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

In the Matter of:	)	
City of Lowell	)	
NPDES Permit No. MA0100633	)	NPDES Appeal No. 19-03

RESPONDENT EPA REGION 1'S RESPONSE TO THE PETITION FOR REVIEW

Respectfully submitted,

_____/s/_____

Cayleigh Eckhardt, Esq.
Michael Knapp, Esq.
Maximilian Boal, Esq.
US Environmental Protection Agency
Office of Regional Counsel, Region 1
5 Post Office Square
Boston, MA 02109
Tel: (617) 918-1044
(617) 918-1053
Fax: (617) 918-0044
Email: Eckhardt.cayleigh@epa.gov
Knapp.michael@epa.gov

Of Counsel:

Pooja Parikh, Esq.
Water Law Office, Office of General Counsel

Samir Bukhari, Esq.
Office of Regional Counsel, Region 1

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I. STATEMENT OF THE CASE

This petition arises from EPA Region 1's ("EPA's") issuance of a National Pollutant Discharge Elimination System ("NPDES") permit ("Permit") to the City of Lowell ("City" or "Petitioner"), authorizing discharges to the Merrimack River from the Lowell Regional Wastewater Utility ("Facility") in Lowell, Massachusetts, and from nine combined sewer overflow ("CSO") outfalls, which discharge to the Merrimack River, Beaver Brook and Concord River. The Facility discharges into a segment of the Merrimack River suffering from water quality impairments for nutrients and other pollutants.

The City objects to effluent limitations and conditions for wastewater effluent flow, phosphorus, and *E. coli*. It also challenges Whole Effluent Toxicity ("WET") monitoring requirements; CSO operation and maintenance requirements; and narrative conditions prohibiting the discharge from causing a violation of water quality standards ("WQS").

The majority of Petitioner's claims fail to pass the procedural threshold for the Board's review. *In re City of Pittsfield*, NPDES Appeal No. 08-19 (EAB Mar. 4, 2009) (Order Denying Review), *aff'd*, 614 F.3d 7, 11-13 (1st Cir. 2010). For the most part, Petitioner transcribes, nearly verbatim, its comments on the Draft Permit, failing thereby to substantively confront EPA's detailed technical and legal responses.

In the few instances where Petitioner does grapple with EPA's responses, it selectively addresses only portions of them. Insofar as these engagements pertain to technical matters, Petitioner's approach is entirely ineffectual. In questioning the application of EPA's technical expertise and scientific judgment, Petitioner fails to

provide the Board with any studies, reports, or other technical information that were not adequately considered by EPA, as it is obligated to do. Rather, Petitioner asserts differences of opinion without providing a technical basis of support—an approach the Board and courts have deemed insufficient to obtain review. *See In re Upper Blackstone Water Pollution Abatement Dist.,* 14 E.A.D. 577, 599 (EAB 2010), *aff'd.* 690 F.3d 9 (1st Cir. 2012), *cert. denied*, 133 S. Ct. 2382 (2013). As support for its alternative theories, Petitioner defaults to making cursory references to other out-of-state NPDES permits. But Petitioner neither details the specific relevance of those other permits, nor accounts for the fact that the City's Permit was written to comply with *Massachusetts*' WQS, not those of another state. Unless a petitioner demonstrates that the circumstances of those other discharges are materially indistinguishable from the instant permit, the simple fact that other permits differ does not constitute grounds for review. *In re City of Port St. Joe*, 7 E.A.D. 275, 306 (EAB 1997).

Petitioner's challenges to the Permit's monitoring requirements are equally unavailing. "For a petitioner to raise a material issue of fact as to whether an information gathering requirement in a permit is unreasonable and therefore exceeds the Agency's authority under Section 308(a), a petitioner must cite evidence sufficient to support a finding that there is no basis in fact for the Agency to require information in the first place." *In re Town of Concord*, 15 E.A.D. 514, 542 (citing *Port St. Joe*, 7 E.A.D. at 310). This Petitioner does not even attempt such a showing.

Review of the permit should be denied.

A. Statutory and Regulatory Background

1. The Clean Water Act

Under Section 402 of the Clean Water Act ("CWA" or "Act"), 33 U.S.C. § 1342, EPA may issue NPDES permits "for the discharge of any pollutant, or combination of pollutants" if the permit conditions assure that the discharge complies with certain requirements, including those of Section 301 of the CWA.

"Congress has vested in the Administrator [of EPA] broad discretion to establish conditions for NPDES permits" in order to achieve the statutory mandates of Section 301 and 402. *Arkansas v. Oklahoma*, 503 U.S. 91, 105 (1992). EPA has implemented CWA §§ 301(b)(1)(C) and 402 through numerous regulations, which specify when EPA must include permit conditions, WQBELs or other requirements in NPDES permits.[1] Most trenchantly, 40 C.F.R. § 122.4(d) *prohibits* issuance of an NPDES permit "[w]hen the imposition of conditions cannot *ensure* [emphasis added] compliance with the applicable water quality requirements of all affected States."

Section 301 of the Act provides for two types of effluent limitations to be included in NPDES permits: "technology-based" limitations and "water quality-based" limitations ("WQBELs"). 33 U.S.C. § 1311. Section 301(b)(1)(C) of the Act requires that NPDES permits include effluent limits more stringent than technology-based limits whenever "necessary to meet water quality standards." NPDES regulations set out the process for EPA to determine whether permit limits are "necessary" to achieve state WQS and for the formulation of these requirements. *See* 40 C.F.R. § 122.44(d). First, EPA must determine whether pollutants "are or may be discharged at a level which will

[1] Effluent limits are restrictions on the quantities, rates, and concentrations of pollutants that may be discharged from point sources. 33 U.S.C. § 1362(11).

cause, have the reasonable potential to cause, or contribute to an excursion" of the narrative or numeric criteria set forth in State WQS. *Id.* § 122.44(d)(1)(i). CWA Section 303 requires each State to adopt WQS for its waters, and CWA regulations expressly authorize States to establish either numeric (quantitative) or narrative (qualitative) water quality criteria, or both. *See* 40 C.F.R. §§ 131.3(b), 131.11(b).

If a discharge is found to cause, have the reasonable potential to cause, or contribute to an excursion of a state water quality criterion, then a permit *must* contain effluent limits as stringent as necessary to achieve state WQS. 40 C.F.R. § 122.44(d)(1), (5).

The regulatory mechanism used by permit writers to interpret narrative water quality criteria and establish numeric WQBELs is set forth at 40 C.F.R. § 122.44(d)(1)(vi). Where a state has not established a numeric water quality criterion for a specific chemical pollutant that is present in the effluent in a concentration that causes or has a reasonable potential to cause a violation of narrative WQS, the permitting authority must establish effluent limits in one of three ways, including: (i) based on a "calculated numeric criterion for the pollutant which the permitting authority demonstrates will attain and maintain applicable narrative water quality criteria and fully protect the designated use"; and (ii) on a "case-by-case basis" using CWA § 304(a) recommended water quality criteria, supplemented as necessary by other relevant information. 40 C.F.R. § 122.44(d)(1)(vi)(A)-(B).

2. Applicable Massachusetts Water Quality Standards

Massachusetts Surface Water Quality Standards ("Massachusetts WQS"), designate the Merrimack River, from the Facility to the Essex Dam in Lawrence, as a

Class B Warm Water Fishery, meaning that it is designated as habitat for fish, other aquatic life and wildlife and for primary (*e.g.*, swimming) and secondary (*e.g.*, fishing and boating) contact recreation. *See* 314 C.M.R. §§ 4.05(3)(b) and 4.06 (Table 20). Dissolved oxygen levels in Class B waters must not be less than 5.0 mg/l. *Id*. at § 4.05(3)(b)(1). Additionally, with respect to bacteria, "the geometric mean of all *E. coli* samples taken within the most recent six months shall not exceed 126 colonies per 100 ml … and no single sample shall exceed 235 colonies per 100 mL." 314 C.M.R § 4.05(3)(b)(4)(b).

In addition to criteria specific to Class B Warm Waters Fishery, Massachusetts imposes minimum narrative criteria applicable to all surface waters, including nutrients - "unless naturally occurring, all surface waters shall be free from nutrients in concentrations that would cause or contribute to impairment of existing or designated uses…." 314 C.M.R. § 4.05(5)(a),(b), (e) and (c).

Massachusetts requires WQS to be met even during severe hydrological conditions, *i.e.*, periods of critical low flow when the volume of the receiving water provides relatively little dilution. NPDES permit limits for discharges to rivers and streams must be calculated based on the "7Q10," or "the lowest mean flow for seven consecutive days to be expected once in ten years." *Id. at* § 4.03(3).

3. Monitoring Requirements

Section 308(a) of the Act, 33 U.S.C. § 1318(a)(A), "confers broad authority on the Agency to impose monitoring requirements on any point source." *Port St. Joe*, 7 E.A.D. at 306. Section 402(a)(2) of the Act provides that an NPDES permit may include

"conditions on data and information collection, reporting, and such other requirements as [the Administrator] deems appropriate."

II. FACTS

The Facility is a 32 millions of gallons per day ("MGD") publicly-owned treatment works ("POTW"), that discharges to the Merrimack River. The headwaters of the Merrimack River are in New Hampshire, and the river flows approximately 78 miles southward through New Hampshire before entering Massachusetts. The Facility discharges into a segment of the Merrimack River that begins at Duck Island in Lowell and ends at the Essex Dam in Lawrence. The Facility also discharges from nine CSOs, seven of which discharge directly to the Merrimack River, one into Beaver Brook, and one into the Concord River.

Petitioner's previous Permit for the Facility became effective October 31, 2005, expired on October 31, 2010, and was administratively continued.

From June 7, 2019 through July 23, 2019, EPA and MassDEP solicited public comments on the Draft Permit. Upon receipt of state certification under CWA § 401*, Ex.7 (AR.D.1)*, EPA issued the Final Permit on September 25, 2019. Massachusetts concurrently issued an identical permit under state law.

Petitioner timely appealed, challenging ten conditions of the Final Permit: (1) total phosphorous monthly average limit; (2) effluent flow limit; (3) *E. coli* maximum daily limit; (4) quarterly WET testing; (5) quarterly testing for metals; (6) Petitioner's draft CSO Long-Term Control Plan; (7) bypass of secondary treatment; (8) requirement that discharges shall not cause a violation of WQS; (9) requirements that CSO discharges

shall not violate federal or state WQS; and, (10) requirement to develop a routine sampling program.

A. Water Quality Impairments

From Duck Island in Lowell to the Essex Dam in Lawrence, the Merrimack River is listed on the Massachusetts 303(d) list as impaired for Escherichia coli (*E.coli*), mercury in fish tissue, PCB in fish tissue and phosphorus (total). Beaver Brook is on the Massachusetts 303(d) list as impaired for debris/floatables/trash, physical substrate habitat alterations, aquatic macroinvertebrate bioassessments, *E.coli*, taste and odor and turbidity. The Concord River is on the Massachusetts 303(d) list as impaired for debris/floatables/trash, excess algal growth, fecal coliform, mercury in fish tissue, and phosphorus (total). *Ex.15* (*2014 303(d) List)(AR.I.1)*. The Merrimack River is being impacted by cultural eutrophication - the human-induced increase in nutrients beyond the assimilative capacity of a water body, which can result in the acceleration of plant productivity. *See, e.g.,* 314 C.M.R. § 4.02. Phosphorous promotes the growth of nuisance levels of macrophytes (rooted aquatic plants), phytoplankton (free floating algae), as measured by chlorophyll-a, periphyton (attached algae) and filamentous algae such as moss and pond scum. *Ex.18 at 30-32, 41-45 (Nutrient Technical Guidance Manual: Rivers and Streams ("NTGM"))(AR.J.2).*

The Merrimack River Watershed 2004 Water Quality Assessment Report (*Ex.16 at 26 (AR.I.3)*) identifies the segment of the river that receives the Facility discharge as alert status for the aquatic life designated use due to elevated total phosphorus and occasionally elevated for chlorophyll-a concentrations.

B. Reasonable Potential Analysis

During the permit reissuance process, EPA evaluated the sources of phosphorus loading into the Merrimack River, and the physical, chemical and biological impacts of the nutrient loading in the receiving water. *See Ex.3* at 23-27 *(Fact Sheet ("FS"))(AR.A.15)*; *Ex.5 at 9-11 (RTC)(AR.B.1)*. EPA used ambient data collected upstream of the Facility discharge from July through October 2017 and the 95th percentile of the monthly average total phosphorus data reported on the Facility discharge monitoring reports from January 2014 through December 2018 to calculate whether the discharge would cause, have reasonable potential to cause, or contribute to an excursion of Massachusetts WQS including its narrative criteria. *Ex.3 at 23-27 (FS)(AR.A.15)*. Based on its analysis of the abovementioned data, EPA determined that there is reasonable potential for total phosphorus discharged from the facility to cause or contribute to a violation of the Commonwealth's narrative WQS. *Id.* at 25-26; *Ex.5 at 11 (RTC)(AR.B.1)*.

C. Establishment of Effluent Limitations for Phosphorus

EPA included phosphorus as a concentration-based effluent limit in the Draft Permit and offered an alternative mass-based limit which achieves water quality criteria using the lowest monthly average flow to allow for flow variability at the Facility. EPA re-evaluated this approach after receiving comments from Petitioner about flow management and decided to include a concentration-based phosphorus limit based on the Facility's design flow. *Ex.5 at 12-13 (RTC)(AR.B.1).*

When translating narrative phosphorus criteria into numeric WQBELs, EPA looks to a wide range of materials, including nationally recommended criteria, supplemented by

other relevant materials, such as EPA nutrient technical guidance and information published under Section 304(a) of the CWA, peer-reviewed scientific literature and site-specific surveys and data to determine instream targets that are protective of water quality. *See* 40 C.F.R. § 122.44(d)(1)(vi)(A), (B). *See Ex.3 at 23-27 (FS)(AR.A.15)*; *Ex.5 at 8-11 (RTC)(AR.B.1*)(expressly citing to the overall methodology detailed in *In re Upper Blackstone Water Pollution Abatement Dist.,* 14 E.A.D. at 628-638 and *In re City of Attleboro*, 14 E.A.D. 398, 433-454 (EAB 2009)).

When permitting nutrient discharges, EPA analyzes available record materials from a reasonably conservative standpoint, as it regards one key function of a nutrient limit as preventative. *See Ex.5 at 12-13 (RTC)(AR.B.1)*. This protective approach is appropriate because, once begun, the cycle of eutrophication can be difficult to reverse due to the tendency of nutrients to be retained in the sediments. *Id.* at 12. *See also Ex.18 at 3 (NTGM)(AR.J.2); Ex.20 at 19 (Development and Adoption of Nutrient Criteria into Water Quality Standards)(A.J.17)*.

EPA has produced several guidance documents that recommend a range of total ambient phosphorus concentrations that are sufficiently stringent to control cultural eutrophication and other adverse nutrient-related impacts, with 0.1 mg/l representing the upper end of this range. *Ex.3 at 23-24 (FS)(AR.A.15)*; *Ex.5 at 9-10 (RTC)(AR.B.1); Ex.17 at 246-249 (1986 Quality Criteria for Water ("Gold Book"))(AR.J.1); Ex.18 at 101 (Table 4) (NTGM)(AR.J.2); Ex.19 (Ecoregion XIV Criteria)(AR.J.8)*. These guidance documents recommend protective in-stream phosphorus concentrations based on two different analytical approaches. *Ex.3 at 23-24 (FS)(AR.A.15); Ex.18 (NTGM)(AR.J.2)*. An effects-based approach provides a threshold value above which adverse effects (*i.e.*,

water quality impairments) are likely to occur. *Ex.3 at 24 (FS)(AR.A.15)* at 24. This approach applies empirical observations of a causal variable (*i.e.*, phosphorus) and a response variable (*i.e.*, chlorophyll-a as a measure of algal biomass) associated with designated use impairments. *Ex.3 at 23-24 (FS)(AR.A.15); Ex.18 at 30-46, 97-103 (NTGM)(AR.J.2).* Alternatively, reference-based values are statistically derived from a comparison within a population of rivers in the same ecoregion class. *Ex.3 at 23 (FS)(AR.A.15).* They are a quantitative set of river characteristics (physical, chemical and biological) that represent conditions in waters in that ecoregion that are minimally impacted by human activities (*i.e.*, reference conditions), and thus by definition representative of water without cultural eutrophication. *Ex.3 at 23 (FS)(AR.A.15); Ex.19 at 4 (Ecoregion XIV Criteria)(AR.J.8).* The total phosphorus criterion for this ecoregion, found in the *Ecoregion XIV Criteria*, *Ex.19(AR.J.8)*, is 0.024 mg/l. While reference conditions reflect in-stream phosphorus concentrations that are sufficiently low to meet the requirements necessary to support designated uses, they may also exceed the water quality necessary to support such uses. *Ex.3 at 24 (FS)(AR.A.15).*

EPA follows an effects-based approach. *Ex.3 at 23-24 (FS)(AR.A.15)*. The Gold Book recommends maximum threshold concentrations that are designed to prevent or control adverse nutrient-related impacts from occurring. *Id.* Specifically, the Gold Book recommends in-stream phosphorus concentrations of no greater than 0.05 mg/l in any stream entering a lake or reservoir, 0.1 mg/l for any stream not discharging directly to lakes or impoundments, and 0.025 mg/l within a lake or reservoir. *Id.*

As pointed out in the RTC, EPA employs a methodology to derive a protective instream target that is consistent with its past phosphorus permitting practice. *See Ex.5 at*

8-10 (RTC)(AR.B.1) (*citing* to *Attleboro* and *Blackstone*); *see Upper Blackstone,* 690 F.3d at 30-31 (detailing EPA's derivation of a protective 0.01 mg/l to 0.1 mg/l zone for total phosphorus concentrations). The Gold Book recommended value of 0.1 mg/l is coterminous with the range of published, peer-review values presented in a more recent EPA technical guidance manual, the *Rivers and Streams Nutrient Guidance (Ex.18 (NTGM)(AR.J.2))*, which contains recommended threshold ambient concentrations (all more stringent than 0.1 mg/l) drawn from the scientific literature that are sufficiently stringent to control periphyton and plankton (two types of aquatic plant growth associated with eutrophication). *Ex.3 at 23 (FS)(AR.A.15)*. This guidance indicates that in-stream phosphorus concentrations between 0.01 mg/l and 0.09 mg/l will be sufficient to control periphyton growth and concentrations between 0.035 mg/l and 0.070 mg/l will be sufficient to control plankton. *See Ex.18 at 101 (Table 4)(NTGM)(AR.J.2).*

The published, peer-reviewed phosphorus targets contained in the administrative record and relied on by EPA are thus 0.1 mg/l or below, irrespective of methodological approach employed. In addition to opting for the less stringent of the available approaches (*i.e.*, effects-based in favor of reference), EPA based the limit on the upper end of the range of all available published nutrient thresholds in the administrative record. EPA also considered whether there was information that would render these targets inapplicable in the Merrimack River and concluded there was not. *See Ex.3 at 24 (FS)(AR.A.15).* Consistent with the prophylactic approach described above, EPA concluded that ambient phosphorus concentrations must be brought within a protective range through the imposition of a phosphorus effluent limit on the City to effectively

prevent eutrophication in the Merrimack River. *See id. at 24-26*; *Ex.5 at 8-10 (RTC)(AR.B.1).*

Given the lack of effective dilution under 7Q10 flow conditions, EPA established, using the effects-based approach, a monthly average total phosphorus effluent limit of 1.08 mg/l (imposed April through October) to ensure the Gold Book recommended value of 0.1 mg/l will not be exceeded in the river immediately below the discharge. *See Ex.3 at 23-27 (FS)(AR.A.15)*; *Ex.5 at 10 (RTC)(AR.B.1).*

D. Wastewater Effluent Flow Limit

EPA included an "effluent flow" limit of 32 MGD Rolling Average. *Ex. 1 at Part I.A.1 (Final Permit) (AR.A.1)*. This permit term was retained from the previous Permit. *Ex.4 at Part I.A.1 (2005 Permit)(AR.A.21).* EPA set the limit at 32 MGD as that is the Facility's design flow.

Establishing WQBELs that are sufficiently protective to meet in-stream water quality criteria requires EPA to account for both effluent and receiving water flows. *Ex.21 at 6-20, 33 (NPDES Manual)(AR.K.3)*. When deriving permit effluent limits, EPA accounts for the effluent wastewater flow under facility design flow conditions 40 C.F.R. § 122.45(b)(1)); the concentration of a given pollutant in the effluent (discharge concentration); the percentage of effluent in the receiving water immediately downstream of the discharge under the critical low flow conditions identified in the state WQS (available dilution); and the concentration of pollutants upstream of the discharge (background) to determine how much the discharge can contribute such that the resulting mix downstream does not exceed the criterion. *Ex.21 at 6-20, 33 (NPDES Manual)(AR.K.3)*. Where the discharge concentration exceeds the criterion, and there is

no available dilution or remaining assimilative capacity in the receiving water for the pollutant, then the permit writer may establish the permit limit at the criterion level, to ensure the resulting discharge will not cause or contribute to an exceedance of the numeric criterion in-stream. *Id.* at 6-19.

In the FS and RTC, EPA detailed its decision to impose a wastewater effluent flow limitation. Effluent flow is a variable in the calculations used for the determination of whether the facility has reasonable potential to cause or contribute to a violation of WQS and the derivation of WQBELs. *Ex.3 at 8 (FS)(AR.A.15); Ex.5 at 17-18 (RTC)(AR.B.1)*. EPA regulations at 40 C.F.R. § 122.45(b)(1) state: "[i]n the case of POTWs, permit effluent limitations, standards, or prohibitions shall be calculated based on design flow." POTW permit applications are required to include the "facility's design flow rate (the wastewater flow rate the plant was built to handle)." 40 C.F.R. § 122.21(j)(1)(v)(i); *Ex.3 at 8 (FS)(AR.A.15)*; *Ex.5 at 17 (RTC)(AR.B.1)*. In setting the WQBELs for this permit, EPA used the design flow as submitted by the Petitioner. *Ex.3 at 8-9 (FS)(AR.A.15); Ex.5 at 19 (RTC)(AR B.1).*

In arriving at its decision, EPA observed that reasonable potential regulations require EPA to consider "where appropriate, the dilution of the effluent in the receiving water," 40 C.F.R. § 122.44(d)(1)(ii), which is a function of both the wastewater effluent flow and receiving water flow. *Ex.3 at 8 (FS)(AR.A.15).* Both Massachusetts WQS and EPA guidance recommend that this reasonable potential analysis be based on critical conditions.[2] EPA, accordingly, is authorized to presume that a plant is operating at its

[2] 314 C.M.R. §§ 4.03 (a), (b); *Ex.21 at 6-17, 33 (NPDES Manual)(AR.K.3)*.

design flow during critical instream conditions (*i.e.*, 7Q10) when assessing reasonable potential.

Should the effluent discharge flow exceed the flow assumed in these calculations, the instream dilution would decrease, and the calculated effluent limits may not be protective of WQS. *Ex.3 at 8 (FS)(AR.A.15); Ex.5 at 17-18 (RTC)(AR.B.1)*. Further, pollutants that do not have the reasonable potential to exceed WQS at the lower discharge flow assumed in these calculations may have reasonable potential at a higher flow due to the decreased dilution. *Id*. To ensure that the assumptions underlying EPA's reasonable potential analyses and derivation of permit effluent limitations remain sound for the duration of the permit, EPA may ensure its "worst-case" effluent wastewater flow assumption through imposition of permit conditions for effluent flow. *Id*. Thus, the effluent flow limit is a component of the WQBELs, because the WQBELs are premised on a maximum level of flow from the facility. *Id*. In addition, the flow limit is necessary to ensure that other pollutants remain at levels that do not have a reasonable potential to exceed WQS. *Id*.

E. *E. Coli* Maximum Daily Limit

EPA included an average monthly limit for *E. coli* of 126 cfu/100 mL and a maximum daily limit of 409 cfu/100 mL.[3] *Ex.1 at Part I.A.1 (Permit)(AR.A.1)*. As stated in the FS (*Ex.3 at 19*) and RTC (*Ex.5 at 22-23*), these permit terms implement,

[3] In its implementation of the Class B bacteria criteria, MassDEP uses the 90th percentile single sample maximum (SSM) recommended criteria as the maximum daily effluent limitations for NPDES discharges. *(AR.L.4)*. EPA and MassDEP agree that the 90th percentile single sample maximum recommended value of 409 colonies/mL is protective of human health while accounting for the comparatively lower recreational use in the immediate vicinity of wastewater treatment plant outfalls. *Ex.5 at 23 (RTC)(AR.B.1).*

respectively, the Massachusetts approved WQS for *E. coli* which states that "the geometric mean of all *E. coli* samples taken within the most recent six months shall not exceed 126 colonies per 100 ml … and no single sample shall exceed 235 colonies per 100 mL." 314 C.M.R § 4.05(3)(b)(4)(b). The maximum daily limit is necessary to assure that the Permit contains effluent limitations that attain and maintain WQS, namely the single sample *E. coli* criterion at 314 C.M.R. § 4.05(3)(b)(4)(b). *See* CWA § 301(b)(1)(C); 40 C.F.R. § 122.44 (d).

Additionally, EPA concluded that the monthly average limit and the maximum daily limit ensure distinct, important aspects of protection. The monthly limit is based on a geometric mean value (GM) and the maximum daily limit is based on a statistical threshold value (STV). EPA's 1986 Ambient Water Quality Criteria for Bacteria, which Massachusetts adopted, recommends the use of both a GM and STV (rather than a GM only or an STV only). *Ex.22 at 9 (AR.K.10).* Both the 235 colonies/100 mL limit and the 409 colonies/100 mL limit correspond to confidence levels (75% and 90% respectively) on the theoretical lognormal distribution of effluent data. When taking individual grab samples, any individual sample can be greater or less than the numerical value of the GM criterion; however, this does not necessarily indicate that the GM criterion has actually been exceeded. Therefore, the maximum daily limit is set at a confidence level on the theoretical lognormal distribution that is protective of water quality and takes into account the public use of the waterbody. If the GM (average monthly limit) is being met, there is at least a 75% chance that a single sample will be under the 75% confidence level. The average monthly and maximum daily limits are, therefore, not redundant.

As explained in its RTC, EPA declined to include a mixing zone for this parameter. *Ex.5 at 23-24 (RTC)(AR.B.1).* EPA's practice for Massachusetts NPDES permits, consistent with Massachusetts water quality criteria, has been to include bacterial limitations equal to the water quality criteria with no allowance for dilution. The Commonwealth's mixing zones criteria, 314 C.M.R. § 4.03(2), allow a limited area or volume of a waterbody as a mixing zone only if, among other conditions, the mixing zone does not "interfere with the existing or designated uses of surface waters." Because bacterial counts in excess of the applicable water quality criteria would interfere with attainment of primary and secondary contact uses within the mixing zone, EPA and MassDEP have not allowed mixing zones for bacteria and have instead incorporated the water quality criteria as end-of-pipe limits.

F. Monitoring and Reporting Requirements

In the Final Permit, EPA retained requirements to conduct quarterly WET testing and metals testing. *Ex.1 at Part I.A.1 (Final Permit)(AR.A.1)*; *see also Ex.3 at 29-30 (FS)(AR.A.15*); *Ex.4 at Part I.A.1 (2005 Permit)(AR.A.21); Ex.5 at 24-25 (RTC)(AR.A.15)*. EPA identified its authority and explained its rationale for including such monitoring and testing requirements in the FS supporting its Draft Permit. *Ex.3 at 29-30 (FS)(AR.A.15)*. Additionally, in considering recent WET testing data, which revealed that the downstream concentration approached the chronic criterion, EPA further concluded that WET testing and metals testing was appropriate. *Ex.5 at 24-25(RTC)(AR.B.1)*.

Moreover, EPA included requirements in the Final Permit to ensure effluent samples yield data representative of the discharge. Specifically, Footnote 1, which applies to all effluent monitoring and sampling, requires:

> A routine sampling program shall be developed in which samples are taken at the same location, same time and same days of the week each month. Occasional deviations from the routine sampling program are allowed, but the reason for the deviation shall be documented in correspondence appended to the applicable discharge monitoring report . . .

Ex.1 at 6 n.1 (Final Permit)(AR.A.1). With respect to WET testing only, EPA established an additional monitoring requirement:

> Toxicity test samples shall be collected, and tests completed, during the same weeks in January, April, July and October.

Id. at 6 n.13. EPA concluded that these standard provisions are necessary to ensure collection of representative data, which "facilitates the [EPA's] ability to track long-term trends in effluent and ambient quality without any bias related to the variability within a given calendar quarter." *Ex.5 at 26 (RTC)(AR.B.1)*.

G. CSO Long-Term Control Plan ("LTCP")

CWA Section 402(q), 33 U.S.C. § 1342(q), requires that permits "shall conform" to EPA's 1994 Combined Sewer Overflow Control Policy ("CSO Policy").[4] In accordance with the CSO Policy, EPA included several provisions that address CSOs in the Permit (*Ex. 1 at Part I.F (AR.A.1)*). Petitioner commented that EPA should "address the development of [its] CSO Long-Term Control Plan" and requested "the opportunity to discuss the appropriate deadline" for submittal of its LTCP. *Ex.5 at 39 (RTC)(AR.B.1)*. EPA noted in response that pursuant to an Administrative Order on Consent entered into

[4] The CSO Policy is found at 59 Fed. Reg. 18,688 (April 19, 1994)(AR.H.17).

by Petitioner and EPA in 2017 ("2017 AOC") Petitioner must submit an LTCP to EPA for review and approval by December 31, 2019. *Ex.12 at 6-7 (2017 AOC)(AR.H.9)*. Petitioner has not submitted such a plan to EPA to date.[5] Because the deadline for development of the LTCP is enshrined in an enforcement document, EPA responded that any discussions as to that deadline should be directed to EPA's Enforcement and Compliance Assurance Division. *Ex.5 at 39 (RTC)(AR.B.1)*.

Additionally, EPA noted that, contrary to Petitioner's assertion that the Permit must contain a deadline for LTCP development, the CSO Policy allows such a deadline to be included as "an NPDES permit provision, Section 308 information request, or enforcement action." *Ex.5 at 39 (RTC)(AR.B.1)*(citing *Ex. 13 at 18691 (CSO Policy)(AR.H.17)*). For Petitioner, EPA enshrined this requirement in an enforcement order.

H. Bypass of Secondary Treatment

EPA included in the Standard Conditions portions of the Permit provisions which address the intentional diversion of waste streams from any portion of the treatment facility, known as "bypass." *Ex.1 at Part II.B.4 (Final Permit)(AR.A.1)*. EPA included in this section a verbatim incorporation of EPA regulations at 40 C.F.R. § 122.41(m)(4)(i), which states:

> "*Prohibition of bypass*. (i) Bypass is prohibited, and the Director may take enforcement action against a permittee, unless:
>
> (A) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

[5] Petitioner previously submitted an LTCP, entitled "CSO Phase 2 Long-Term Control Plan," *Ex.11 (AR.H.8),* which EPA and Mass DEP determined failed to comply with the CSO Policy and the then-effective Administrative Order. *Ex.8 (AR.H.5); Ex.9 (AR.H.6)*. Accordingly, EPA understands that Petitioner continues to work on development of an LTCP that complies with both the CSO Policy and the current Administrative Order.

(B) There were not feasible alternatives to the bypass …; and

(C) The permittee submitted notices as required under paragraph (m)(3) of this section."

Id. This regulation and analogue-permit term thus subject bypass to potential enforcement action unless three enumerated requirements are met.

The CSO Policy reinforces and incorporates the bypass regulations: "Normally, it is the responsibility of the permittee to document, on a case-by-case basis, compliance with 40 C.F.R. § 122.41(m) to bypass flows legally." *Ex.13 at 18693 (CSO Policy)(AR.H.17)*. That is, the Permittee must be able to demonstrate it has satisfied the three conditions at § 122.41(m)(4)(i) for each individual bypass event, lest it be subject to enforcement action. This is the framework EPA established in the Permit.

As noted in the RTC, *(Ex.5 at 28-29 (AR.B.1))*, EPA's CSO Policy also articulates an approach whereby peak-flow bypass could be approved prospectively in the permit, rather than a on case-by-case basis. *See Ex.13 at 18693 (CSO Policy)(AR.H.17)*. The Policy states "[f]or some CSO-related permits, the study of feasible alternatives in the control plan may provide sufficient support for the permit record and for approval of a CSO-related bypass in the permit itself, and to define the specific parameters under which bypass can legally occur." *Id*.

The CSO Policy enumerates requirements for permittees in order to avail themselves of this approach, including, but not limited to: an LTCP that justifies the cut-off point for the bypass of treatment; a cost-benefit analysis comparing bypass to CSO-abatement projects; and a no feasible alternatives analysis. *Id*. at 18693-94. Petitioner has not submitted such information to EPA.

Petitioner's development of a "High Flow Management Plan" *Ex.10 (HFMP) (AR.H.7)* pursuant to an EPA enforcement action does not provide a basis for invoking this alternative permitting approach. *Ex.5 at 29 (RTC)(AR.B.1).* In 2010, EPA issued an administrative order ("2010 AO") requiring Petitioner to develop a HFMP required to include four elements, each premised on maximization of flow to the WWTF and minimization of discharges through CSO Outfalls. *Ex.14 at 5 (2010 AO)(AR.H.22)*. The 2010 AO did not require, nor does the HFMP contain, information required to invoke the alternative permitting approach articulated in the CSO Policy. For example, the HFMP contains neither a no feasible alternatives analysis nor a cost-benefit analysis.

I. Narrative Water Quality Standards.

EPA retained in the Final Permit the general requirement that the "discharge shall not cause a violation of the water quality standards of the receiving water." *Ex.1 at Part I.A.2 (Final Permit)(AR.A.1)*; *Ex. 4 at Part I.A.1.a (2005 Permit)(AR.A.21*). Similarly, the Final Permit retained the more specific provision that "effluent discharged from [] CSOs . . . shall not cause or contribute to violations of federal or state Water Quality Standards." *Ex.1* at Part I.F.2.b; *Ex. 4 at Part I.F.a.ii (2005 Permit)(AR.A.21).*

While commenters questioned the necessity and legality of including these particular provisions (*Ex.6 at 9, 12 (Lowell Comments)(AR.C.12)*), EPA concluded that there is "merit in including a more general, narrative, preventative permit provision that restates the commands of Section 301 and the implementing regulations at 40 C.F.R. §§ 122.4 and .44 to 'ensure' compliance with quality standards, and that similarly mirrors the Commonwealth's mandate at 314 C.M.R. § 4.03(1)(a*)." Ex.5 at 33 (RTC)(AR.B.1).*

EPA further determined that "[t]his narrative standard is consistent with the CWA and adequately puts the permittee on notice of its obligations." *Id*.

With respect to the specific provision establishing narrative WQS for CSO discharges, EPA concluded that it is consistent with the CWA and its regulations, EPA's CSO Policy (incorporated by reference into CWA Section 402(q)), the NPDES Permit Writer's Manual, and the Combined Sewer Overflows: Guidance for Permit Writers. *Id.* at 40; *Ex.13 at 18689, 18696 (CSO Policy)(AR.H.17)* (requiring NPDES permits to include narrative limitation to mandate compliance with applicable WQS no later than the date allowed under the State's WQS).

For these and other reasons identified in EPA's RTC, EPA concluded that the narrative WQS provisions are lawful, appropriate, and will remain in the Final Permit. *Ex.5 at 32-35, 40-41 (RTC)(AR.B.1)*.

III. THRESHOLD PROCEDURAL REQUIREMENTS AND STANDARD OF REVIEW

Section 124.19 of Title 40 of the Code of Federal Regulations governs Board review of an NPDES permit. In any appeal from a permit decision issued under part 124, the petitioner bears the burden of demonstrating that review is warranted. *See* 40 C.F.R. § 124.19.

A. Standard of Review

1. Findings of Fact and Conclusions of Law

Under 40 C.F.R. § 124.19, the Board will deny review of a permit decision unless the permit decision either is based on a clearly erroneous finding of fact or conclusion of

law, or involves a matter of policy or exercise of discretion that warrants review. 40 C.F.R. § 124.19(b)(4).

2. Petitioner's Burden on Appeal

a) Petitioner Must Raise All Reasonably Ascertainable Issues and Available Arguments

The burden of demonstrating that review is warranted rests "squarely" with Petitioner. 40 C.F.R. § 124.19(a)(1)-(2); *In re Rohm & Haas Co.*, 9 E.A.D. 499, 504 (EAB 2000). A petitioner seeking review must demonstrate that any issues and arguments it raises on appeal have been preserved for Board review, unless the issues or arguments were not reasonably ascertainable before the close of the public comment period. 40 C.F.R. §124.13, .19(a); *see In re City of Moscow*, 10 E.A.D. 135, 141, 149-50 (EAB 2001). This, Petitioner failed to do with regard to all or portions of its claims regarding E. coli, *Pet. at 19-22*; metals testing frequency, *Pet. at 24*; and the LTCP, *Pet. at 25*.

b) Petitioner May Not Reiterate Comments but Must at a Minimum Substantively Confront EPA's Responses

Assuming that the issues have been preserved, a petitioner must specifically state its objections to the permit and explain why the permit issuer's previous response to those comments was clearly erroneous or otherwise warrants review. 40 C.F.R. § 124.19(a); *see, e.g., In re City of Irving*, 10 E.A.D. 111, 129-30 (EAB 2001), *review denied sub nom. City of Abilene v. EPA*, 325 F.3d 657 (5th Cir. 2003). A petition may not merely cite, attach, incorporate, or reiterate comments previously submitted on the draft permit. *E.g., In re City of Pittsfield*, NPDES Appeal No. 08-19 (EAB Mar. 4, 2009) (Order Denying Review), *aff'd*, 614 F.3d 7, 11-13 (1st Cir. 2010); *In re Knauf Fiber Glass,*

GmbH, 9 E.A.D. 1, 5 (EAB 2000) ("Petitions for review may not simply repeat objections made during the comment period; instead they must demonstrate why the permitting authority's response to those objections warrants review."). Instead, "a petitioner must demonstrate with specificity in the petition why the Region's prior response to those objections is clearly erroneous or otherwise merits review." *In re Westborough*, 10 E.A.D. 297, 305 (EAB 2002).

To meet this requirement, petitioners must provide specific citation to the relevant comment and response in the RTC document and explain *why* the response to the comment was clearly erroneous or otherwise warrants review. 40 C.F.R. § 124.19(a)(4). Accordingly, "mere allegations of error" or "vague or unsubstantiated claims" are not enough to warrant review. *In re City of Attleboro,* NPDES Appeal No. 08-08, slip op. at 32, 45, 61, 74 (EAB Sept. 15, 2009). This category of error above all characterizes the Petition. *See Pet. at 7-14 (Phosphorus limits); 14-19 (Effluent Flow); 19-22 (E. coli); 26-27 (Bypass); 22-25 (Testing frequency); 26-30 (narrative WQSs)*.

c) To Demonstrate Error on a Technical Issue, Petitioner Must Demonstrate Compelling Error, not Merely a Preference for an Alternative Technical Theory

A petitioner seeking review of issues that are technical in nature, as here, bears a heavy burden because the Board generally gives substantial deference to the permit issuer on questions of technical judgment. *In re Town of Ashland Wastewater Treatment Facility*, 9 E.A.D. 661, 667 (EAB 2001). "[C]lear error or a reviewable exercise of discretion is not established simply because [a] petitioner presents a difference of opinion or alternative theory regarding a technical matter." *Id.* In a challenge to scientific or technical issues such as those advanced here, a petitioner must present the Board with

references to studies, reports, or other materials that provide relevant, detailed, and specific facts and data about permitting matters that were not adequately considered by a permit issuer. *See, e.g., In re Envtl. Disposal Sys., Inc.*, 12 E.A.D. 254, 289-92 (EAB 2005). Petitioner repeatedly falters on this account in its objections to the E. coli limits (*Pet. at 19-22*), testing requirements (*Pet. at 22-23, 31*), flow limits (*Pet. at 18*), and phosphorus limits (*Pet. at 14*).

IV. ARGUMENT

Petitioner raised ten issues in its appeal of the Final Permit. *Supra* Section II. EPA has grouped Petitioner's challenges into four overall categories: (A) effluent limitations; (B) monitoring and reporting; (C) CSO limitations; and (D) narrative WQS.

A. Effluent Limitations

1. Total Phosphorus

Petitioner objects to EPA's imposition of a monthly average phosphorus limit of 1.08 mg/l, disagreeing with EPA's: 1) use of the Gold Book as "relevant information" under 40 C.F.R. § 122.44(d)(1)(vi) to implement Massachusetts' narrative nutrient WQC; 2) reliance on a steady-state model to project in-stream phosphorus concentrations in lieu of the City's unfinished Qual2K reactive model; and 3) application of the 7Q10 critical low flow value to derive the permit limit, as mandated under Massachusetts' WQS, instead of higher seasonal flows. *Pet. at 7-14*. Petitioner's arguments fail on both procedural and substantive grounds.

a) EPA's Application of the Gold Book Was Reasonable and Consistent with Law

Petitioner rehashes the same challenges to EPA's use of the Gold Book that it lodged in its comments; in each case, those objections were given due consideration by EPA but were ultimately rejected as inconsistent with the Act and implementing regulations. *Compare* Pet. at 7-9, 11-12, *with* Ex.6 at 1-2 (Lowell Comments)(AR.C.12). Petitioner's comments focus on EPA's alleged misuse of the Gold Book without conducting a rulemaking; use of a steady-state dilution model rather than Lowell's unfinished Qual2K model; use of the 7Q10 low flow value; and requests for interim TP limits and a compliance schedule. On these issues, Petitioner has opted to leave EPA with the last word and, as such, has ceded its burden of demonstrating review on these issues.[6]

Petitioner substantively confronts only two aspects of EPA's responses to its phosphorus-related comments, both of which are without merit.

First, Petitioner notes that EPA's response refers to administrative and judicial precedent in prior Region 1 permit cases, which Petitioner incorrectly characterizes as cases where permittees challenged nutrient limits "based on outdated EPA numeric criteria and less-than-robust analyses of permit limits needed to maintain or achieve the

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[6] In addition to restating its own comments, Petitioner briefly presents two additional arguments made by another commenter, without referring to EPA's responses and without providing any support or basis for its conclusory arguments.

First, Petitioner repeats its request for "a revised TP allocation that reflects anticipated instream reductions that will result from the upstream facilities' NPDES permit-required reductions." *Compare* Pet. at 10, *with,* Ex.6 at 2 (Lowell Comments)(AR.C.12).

Additionally, Petitioner contends that EPA should have developed a TMDL to determine the allowable TP loading from all relevant dischargers. *Pet. at 13, 14*.

Both these issues were raised during the public notice period, and EPA responded to them. Petitioner fails to acknowledge or confront any of EPA's response to the comment. *Ex.5 at 54-55 (RTC)(AR.B.1)*; *see also id.* at 8-11, 12-15, 89-91. Because Petitioner did no more than more than repeat its comments, review of theses issue should be denied. Section III.A.2.b.

designated instream uses." *Pet. at 11*. In fact, these precedents demonstrate the Board and the First Circuit's affirmation of EPA's approach to developing nutrient limits, including phosphorus limits. Contrary to Petitioner's superficial and unsupported characterizations, these cases, taken together, directly affirm each critical step in EPA's analytical approach to determining effluent limits for nutrients: establishment of a protective instream target (based on an undisputed conceptual model of cultural eutrophication) that is designed to control eutrophic effects using all relevant information available at the time of permit issuance, including a range of published threshold values contained in EPA criteria and technical guidance relating causal (*i.e.*, phosphorus) and response (*i.e.*, chlorophyll-a; low/supersaturated DO) variables; finding of reasonable potential based on a level of certainty beyond a "mere possibility" but short of certain causation, including through the use of a steady-state mass balance model where statistical regression analyses, dynamic water quality models, or other causal demonstrations cause are unavailable; and setting of permit limits based on the chosen instream target. *See Ex.5 at 8-9 (RTC)(AR.B.1).*

Petitioner unpersuasively contends that the decisions EPA points to "are all unique," and have no bearing on its appeal of the phosphorus limits. *Pet. at 11*. Petitioner's objection is incongruous given its reliance on case-law and reference to other permits to support its claims of error. *See Pet. at* 15, 17-18, 20, 26, 28-29, 32. That NPDES permits are established on a site-specific basis does not render them *sui generis*. The legal and methodological underpinnings of EPA's approach to nutrient permitting—particularly its approach to choosing a target based on the Gold Book—need *not* be relitigated upon every permit reissuance, because varying case-specific facts do not vary the applicable legal framework for determining necessary NPDES permit limits. Contrary

to Petitioner's belief, both the Board and reviewing courts consider precedent when assessing the legality of EPA's approach to establishing NPDES permits. The analyses set forth in the precedent cited by EPA in its RTC on issues concerning reasonable potential and establishment of permit limitations may be relied on by the Board in assessing the reasonableness of EPA's permit determination. While the facts and specific circumstances are of course different in these cases, the applicable law and technical approach employed by EPA is not. Because Petitioner does nothing to refute the statutory and regulatory underpinnings of EPA's approach, as affirmed by administrative and judicial precedent, EPA need not belabor its decision to apply such approach in the Final Permit. *See Ex.5 at 8-11, 12-15 (RTC)(AR.B.1)*; *Ex.3 at 23-27 (FS)(AR.A.15)*.

Second, in response to Petitioner's comment that EPA's failure to adopt its "Gold Book value" through rulemaking is contrary to law (*Ex.5 at 7 (RTC)(AR.B.1)*), EPA explained that "NPDES permit proceedings are informal adjudications" which do not amount to a rulemaking. *See generally id. at 9-10*. EPA further explained that while it employs a consistent approach to application of the Gold Book in nutrient permit limit development, "EPA's permit-specific decisions, conducted under the rubric of 40 C.F.R. § 122.44(d), take into account, indeed turn on, *site-specific information* relating to the discharge and receiving water, and other relevant facts and circumstances." *Id.* at 10 (emphasis added).

Petitioner now contends that EPA's use of site-specific information in conjunction with the Gold Book and other relevant guidance achieves the same result across permits

and thereby necessitates promulgation of the Gold Book criteria.[7] Petitioner fails to specify the "results" that are similar across permits. While use of the Gold Book may result in EPA's imposition of phosphorus limits in other NPDES permits, the Petitioner fails to explain how consistent application of the Gold Book (which has already been upheld by the Board and the First Circuit) is inappropriate or unlawful. Petitioner's argument also runs counter to the plain text of 40 C.F.R. § 122.44(d)(1)(vi)(A) and (B), which specifically authorize EPA to translate narrative WQS by relying on information promulgated under Section 304 of the Act, such as the Gold Book, as supplemented by relevant information. The very complaints that Petition contends should trigger a rulemaking process were rejected during the promulgation and adoption of 40 C.F.R. § 122.44(d)(1). 54 Fed. Reg. 23868, 23876-77, 23879 (June 2, 1989).

Contrary to Petitioner's allegation, EPA's adoption of a consistent—although not binding—methodological approach is both appropriate and lawful, as both the Board and courts have found, and further provides a predictable baseline for the regulated community, as an *ad hoc* approach would not.

As to the unsubstantiated allegation that EPA failed to account for site-specific circumstances, that claim is belied by the administrative record. EPA's Fact Sheet and RTC is laden with site-specific facts and analyses that form the basis for its reasonable potential analysis and imposition of effluent limits for phosphorus. *See supra* Section II.B and C (describing derivation of phosphorus limit). In formulating the phosphorus

[7] Petitioner also points to a recently issued October 9, 2019 Executive Order (and Executive Order 12866) to argue that criteria from the Gold Book requires promulgation. Pet. at 7, 12. Yet, these arguments do not meet the procedural requirements for review, as they are based on materials that post-dated final issuance of the Permit. Nevertheless, should the Board take judicial notice of them, the executive orders at issue are irrelevant to the discussion at hand. For the reasons outlined in EPA's responses, use of the Gold Book occurs in conjunction with a site-specific factual assessment, and does not constitute a regulation or "binding norm."

limit, EPA assessed a broad range of material, including effluent and ambient data, eco-regional nutrient guidance, protective target values from the peer-review literature, and site-specific studies, such as the Army Corps and CDM reports. *See, e.g., Ex.3 at 13-15, 16, 23-24, Appendix A (Effluent and Ambient Data)(FS)(AR.A.15)*. In making unsubstantiated allegations of error, Petitioner failed to carry the burden necessary to obtain review. *See* Section III.A.2.

b) Petitioner Fails to Demonstrate that Region 1's Use of a Dilution Model was in Error

Petitioner criticizes EPA's use of a steady-state dilution-based approach—rather than the City's Qual2K water quality model—to assess reasonable potential for nutrients as inconsistent with EPA guidance and in error. In addition to restating its previous position (*compare* Ex.6 at 1 (Lowell Comments)(AR.C.12), *with* Pet. at 9-10), Petitioner complains that EPA's reasons for rejecting its Qual2K model "should be given no weight." *Pet. at 13*. Specifically, Petitioner claims that such rejection is based on delay associated with waiting for completion and calibration of such model and reliance on the five-year permit cycle to incorporate completed models in the future. *Pet. at 13* (citing *Ex.5 at 10 (RTC)(AR.B.1)*). Because the City's previous Permit was in effect for fourteen years, Petitioner concludes that EPA must "get the Permit limits right in the first instance," even if that involves further delay. *Pet. at 13*.

Not only does Petitioner's argument fly in the face of the Act and NPDES regulations, but the path Petitioner champions would only compound existing delays and exacerbate nutrient pollution in the Merrimack River.

First, the Act disfavors unnecessary delay in progressing toward the achievement of applicable WQS. *Scott v. City of Hammond*, 741 F.2d 992, 998 (7th Cir. 1984)

(criticizing continuing delay in implementing provision of the CWA designed to ensure achievement of WQS, given that "[t]he statutory time limits demonstrate that Congress anticipated that the entire process would take a relatively short time after the passage of the 1972 amendments"). All NPDES permits are limited to terms of five years, ensuring reevaluation and, if necessary, tightening of permit limitations at regular intervals.

Second, EPA has consistently adopted a precautionary approach to nutrient permitting because "[o]nce the cycle [of eutrophication] is underway, it is much more difficult and costly to restore designated uses in the receiving waters." *Ex.5 at 12 (RTC)(AR.B.1)*.

c) The Region's Use of the 7Q10 Low Flow Value Was Proper and Consistent with Law

Petitioner objects to EPA's use of the 7Q10 critical low flow value in its reasonable potential analysis and EPA's calculations of TP limits. *Pet. at 10-11, 13-14*. Petitioner primarily repeats its earlier comments, without fully confronting EPA's reasoning for applying the 7Q10 value. *Compare* Pet. at 10-11, 13-14, *with*, Ex.6 at 2 (Lowell Comments)(AR.C.12). Petitioner addresses the substance of EPA's response in only two respects, both of which fail to demonstrate grounds for review.

First, Petitioner contends that EPA's response "relies on the Gold Book 'not to be exceeded at any time' reference," in disregard of "widely understood" science that Petitioner allegedly referred to in its comments. *Pet. at 14*.[8] Petitioner fails to specify what science it referenced and how that science conflicts with EPA's application of the

[8] Petitioner argues that EPA's reliance on the Gold Book standard, which is "not to be exceeded at any time" demonstrates a routine application of such standards warranting promulgation. *Pet. at 14*. These issues are meritless for the reasons set forth above (Section IV.A.1.a) and in the RTC. *Ex.5 at 10 (RTC)(AR.B.1)*.

Gold Book. *See Ex.6 at 2 (Lowell Comments)(AR.C.12)*. Unsupported allegations of error are insufficient to merit review. Section III.A.2.

Second, Petitioner erroneously claims that EPA's discussion of "adverse short-term impacts of TP concentrations" was speculative and unsupported by the record. *Pet. at 14* (citing *Ex.5 at 14-15 (RTC)(AR.B.1)*). The record supports EPA's characterization of the short-term effects of phosphorus pollution and is consistent with EPA's precautionary approach to nutrient permitting that has been affirmed by the Board and the First Circuit. *See, e.g., Ex.18 at 4 (NTGM)(AR.J.2)*("Nuisance levels of algae and other aquatic vegetation (macrophytes) can develop rapidly in response to nutrient enrichment when other factors (i.e., light, temperature, substrate, etc.) are not limiting."); *Upper Blackstone*, 690 F.3d at 15. EPA's discussion of short-term impacts was a technical assessment of possible scenarios arising from the use of seasonal or annual flow values, as Petitioner requested, rather than the 7Q10 low flow value. EPA considered these potential unfavorable outcomes and concluded it was reasonable to use the 7Q10 value to ensure compliance with Massachusetts' WQS and the CWA. EPA's use of the 7Q10 and the Gold Book value to establish limits based on the critical condition is consistent with Massachusetts' directive that WQS be met under 7Q10 flow. *Attleboro*, 14 E.A.D. 398, 441 (finding that 314 C.M.R. § 4.03(3) requires compliance during "the most severe hydrological conditions"). Petitioner does not dispute this fact.

2. The Wastewater Effluent Flow Limit

Petitioner largely reprises its comments made on the draft permit regarding flow, at times verbatim. *Compare* Pet. at 14-18 *with* Ex.6 at 2-4 (Lowell Comments)(AR.C.12).

Petitioner confronts EPA's decision to impose an effluent flow limit on five specific grounds, none of which establish grounds for review.

First, Petitioner contends that EPA lacks legal authority to impose flow limits. *Pet. at 18*. Contrary to Petitioner's assertion, the flow limit that EPA retained from the previous Permit is rooted in ample legal authority; specifically, the requirements enshrined in CWA § 402(a)(1) and 40 C.F.R. § 122.4(d) that permit conditions must ensure compliance with WQS. *See also* CWA § 301(b); 40 C.F.R. § 122.44(d)(1). The flow limitation is necessary to ensure that the permit contains adequate WQBELs. *Supra* Section II.D.

Petitioner claims that EPA lacks authority to impose any restrictions on the quantity of wastewater effluent, because the "flow" does not fall within the definition of "pollutant." *Id*. The Permit does not limit wastewater effluent on this basis, but rather to assure that the facility's pollutant discharges do not result in excursions above in-stream water quality criteria, in accordance with CWA § 301(b)(1)(C) and implementing regulations, *e.g.*, 40 C.F.R. §§ 122.4(d), 122.44(d)(1). *See* Section II.D (explaining derivation of the flow limit). Petitioner's attempt to ground the flow limit in the definition of "pollutant" is a red herring. *Pet. at 16*. In addition to objecting to a non-existent position, Petitioner does so without reconciling its reading with the plain text of the statute, which defines "pollutant" to include, *inter alia*, "municipal . . . waste[]" and "sewage." CWA § 502(6); *Ex.5 at 18 (RTC)(AR.B.1)*.

Petitioner expresses confusion over EPA's reliance, in part, on operation and maintenance provisions as a basis for including the flow limit. *Pet. at 18-19*. There is nothing opaque about EPA's rationale here. The flow limit is intrinsically tied to the

operation of the plant, as designed. EPA regulations define the "design flow" as "the wastewater flow rate the plant was built to handle." 40 C.F.R. § 122.21(j)(1)(vi). Requiring the Petitioner to operate within the constraints of its design logically furthers the requirement that Petitioner "at all times properly operate" its Facility. *See* 40 C.F.R § 122.41(e).

Second, Petitioner alleges that EPA's specific flow limit imposed here was "incorrect." *Pet. at 18*. It is unclear what Petitioner is referencing, and it is neither the Board's nor EPA's role to guess the meaning behind an imprecise claim. Insofar as Petitioner is requesting to use a flow rate other than the design flow, that is incompatible with the regulatory requirement to use "design flow" for purposes of calculating effluent limitations. *See* 40 C.F.R. § 122.45(b)(1); Section II.D. Petitioner provided no specific regulatory or technical basis to support the use of any other flow rate.

Third, Petitioner argues EPA failed to adequately address concerns that EPA and states authorized to administer the NPDES program are imposing flow limits inconsistently. *Pet. at 18*. Petitioner's unsupported references to other permits as a basis for challenging the effluent flow limit (*Pet. at 15*) are inappropriate and inaccurate. *Port St. Joe*, 7 E.A.D. at 304 n.44.

Moreover, as EPA stated in the RTC and unrebutted by Petitioner, EPA has included limits on the wastewater effluent flow from POTWs, based on the design capacity of the facility, throughout Massachusetts (96 facilities since 1984, 13 of which include CSOs, including the 2005 NPDES Permit issued to Lowell) and increasingly in New Hampshire (13 facilities since 2005). Moreover, States and other EPA Regions have

issued over 3,750 NPDES permits (including with 92 CSOs) to POTWs with similar limits in other parts of the country.

Fourth, Petitioner alleges that EPA's observation that a flow increase request was not ripe because the City had failed to complete an antidegradation review by Massachusetts was "nonsense" because EPA purportedly lacked the legal authority to impose such a limit in the first place. *Pet. at 19*. Petitioner's understanding of the applicable legal regime is incorrect for the reasons stated above. Petitioner fails to rebut Massachusetts' and EPA's position that antidegradation review procedures would need to be satisfied prior to granting the relief requested by the City during the public comment period.

Petitioner disparages as "silly" EPA's conclusion that antidegradation procedures would be triggered by removal of the flow limit on the dubious grounds that removal of the limit is not the functional equivalent of an increase. Even if the quantity of untreated discharges from individual CSO outfalls would diminish, the quantity of pollutants discharged *from the City's treatment facility* would indisputably increase under Petitioner's proposal, thus implicating Massachusetts' antidegradation requirements; indeed, Petitioner's stated intention is to increase the amount of effluent being treated at the facility, beyond its design flow and the flow it is has identified to the permitting authorities. *Pet. at 18*. Under their express terms, Massachusetts' antidegradation procedures would need to be satisfied prior to authorizing such an increase. *See* 314 C.M.R. § 4.04 (Massachusetts "Antidegradation Provisions" applying to "new or *increased* discharge" (emphasis added)); *Ex.3 at 9 (FS)(AR.A.15); Ex.5 at 19 (RTC)(AR.B.1).* EPA is not prejudging the result of any such antidegradation analysis,

merely noting that it must be undertaken should Petitioner wish to increase its permitted discharge.

Finally, Petitioner suggests that the combination of concentration and mass-based limits is sufficiently protective of water quality, but again ignores a critical component of EPA's rationale—that flow limits ensure the integrity of EPA's reasonable potential calculations *both* for pollutants found to have reasonable potential *and* those that do not when the facility is discharging at design flow. *Ex.3 at 8 (FS)(AR.A.15); Ex.5 at 17-18 (RTC)(AR.B.1).*

For all the above reasons, the Board should deny review of this issue.

3. *E. Coli* Maximum Daily Limit

Petitioner challenges EPA's decision to impose a maximum daily permit limit for *E. coli*. *Pet. at 19-22*. As outlined in Section II.E, EPA included an average monthly limit for *E. coli* of 126 cfu/100 mL and a maximum daily limit of 409 cfu/100 mL, and fully detailed its decision—in fact obligation—to express the limits in this manner. Aside from reiterating many of its comments verbatim, Petitioner attempts to address only a single, ancillary phrase contained among EPA's detailed, technical responses to its comments—that the imposition of a maximum daily WQBEL for *E. coli* was "protective" of WQS. *Pet. at 21*. Under the Board's regulations and precedent, this is insufficient to garner review. Petitioner does not address the technical bases that EPA offered in support of the permit terms, including, most importantly, that they are *required* under Massachusetts approved WQS. Petitioner does not attempt to refute EPA's response.

With regard to its limited challenge to the substance of EPA's response, Petitioner claims that EPA's statement that it took a "protective approach" in setting the *E. coli*

limits does not provide a "meaningful basis" and without any further technical or legal support, "would justify any conceivable limit." *Pet at. 22*. Contrary to Petitioner's implication, EPA's response did not merely state that its approach is protective. Under Section 301(b)(1)(C), EPA is obligated to include limitations stringent enough to ensure compliance with WQS. EPA clearly and thoroughly explained a daily maximum limit was necessary in order to ensure protection of Massachusetts *E. coli* water quality criteria. *Ex.3 at 18-19 (FS)(AR.A.15); Ex.5 at 22-24 (RTC)(AR.B.1)*. Petitioner's response entirely ignores the applicable state criteria. EPA further explained how it derived the maximum daily limit consistent with EPA guidance and MassDEP's practice. *Ex.5 at 23 (RTC)(AR.B.1).* Petitioner's attempt to divorce a single descriptive phrase from EPA's subsequent substantive analysis does not demonstrate any reviewable error.

Petitioner's references to other permits as a basis for calling into question this Permit is once again unavailing but is particularly irrelevant in the case of a WQBEL, such as the *E. coli* limit, which is based on state-specific WQS. *Supra* at II.E.

Additionally, Petitioner impermissibly attempts to raise an issue before the Board that it did not put before EPA during the public comment period. *See* 40 C.F.R. § 124.13. Petitioner argues for the first time that the *E. coli* provisions are contrary to EPA's regulations at 40 C.F.R. § 122.45(d) and that EPA was required to make an "impracticability showing" in order to include the permit terms as it did. *Pet. at 20*. Petitioner's comment to EPA on the draft *E. Coli* permit terms, however, contain neither a reference to 40 C.F.R. § 122.45(d) nor any mention of an "impracticability showing." Petitioner's assertion, (*Pet. at 22*), that EPA committed procedural error in failing to respond to a non-existent comment is wrong.

Even assuming Petitioner had properly lodged this comment, the claim that EPA must make an "impracticability showing" under 40 C.F.R. § 122.45(d) in order to include a daily maximum limit for *E. coli* is off-base. *Pet. at 20*. This regulation states that effluent limitations for continuous discharges from POTWS "shall unless impracticable be stated as … average weekly and average monthly discharge limitations" 40 C.F.R. § 122.45(d). However, EPA is under a statutory and regulatory duty to ensure that WQS are met, even if it requires limitations "in addition to or more stringent than" limitations promulgated under various provisions of the Act. CWA § 301(b)(1)(C); 40 C.F.R. § 122.44(d). Where, as here, a state's approved criteria require the inclusion of a daily maximum limit for a POTW to ensure its attainment, EPA must do so.

B. Monitoring and Reporting

Petitioner advances three claims related to testing and sampling requirements included in the Final Permit, objecting to: (1) WET testing frequency; (2) metals testing frequency, and; (3) the requirement that sampling be conducted according to a specific protocol to ensure the representativeness of the data. *Pet. at 22-24, 30-32*. EPA retains broad authority to prescribe data collection and reporting requirements. *Supra* Section I.A.3. EPA fully explained the rationale for including each of the contested provisions, which fall well within the bounds of EPA's collecting and monitoring authority under the CWA. *Ex.3 at 29-30 (FS)(AR.A.15)*; *Ex.5 at 24-26 (RTC)(AR.B.1)*.

1. Whole Effluent Toxicity (WET) Testing Frequency

Petitioner contends that the quarterly WET testing requirement is unnecessary as Lowell's effluent is "well-characterized as being non-toxic" and EPA's reasonable potential spreadsheet demonstrates that there is no reasonable potential for common

municipal toxicants. *Pet. at 22*. Petitioner based its challenge in large part on a faulty understanding of EPA authority and failed to acknowledge the Region's multifaceted rationale underlying the WET testing requirements.

Petitioner's position rests primarily on a flawed understanding of EPA's monitoring and sampling authority, namely that WET testing and sampling requirements are not authorized unless EPA makes a finding that there is "reasonable potential for WET in the Lowell effluent." *Pet. at 23*. Petitioner inexplicably ignores that this Board has explicitly held that monitoring is *not* contingent on a reasonable potential finding. *In re Town of Concord*, 15 E.A.D. 514, 541-42 (EAB 2014).

Other than pointing to the absence of any "reasonable potential," Petitioner has failed to demonstrate that the permit condition is clearly erroneous or otherwise warrants review. 40 C.F.R. § 124.19(a)(4)(i). Specifically, Petitioner emphasizes that none of the WET tests "passed the target value" for chronic toxicity and only two of the tests came close (at 6.25 percent, with a 5.6 percent minimum target value). As stated in EPA's RTC (*Ex.5 at 24-25 (AR.B.1)*), this same fact—that two *recent* tests produced results approaching the target value—is cause for concern, and additional WET testing will aid in the agency's understanding for reasonable potential analyses in future permit cycles. EPA's response was not an effort to establish reasonable potential, but rather to underscore its concern about future effluent toxicity. Petitioner does not substantiate its differing opinion that the "WET data raise no concern at all" with any technical or scientific support. *Pet. at 23*.

Additionally, EPA also explained that "the data for certain metals (*e.g.*, lead) reveal that the downstream concentration is quite close to the chronic criterion (*i.e.*, 0.45

µg/L compared to 0.56 µg/L)." *Ex.5 at 25 (RTC)(AR.B.1).* Petitioner questions where these data came from, and then suggests that these data are irrelevant because EPA determined there is no reasonable potential for lead exceeding water quality criteria. *Pet. at 23*. The ambient and effluent metals analyses that are conducted in conjunction with WET tests are a required component of WET testing, per the WET testing protocol. The lead value of 0.45 µg/l cited by Petitioner represents the projected downstream concentration of lead which was calculated using ambient and effluent WET data, and is included in Appendix B to the Fact Sheet. It was not intended to establish reasonable potential for WET, which is a pre-requisite only for inclusion of a WET permit limit – not, as discussed above, for inclusion of WET monitoring requirements.

EPA's decision to include quarterly WET testing was based on multiple factors: adherence to state policy requirements, assurance that narrative WQS are being met, and as an effort to collect metals and ammonia data for reasonable potential analyses in future permit terms. *Ex.3 at 29-30 (FS)(AR.A.15)*. The City fails to address critical points presented in EPA's Response. EPA explained that MassDEP's current toxic policy requires toxicity testing for all dischargers; EPA's decision to include WET testing was consistent with this state requirement. *Ex.5 at 24 (RTC)(AR.B.1)*. The toxic policy (*Ex.23 (Toxic Policy)(AR.L.2)* clearly indicates that quarterly testing is appropriate for a facility of this size, in light of its dilution factor.

Finally, EPA's RTC emphasizes that the ambient and effluent chemical-specific WET data will be used "for future reasonable potential analyses and notes that quarterly samples over the next permit term would allow for a more robust analysis." *Ex.5 at 25 (RTC)(AR.B.1)*. This point further bolsters the Region's reasonable decision to continue

to require WET testing. *Town of Ashland*, 9 E.A.D. at 671-72 (rejecting petitioner's argument that "'monitoring requirements designed to generate data for future regulatory activity are not' authorized under 40 C.F.R. § 122.44(i)").

2. Metals Testing Frequency

Petitioner objects to continued quarterly sampling/testing for aluminum, cadmium, copper, nickel, lead, and zinc. *Pet. at 24-25*. Petitioner again relies primarily on the argument that EPA failed to demonstrate a reasonable potential for these metals to exceed water quality criteria, and as a result, the testing provisions are arbitrary and capricious. *Pet. at 24*. Petitioner points to EPA's response explaining that "the data for certain metals (*e.g.*, lead) reveal that the downstream concentration is close to the chronic criterion (*i.e.*, 0.45 µg/L compared to 0.56 µg/L)," (*Ex.5 at 25 (RTC)(AR.B.1)*) and concludes that this explanation does not justify the testing requirements. These arguments fail for the same reasons set forth in Part IV.B.1 above.

Petitioner, however, presents one late-arriving argument: that the testing requirements for metals "go far beyond the standard of EPA's own regulation at 40 C.F.R. § 122.21(j)(4)." *Pet. at 24*. The Board need not reach the merits of this argument, as this issue was not previously raised by Petitioner. In its comments, Petitioner offered only the following claim related to metals testing:

> As noted above, we are nowhere close to having reasonable potential for any of the metals we test for. Accordingly, we object to the continued quarterly sampling requirement for AL, CD, CU, NI, PB, and ZN. Instead, we propose to continue to sample for these pollutants as part of the three priority pollutant scans that we conduct each permit term.

Ex.6 at 6 (Lowell Comments)(AR.C.12). Petitioner said nothing about the testing requirements consistency with section 122.21(j)(4) or any other regulations. *Supra* Section III.A.2.a.

Neither can this argument prevail on substantive grounds. Section 122.21(j) identifies the "Application requirements for new and existing POTWs." Permit application requirements are completely distinct from monitoring or sampling requirements included in a NPDES permit itself. As stated previously, EPA has broad authority to impose monitoring requirements on permittees, which is not bound by EPA's permit application regulations.

3. Requirements to Sample on Specified Times and Days

Petitioner contends that footnotes 1 and 13 in the Final Permit, which establish requirements to sample on specific times and days/months, have no legal, technical, or practical basis and are therefore arbitrary and capricious. *Pet. at 30-32*. Petitioner complains that these requirements constitute "micromanagement" of operation of its facility, impose a significant administrative burden, and are redundant because 40 C.F.R. § 122.48(b) and other requirements in the Final Permit already require representative sampling. *Pet. at 30-31*.

First, the sampling requirements in footnote 1 are not as restrictive as Petitioner describes. This footnote guides the permittee to develop *its own* sampling program, and specifically *allows* deviations from the routine program if documented and explained. *Ex.1 at 6 n.1 (Final Permit)(AR.A.1)* ("Occasional deviations from the routine sampling program are allowed . . ."); *see supra* Section II.F. Therefore, the Petitioner retains both

control of developing a routine sampling plan and flexibility in the face of unusual circumstances.

Footnote 13, related to WET testing, is also not so rigid. Petitioner retains flexibility in that the requirement does not prescribe the exact week of the month where sampling occurs. Instead, it requires that samples be taken "during the same weeks in January, April, July and October." *Ex.1 at 8 n.13 (Final Permit)(AR.A.1)*. The Petitioner has flexibility in selecting the week in which sampling will occur, and retains the flexibility outlined in footnote 1, which also applies to WET testing.[9] *See also Ex.3 at 9 (FS)(AR.A.15)*.

Moreover, Petitioner disregards the Region's concern for monitoring procedures that ensure the ability to track long-term trends in effluent quality and to eliminate bias in sampling results without providing any technical or legal support. *Pet. at 31*. Instead, Petitioner opines that the sampling times and days would "by definition be biased . . . as to and favoring the required times and days." *Id*. Mere allegations of error without specific supporting information are insufficient to warrant review. As the permitting authority for Massachusetts NPDES permits, EPA's determination that a routine sampling plan with specific days and times of sampling "facilitates the ability to track long-term trends in effluent quality and to characterize the discharge without any bias

[9] Petitioner references "thousands of other NPDES permits around the country" that require quarterly sampling without requirements to sample at certain times or days. *Pet. at 31*. Petitioner also identifies a District of Columbia EPA-issued permit with different monitoring requirements. However, Petitioner provides no information regarding these other permits that would render Region 1's decision-making in error. In fact, a permit issued in the District of Columbia or any other jurisdiction, based on different facts and issued by a different permitting authority, has no necessary bearing on Region 1's implementation of the NPDES program in Massachusetts and the application of monitoring conditions in this Permit. The record supports Region 1's lawful effort to ensure representative data collection through inclusion of footnotes 1 and 13. Pointing to other permits does not refute these facts.

related to the variability within a given day or week" is informed by its extensive technical experience. *Ex.4 at 26 (RTC)(AR.B.1)*. A set sampling schedule avoids the potential for sampling to be conducted at times that may not accurately represent the characteristics of the discharge or may avoid capturing discharges that yield unfavorable data (*i.e.*, avoiding sampling during high flow events or when there are discharges to the collection system from certain industrial users). *See Ex.21 at 8-6 (NPDES Manual)(AR.K.3)* ("To ensure representative monitoring, permit conditions could be included to require monitoring on the same day, week, or month for parameters that might be correlated in some way.").

Contrary to Petitioner's assertion that consistent application of these sampling provisions in Massachusetts municipal permits is irrelevant to whether the provisions are appropriate, EPA disagrees. *Pet. at 31*. Not only do these conditions "delineate[] the representativeness requirement, which may be subject to varying interpretations" throughout Massachusetts (*Ex.5 at 26 (RTC)(AR.B.1)*), but consistent application of these conditions supports a finding that the requirements are necessary. The Board has identified consistent application of permit conditions as a fact supporting the adequacy of EPA decisions to apply monitoring requirements. *Concord*, 16 E.A.D. at 544.[10]

C. CSO Limitations

1. CSO LTCP

Petitioner asserts that EPA committed an error of law in failing to include provisions in the Permit addressing "the development and implementation of its CSO

[10] Petitioner claims that uniform application of standard monitoring conditions in Massachusetts municipal NPDES permits requires promulgation. *Pet. at 32*. The petitioner fails to provide any legal justification. *See supra* Section IV.A.1.a.

LTCP." *Pet. at 26*. Additionally, Petitioner asserts that EPA failed to respond to its "substantive request for LTCP consistency in the Permit." *Pet. at 25*.

As detailed in Section II.G above, Petitioner's comments on this issue were limited to the issue of "the appropriate deadline" for the submission of an LTCP and the inclusion of such in the Permit. Petitioner's attempt to now raise objections related to "LTCP consistency" are improper. Moreover, having not commented on the issue of "LTCP consistency," EPA committed no error in not addressing such an issue. EPA adequately responded to Petitioner's comment on the timing and appropriate mechanism for the submission of the LTCP by directing it to work with EPA's Enforcement office with whom it had already agreed to a deadline for development. *Ex.5 at 39-40 (RTC)(AR.B.1)*.

Additionally, to clarify a matter of factual ambiguity in Petitioner's brief, [11] Petitioner does not currently have a final, approved LTCP in effect. Even assuming it had an approved LTCP in effect, Petitioner misreads the CSO Policy in asserting that EPA must include the Plan in the NPDES Permit. *Pet. at 2*5. Analogous to the flexibility provided to the permitting authority for selecting the appropriate document in which to enshrine the *submission* requirement for the LTCP, (*supra* Section II.G), the CSO Policy directs the permitting authority to determine the "appropriate enforceable mechanism," NPDES or otherwise, in which to include requirements for *implementation* of the LTCP. *Ex.13 at* 18695*(AR.H.17).*

[11] Petitioner offers varying descriptions of its LTCP. It states that the Plan is "currently effective" (*Pet. at 4*) and "approved" (*Pet at. 27*), but also that it is "developing" (*Pet. at 25*) the LTCP which "will" address certain issues (*Pet. at 16*). Notably, Petitioner does not include an LTCP in the exhibits accompanying its brief.

Finally, Board precedent cited by Petitioner for the first time in its petition, *In Re District of Columbia Water & Sewer Authority*, 13 E.A.D. 714 (EAB 2008), does not support the proposition that NPDES permits must incorporate LTCPs. Rather, the Board held in that case that the permit at issue must include a compliance schedule for implementation of an LTCP based "solely upon the text of the District [of Columbia]'s water quality standards regulation," which mandated inclusion of a compliance schedule. *Id*. at 736-37, n.39 and n.41 ("we decline to address [] whether the CSO Policy alone (absent [the state-WQS]) would require inclusion of a compliance schedule in the permit under this set of facts"). That District of Columbia-specific WQS is, of course, not implicated for this Massachusetts permit.

2. CSO Secondary Bypass

Petitioner objects to EPA's inclusion of language addressing the bypass of secondary treatment. *Pet. at 26.* Petitioner simply reiterates comments made during the public comment period without substantively confronting EPA's subsequent explanations. *Compare* Pet. at 26-27 *with* Ex.5 at 27-28 (RTC)(AR.B.1). As detailed above, EPA explained that the bypass language incorporates required regulatory language verbatim. *Ex.5 at 28-29 (RTC)(AR.B.1)*. Additionally, EPA informed the Petitioner that although there is an alternative permitting approach available, as described in the CSO Policy, Petitioner has not met the requirements necessary to invoke such approach. *See* Section II.H.

Petitioner does not substantively address either of these responses. Rather, its one line addressing EPA's response is that it "is appearance over substance, and again illustrates the lack of EPA coordination of the Permit and the City's CSO program." *Pet.*

at 27. This does not address EPA's legal or technical rationale as to why Petitioner's request is inappropriate under both EPA regulations and the CSO Policy, and thus falls short of the Board's threshold for review.

EPA's inclusion of the regulatory bypass language does not mean, as Petitioner characterizes for the first time in its Petition, that the "the City has to stop using peak flow facilities for peak flow treatment." *Pet. at 27*. Rather, it simply means that Petitioner must demonstrate compliance with the three requirements of 40 C.F.R. § 122.41(m)(4)(i) for its bypasses on a peak flow event-by-peak flow event basis, because it has not provided the requisite information to justify having such bypasses prospectively approved. *Ex.5 at 28-29 (RTC)(AR.B.1)*.

Finally, Petitioner's reference to extra-record evidence in the form of other NPDES permits is not only ineffectual but also inaccurate. Aside from asserting without attribution that "hundreds of CSO communities" have permits that contain bypass-authorizing provisions, Petitioner lists only one permit with any specificity in support of its claim, the District of Columbia's POTW. Contrary to Petitioner's assertion, however, that facility's permit appropriately contains exactly the same regulatory language at 40 C.F.R. § 122.41(m)(4) as contained in Petitioner's permit.[12] Where that permit also approves a CSO-related bypass, consistent with the CSO Policy's alternative approach, it is conditioned on the discharge being "in compliance with" its unique, facility-specific LTCP and a consent decree.[13]

[12] *See* Blue Plains Permit, at Part II.B.2.d (page 23), *available at* https://www.epa.gov/sites/production/files/2018-10/documents/blueplains_2018_final_permit.pdf.

[13] *Id*. Part I.C (page 14).

D. Narrative Water Quality Standards

1. General Water Quality Standards Compliance Language

Petitioner's objection to a Final Permit condition prohibiting the discharge from causing a violation of WQSs of the receiving stream does not present any grounds for Board review. *Pet. at 26*. Petitioner contends that this provision: 1) is unlawful; 2) undermines the CWA permit shield; 3) is unfair and deprives the City of fair notice and opportunity for due process; 4) is inconsistent with EPA's West Virginia NPDES permit program; and 5) is unnecessary as other permit restrictions are "more than broad enough to protect the general standard." *Pet. at 27-30*.

Petitioner has done no more than restate, almost verbatim, its objections on the Draft Permit, without substantively confronting the bulk of EPA's extensive response. *Compare* Pet. at 27-30 *with* Ex.6 at 9 (Lowell Comments)(AR.C.12).

First, EPA identified and explained the explicit statutory and regulatory authority supporting inclusion of general narrative WQS in NPDES permits. *Ex.5 at 32 (RTC)(AR.B.1)*; *see also Northwest Envtl. Advocates v. City of Portland*, 56 F.3d 979, 990 (9th Cir. 1995) (concluding "the statutory language, legislative history, and case law authorize citizens to enforce permit conditions stated in terms of water quality standards").

Petitioner's only reaction to this response is to present the Board with an unsupported interpretation of CWA Section 301(b)(1)(C). *Pet. at 29*. Petitioner's suggestion that Section 301(b)(1)(C) precludes the imposition of narrative water quality provisions in an NPDES permit is in direct conflict with the plain language of the statute (authorizing "any more stringent limitation, including those necessary to meet water quality standards . . . established pursuant to any State law or regulation"). The cited

provision provides clear authority to establish permit limitations necessary to meet WQS (including both numeric and narrative standards). Petitioner also fails to acknowledge the regulations and case-law presented in EPA's response that further support the legality of the narrative water quality provision at issue.

Second, in response to Petitioner's concern that this general narrative water quality provision would undermine the permit shield, EPA explained how the statute operates and concluded that the permit shield remains intact and available to the Permittee. Petitioner characterizes EPA's response as a "circular argument" that would lead to legally impermissible results. *Pet. at 29-30*. EPA's explanation that a permittee must first comply with all express terms of the permit including narrative WQS prior to invocation of the permit shield is directly adopted from courts' explanation of the permit shield provision. *See Ex.5 at 34-35 (RTC)(AR.B.1)* (providing an overview of case-law and explanation of the permit shield provision). Petitioner does not dispute the cases EPA presented or identify any information that would call into question EPA's application of the law.

Third, in its RTC, EPA fully responded to Petitioner's concerns that it would be deprived of fair notice or an opportunity for due process. *Id.* at 33-34.[14] In an effort to address EPA's response and clarify its due process claims, Petitioner simply reiterates its argument related to fair notice. *Pet. at 29*. Petitioner fails to otherwise address EPA's response, which explained how the Permittee has had ample notice and opportunity to

[14] Petitioner's assertion that this provision deprives the City of a compliance schedule is similarly without merit. In the RTC, EPA explained, "the permit limit together with schedule comprise the enforceable effluent limitation. So long as Petitioner complies with the terms of a compliance schedule for a given limit, it will not be subject to an enforcement action for failing to meet a final limit not yet in effect, and it can avail itself of the permit shield." *Ex.5 at 35 (RTC)(AR.B.1)*.

comment and appeal this issue through the CWA notice-and-comment procedures. *Ex.5 at 33-34 (RTC)(AR.B.1)*. Through its failure to confront EPA's response, Petitioner's argument fails on procedural grounds. Regardless, nothing presented by Petitioner demonstrates that EPA's rationale and response are in clear error or otherwise inconsistent with law.

Fourth, EPA explained that "[c]hanges to the authorized NPDES program and state WQS in West Virginia have no bearing on EPA's implementation of the NPDES program in Massachusetts. . .. EPA's inclusion of Part I.A.2 [narrative WQS] is consistent with law and regulations and ensures that the permit is in compliance with Massachusetts' State Certification and water quality standards." *Id.* at 34. As stated previously, differing practices of other permitting authorities do not alone constitute a showing of error. *See supra* Section IV.A.2. Additionally, EPA's decision to include narrative water quality provisions in its municipal NPDES permits is lawful regardless of whether these provisions have been subject to legal challenge in the past. As to Petitioner's suggestion that no judicial decisions have confirmed EPA's inclusion of narrative WQS (*Pet. at 29*), courts have indeed held that the "[Clean Water] Act permits enforcement of broad, narrative criteria," which fully supports EPA's application of narrative WQS in the Final Permit. *PUD No. 1 of Jefferson Cty. v. Washington Dept. of Ecology,* 511 U.S. 700, 700 (1994); *see also Ex.5 at 32-35 (RTC)(AR.B.1)* .

Fifth, EPA reasonably determined that this provision is both necessary and not duplicative. "EPA sees merit in including a more general, narrative, preventative permit provision that restates the commands of Section 301 and the implementing regulations at 40 C.F.R. §§ 122.4 and .44 to 'ensure' compliance with water quality standards, and that

similarly mirrors the Commonwealth's mandate at 314 C.M.R. § 4.03(1)(a)." *Ex.5 at 33 (RTC)(AR.B.1)*. Petitioner simply repeats its comment on the Draft Permit and does not acknowledge EPA's response and supported rationale, and thus has failed to demonstrate any basis for review. *Pet. at 28*.

2. General WQS Compliance Language for CSOs

Petitioner similarly argues that the requirement for CSOs, which provides, "[t]he discharges shall not cause or contribute to violations of federal or state Water Quality Standards" (*Ex.1 at Part I.F.2.b (Final Permit)(AR.A.1)*), is arbitrary and capricious as there is no need or rational basis for such provision. *Pet. at 30*. Petitioner repeats its comment on the Draft Permit (*Ex. 6 at 12 (Lowell Comments)(AR.C.12)*), failing to acknowledge EPA's specific responses and providing no information that demonstrates error. *Ex.4 at 40 (RTC)(AR.B.1)*. EPA explained that inclusion of the narrative condition at issue is consistent with EPA's CSO Policy, CWA Section 402(q), the NPDES Permit Writer's Manual, and the Combined Sewer Overflows: Guidance for Permit Writers. *Id.* at 40-41; *see supra* Section II.I. Nothing in this Petition would undermine the support provided by the statute and related guidance documents. For this and the reasons articulated above (Section IV.D.1), the Board should deny review.

V. CONCLUSION

The Petition should be denied.

Respectfully submitted,

_____/s/_____

Cayleigh Eckhardt, Esq.
Michael Knapp, Esq.
Maximilian Boal, Esq.
US Environmental Protection Agency
Office of Regional Counsel, Region 1

STATEMENT OF COMPLIANCE WITH WORD LIMITATIONS

I hereby certify that this response to the petition for review contains less than 14,000 words in accordance with 40 C.F.R. § 124.19(d)(3).

.

Dated: 12/10/2019 _____/s/_____

Cayleigh Eckhardt, Esq.
Michael Knapp, Esq.
Maximilian Boal, Esq.
US Environmental Protection Agency
Office of Regional Counsel, Region 1

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing Response to the Petition for Review and Statement of Compliance with Word Limitations, in the matter of City of Lowell, Massachusetts, NPDES Appeal No. 19-03, were served on the following persons in the manner indicated:

By Electronic Filing and Overnight Mail:

Ms. Eurika Durr
Clerk of the Board
U.S. Environmental Protection Agency
Environmental Appeals Board
1201 Constitution Avenue, NW
U.S. EPA East Building, Room 3334
Washington, DC 20004

By Electronic Filing and Electronic Mail:

City of Lowell
F. Paul Calamita
Richard H. Sedgley
AquaLaw PLC
paul@aqualaw.com
dick@aqualaw.com

Dated: 12/10/2019

_____/s/_____

Cayleigh Eckhardt, Esq.
Michael Knapp, Esq.
Maximilian Boal, Esq.
US Environmental Protection Agency
Office of Regional Counsel, Region 1