRC limits of 1.0 mg/L. The Fact Sheet confirms that a correct water quality-based effluent limitation (even with the Region's erroneous 100 dilution factor) is 1.3 mg/L. *Id.* The first legal error is the use of the 100 dilution factor rather than the correct 149 value. Section 4 *supra*.

The Region states that it imposed the 1.3 mg/L limitation based on antibacksliding. Antibacksliding does not apply. First, the 1.0 mg/L limit is correctly characterized as a technology-based limit. The Region states that it has "historically established a maximum daily [TRC] concentration of 1.0 mg/L whenever the . . . limit(s) allowed under the [New Hampshire water quality standards], after factoring in available dilution, would be less stringent than 1.0 mg/L." Response to Comments, Response 8. This is a Region 1-devised generic technology-based limit. For the reasons detailed in section 2 *supra*, antibacksliding does not apply to this technology-based limit.

Second, even if EPA or the Board were to consider, erroneously in our analysis, that the TRC limit at issue is a water quality-based limit, antibacksliding still is inapplicable. The General Prohibition for water quality-based limits provides as follows.

In the case of effluent limitations established on the basis of section 301(b)(1)(C) or section 303 (d) or (e), a permit may not be renewed, reissued, or modified to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit except in compliance with section 303(d)(4).

33 U.S.C. §1342(o)(1). If the TRC limit was water quality-based, it would be issued under the authority of the Clean Water Act section 301 and 303 provisions noted. However, section 402(o) goes on to limit the General Prohibition by stating "except in compliance with section 303(d)(4)." In the case of water quality-based limits, a permit may not be reissued except in compliance with CWA 303(d)(4). 303(d)(4) provides in part as follows.

(B) Standard attained. For waters . . . where the quality of such waters equals or

exceeds levels necessary to protect the designated use for such waters or otherwise required by applicable water quality standards, any effluent limitation based on a total maximum daily load or other waste load allocation established under this section, or any water quality standard established under this section, or any other permitting standard may be revised only if such revision is subject to and consistent with the antidegradation policy established under this section.

33 U.S.C. §1313(d)(4). The receiving waters meet the water quality standard for TRC, the quality of those waters thereby exceeding the water quality necessary to protect the designated uses (here aquatic life); we are dealing with an effluent limit based on the standard; and we are in compliance with antidegradation (we clear the antidegradation baseline for chlorides). We are therefore in compliance with the relevant part of 303(d)(4), and the water quality-based side of the basic antibacksliding rule is not applicable.

Finally as to antibacksliding, if the rule were to be considered applicable (which it is not), an exception would apply. That exception is under section 402(o)(2)(B)(ii) and provides in relevant part “the Administrator determines that technical mistakes or mistaken interpretations of law were made in issuing the permit.” The original Region 1 error of law in imposing the prior 1.0 mg/L TRC limit is that it is not supported by any promulgated or other valid technology-based requirement, and it is and has been in the past incorrectly calculated as a water quality-based requirement. Therefore, there is and was no legal basis for the limit.

Accordingly, the TRC limit to which the City objects is not in accordance with law.

CONCLUSION

Consistent with the above, Petitioner asks that the Environmental Appeals Board decide as follows.

1. Issue-Specific Relief. The City asks that the Board find that the Region’s Permit actions were arbitrary and capricious, and hold the Region’s actions to be otherwise contrary to law as the City has outlined above; reverse the Region’s Permit actions thereon; and

remand the Permit to Region 1 for further actions consistent with the Board decision.

2. Stay of Permit Conditions. Consistent with 40 C.F.R. §124.16, the City asks that the Board stay the contested Permit provisions pending the Board’s final decision hereunder as follows.

3. Request for Oral Argument. The City requests the opportunity for oral argument before the Board. We base this request on inconsistencies nationally and within Region 1 in NPDES permit monitoring, general water quality standards compliance provisions and other details – (a) without an expressed factual or legal basis for such distinctions, and (b) with facially obvious negative implications for instream water quality.

Respectfully submitted,

Date: September 7, 2022

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**STATEMENT OF COMPLIANCE WITH WORD
LIMITATION**

I hereby certify that this Petition for Review, including all relevant portions,
contains fewer than 14,000 words, pursuant to 40 C.F.R. §124.19(d).

Respectfully submitted,

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LIST OF ATTACHMENTS

Letter, NH DES to City Manager, City of Portsmouth (Mar. 4, 2020)Attachment 1

CERTIFICATE OF SERVICE

I certify that on this 7th day of September 2022, a true and correct copy of the foregoing Petition for Review and all Attachments was sent to the following persons, in the manner specified:

By EAB eFiling System to:

Clerk of the Board
U.S. Environmental Protection Agency
Environmental Appeals Board
1201 Constitution Avenue,
NW WJC East Building,
Room 3334
Washington, D.C. 20004

By U.S. Mail to:

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Attachment 1



The State of New Hampshire
Department of Environmental Services



Robert R. Scott, Commissioner

March 4, 2020

Ms. Karen Conard, City Manager
City of Portsmouth
1 Junkins Avenue
Portsmouth, New Hampshire 03801

Re: Pease Wastewater Treatment Facility Antidegradation Review
NPDES Permit No. NH0090000

Dear Ms. Conard:

We received the reapplication for the Pease Wastewater Treatment Facility (WWTF) NPDES permit, dated June 21, 2019, in which the City of Portsmouth requested a design flow increase for the facility from 1.2 MGD to 1.77 MGD. Per the requirements of Env-Wq1708, an antidegradation review of this request was performed by NHDES.

As noted in the antidegradation requirements in Env-Wq 1708, NHDES shall not approve a proposed increase in flow from an existing point source that would cause a significant change in water quality, unless the department finds that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the surface water is located. A change in water quality as a result of an increased discharge from a point source is considered "insignificant" if the increase in discharge uses less than twenty percent of the remaining assimilative capacity in the receiving water for a water quality parameter.

As part of the antidegradation review for the requested design flow increase at the Pease WWTF, NHDES required that the City of Portsmouth complete a minimum of four rounds of concurrent sampling of the Pease WWTF effluent and the Piscataqua River. The results of these sampling efforts were summarized in a draft report submitted by Underwood Engineers to NHDES on March 11, 2019. The four rounds of effluent and receiving water sampling data provided in the draft report were used to determine whether the proposed increase would use twenty percent or more of the remaining assimilative capacity in the Piscataqua River at the edge of the regulatory mixing zone for a set of water quality parameters.

Below is a summary of the antidegradation review for the requested design flow increase at the Pease WWTF. This letter is also being provided to EPA for their consideration in reissuing the NPDES permit for the facility. Should the City of Portsmouth determine that greater than twenty percent of the remaining assimilative capacity in the Piscataqua River is needed for a water quality parameter as a result of the proposed increased design flow from the Pease WWTF, the City may perform an economic and social analysis, including public participation, in accordance with the requirements of Env-Wq 1708, to support this determination. Should the City choose not to perform an economic and social analysis or should that analysis fail to demonstrate that the water quality degradation is necessary to accommodate important social and economic development in the area in which the receiving waters are located, EPA will include effluent limits equal to the twenty percent threshold for each pollutant for which the flow increase is anticipated to cause a significant increase in pollutant discharge.

Antidegradation Review

Underwood Engineers collected Piscataqua River samples on four separate dates in 2018 upstream of the Pease WWTF outfall, approximately 60-90 minutes after local slack-low tide. Metals samples were collected using clean sampling techniques, and the samples were analyzed using trace metal analyses in order to ensure the lowest possible detection limits. The median concentration of the four rounds of Piscataqua River samples was used to define the current background load for each water quality parameter in the Piscataqua River. Four rounds of Pease WWTF effluent samples were also collected concurrently with the Piscataqua River samples. The antidegradation calculations described below use the maximum concentration from the four rounds of Pease WWTF effluent data to determine the load of each water quality parameter from the Pease WWTF to the Piscataqua River. For copper, the data analyzed also included additional effluent data required by the facility's current NPDES permit.

The antidegradation calculations followed the water quality relationships shown in Figure 1. The current background load for each water quality parameter was increased by a future growth multiplier to determine the projected future load for that parameter in the receiving water, when all point sources that discharge to the receiving water are operating at their current permitted average daily design flows. This future parameter load, in addition to a ten percent reserve of the total assimilative capacity in the receiving water, were subtracted from the total assimilative capacity in the receiving water to determine the projected future remaining assimilative capacity for each water quality parameter.

As previously discussed, a change in water quality as a result of the proposed increased discharge from the Pease WWTF will be considered "insignificant" if the increase in discharge uses less than twenty percent of the remaining assimilative capacity in the receiving water for a water quality parameter. The "Maximum Allowable Effluent Concentration" column in Table 1 shows the concentration limit required for the Pease WWTF effluent in order for the discharge to use less than twenty percent of the remaining assimilative capacity of each parameter. If the projected effluent concentration exceeds this concentration, the "Maximum Allowable Effluent Concentration" value may be applied as a limit by EPA in the reissued NPDES permit for the Pease WWTF.

BOD₅ and TSS

The Pease WWTF existing NPDES permit contains average monthly, average weekly, and maximum daily load limits equal to 300 lb/day, 450 lb/day, and 500 lb/day, respectively, for both BOD and TSS. These loading limits will remain the same for the increased design flow. The average monthly, average weekly, and maximum daily concentration limits of 30 mg/L, 45 mg/L, and 50 mg/L, respectively, will also remain the same. Note that once the actual flow from the Pease WWTF exceeds 1.2 MGD, the concentrations of BOD and TSS in the effluent will need to be reduced in order to meet the load limits.

Total Nitrogen

Because of nitrogen impairments in the Great Bay Estuary, the Pease WWTF will likely be required to maintain its current annual average nitrogen loading of 87 lb/day or reduce the loading to address the impairments.

Cyanide

All four ambient sampling rounds showed non-detect levels of cyanide, and for the purposes of this analysis, the ambient cyanide concentration was assumed to be zero. In one of the four effluent sampling rounds, there was a detectable concentration of cyanide. Since the projected effluent cyanide concentration exceeds the level that would prevent the use of greater than twenty percent of the remaining assimilative capacity, a monthly average limit for cyanide of 24.3 ug/L is needed unless an analysis demonstrates that the degradation is necessary to accommodate important economic and social development in the area in which the receiving waters are located. EPA may require this limit in the permit when it is reissued with the new design flow.

Arsenic

In all four sampling rounds, both the background dissolved arsenic concentrations (0.76 ug/L – 0.97 ug/L) and the effluent dissolved arsenic concentrations (3.15 ug/L – 4.63 ug/L) exceeded the human health criteria for fish consumption (0.14 ug/L). As a result, EPA may require a permit limit equal to the criteria for arsenic when the permit is reissued with the new design flow.

Mercury

In all four sampling rounds, both the background dissolved mercury concentrations (0.35 ug/L – 1.38 ug/L) and the effluent dissolved mercury concentrations (2.16 ug/L – 6.49 ug/L) exceeded the human health criteria for fish consumption (0.051 ug/L). As a result, EPA may require a permit limit equal to the criteria for mercury when the permit is reissued with the new design flow.

Table 1. Results of the Pease WWTF Antidegradation Review

Parameter	Number of Effluent Samples	Sampled Effluent Concentration (ug/L)	Multiplying Factor ¹	Projected Effluent Concentration (ug/L)	Max. Allowable Effluent Concentration (ug/L)	Proj. Eff. Conc. Exceeds Max. Allowable (yes/no)
Ammonia, mg/L	4	3.60	4.7	16.9	18.2	No
Total Cyanide (Chronic)	4	12.0	4.7	56.4	24.3	Yes
Arsenic (HH-Fish Consumption)	4	4.63	4.7	21.8	Background>WQC	Yes
Antimony (HH-Fish Consumption)	4	0.315	4.7	1.48	11,400	No
Cadmium (Chronic)	4	0.117	4.7	0.551	139	No
Chromium (Acute)	4	0.730	4.7	3.43	184,000	No
Copper (Chronic)	12	16.6	2.4	39.8	43.1	No
Lead (Chronic)	4	0.980	4.7	4.60	144	No
Mercury (HH - Fish Consumption)	4	5.52	4.7	25.9	Background>WQC	Yes
Nickel (Chronic)	4	8.23	4.7	38.7	132	No
Selenium (Chronic)	4	2.23	4.7	10.5	1,210	No
Silver (Acute)	4	0.026	4.7	0.120	32.9	No
Thallium (HH - Fish Consumption)	4	0.020	4.7	0.094	0.918	No
Zinc (Chronic)	4	0.111	4.7	0.520	1,390	No

1. From EPA's *Technical Support Document for Water Quality Based Toxics Control*, Table 3.1 - Reasonable Potential Multiplying Factors

Conclusions

The antidegradation review showed that the Pease WWTF's proposed increase in design flow from 1.2 MGD to 1.77 MGD may result in a permit limit for cyanide in the reissued NPDES permit in order to prevent the use of greater than twenty percent of the remaining assimilative capacity in the receiving water at the edge of the regulatory mixing zone unless an analysis demonstrates that the degradation is necessary to accommodate important economic and social development in the area in which the receiving waters are located. Should the City of Portsmouth determine that greater than twenty percent of the remaining assimilative capacity for cyanide in the Piscataqua River is needed for the proposed increase in flow from the Pease WWTF, the City may perform an economic and social analysis, including public participation, in accordance with the requirements of Env-Wq 1708, to support this determination. The antidegradation review also showed that there is no remaining assimilative capacity in the receiving water for arsenic and mercury, and permit limits may be required for these parameters.

We appreciate the efforts by the City of Portsmouth in performing the water quality study. Please feel free to contact me at (603) 271-6637 or Hayley Franz at (603) 271-0671 with any questions or if you wish to meet to discuss any issue related to the antidegradation review.

Sincerely,



Stergios Spanos, P.E., Permits & Compliance Supervisor
Water Division, Wastewater Engineering Bureau

cc: Peter Rice, P.E., Director of Public Works, City of Portsmouth
Terry Desmarais, P.E., City Engineer, City of Portsmouth
Thelma Murphy, Water Permits Branch Chief, EPA
Ellen Weitzler, P.E., Municipal Permits Section Chief, EPA
Robert Scott, Commissioner, NHDES
Thomas O'Donovan, P.E., Director, NHDES-WD
Tracy Wood, P.E., Administrator
Ted Diers, Administrator, NHDES WD-WMB
Hayley Franz, P.E., Permits Engineer, NHDES WD-WWEB

Figure 1. Water Quality Relationships Used in Antidegradation Calculations

		BEST POSSIBLE WATER QUALITY		
WATER QUALITY ↑ Parameter Value ↓	Outstanding Resource Waters (ORWs) TIER 3	TIER 2 HIGH QUALITY Water quality has more than 10% of the Total Assimilative Capacity Remaining	EXISTING WATER QUALITY	
			20% Remaining Assimilative Capacity	Remaining Assimilative Capacity
		TIER 1 MARGINAL QUALITY Water quality has less than 10% of the Total Assimilative Capacity Remaining	No additional pollutant loading Reserve Assimilative Capacity must be no less than 10% of the Total Assimilative Capacity	
		WATER QUALITY CRITERIA		
Worse		IMPAIRED Water quality is below the standard	No additional pollutant loading Pollutant loading reductions are needed to restore water quality	
		Total Assimilative Capacity		

