IN RE CITY OF TAUNTON DEPARTMENT OF PUBLIC WORKS

NPDES Appeal No. 15-08

ORDER DENYING REVIEW

Decided May 3, 2016

Syllabus

The City of Taunton ("City") petitioned the Environmental Appeals Board ("Board") to review a National Pollutant Discharge Elimination System ("NPDES") Permit ("Permit") that the United States Environmental Protection Agency ("EPA" or "Agency") Region 1 ("Region") issued to the City on April 10, 2015. The Permit authorizes the City to discharge wastewater effluent from its advanced secondary wastewater treatment facility ("Plant") into the Taunton River, and subsequently Mount Hope Bay, in Massachusetts. Among other things, the Permit includes a limit on nitrogen discharges from the Plant. The City's 2001 permit did not contain a limit on nitrogen discharges.

The City challenges both the need for a nitrogen limit in the Permit and the specific nitrogen limit imposed. The City further challenges other aspects of the Permit's nitrogen provisions, including the requirement to reduce nitrogen year-round, the compliance schedule for achieving the nitrogen limit, and the interim limit for nitrogen. Finally, the City challenges the Permit's copper limits, the Region's decision not to set separate wet weather limits, the Region's authority to limit flow, the City's ability to "blend" peak wet weather flows, and the City's potential liability for the activities of co-permittees.

Held: The City has not demonstrated that review is warranted on any of the grounds presented. As such, the Board denies the Petition for Review in all respects.

1. The Region was not required to consider supplemental comments filed after the public comment period had closed. The Region also was not required to provide an additional opportunity for public comment on information added to the administrative record after the close of the public comment period where that information did not raise substantial new questions concerning the Permit.

2. The Region did not clearly err or abuse its discretion when it determined that NPDES regulations required the Region to include a nitrogen limit in the Permit:

- The Region reasonably determined that the City's discharge of nitrogen to the Taunton River and Mount Hope Bay has the "reasonable potential" to cause or contribute to exceedances of applicable water quality standards, including nitrogen overenrichment.

- The CWA section 303(d) listing process is distinct from the NPDES permitting process, and the Massachusetts 303(d) list of impaired waters does not represent either a Massachusetts or EPA determination of whether the Taunton River is nitrogen-impaired.

- NPDES regulations do not require the Region to use any particular methodology or conduct any specific modeling to determine whether the "reasonable potential" standard is met, and the Region is not required to demonstrate that nitrogen is causing impairment before setting a nitrogen limit.

- The Region considered potential improvements in conditions in the Taunton River and Mount Hope Bay and based its decision on all the relevant data.

3. The Region did not clearly err or abuse its discretion in determining the specific nitrogen limit for the Permit:

- The Region reasonably determined and provided support for a threshold nitrogen concentration for the receiving waters that was consistent with unimpaired conditions in the Taunton River and Mount Hope Bay as determined by the available data. The threshold nitrogen concentration was also consistent with the range of nitrogen concentrations found to be protective of water quality in other southeastern Massachusetts estuaries and with available Massachusetts guidance on developing site-specific nitrogen thresholds.

- The Region reasonably determined a nitrogen limit for the City's Plant, taking into account the overall flow of the Taunton River, the reduction needed to achieve the threshold nitrogen concentration in the receiving waters, the size of the City's discharge, and the limits of available technology.

- Additionally, the City failed to demonstrate that the Region erred in relying on the monitoring station referred to as "MHB16" as a reference location from which to derive the threshold nitrogen concentration, and the Region's reliance on MHB16 as a reference location for unimpaired conditions is supported by Massachusetts and EPA guidance. Moreover, even without relying on MHB16 as a reference location, the Permit's nitrogen limit is well supported by the administrative record.

4. The City failed to satisfy the threshold requirement for review under 40 C.F.R. § 124.19(a)(4) because the City failed to properly preserve its challenge to the requirement

to reduce nitrogen year round and did not address the Region's explanation for its determination to impose a ten-year compliance schedule for the nitrogen limit.

5. The City failed to demonstrate that the Region clearly erred or abused its discretion in determining the Permit's interim limit for nitrogen or in determining the copper limits for the Permit.

6. The City failed to satisfy the threshold requirements for review under 40 C.F.R. § 124.19(a)(4) because the City did not address the Region's response to comments on the issue of setting separate wet weather limits for the Permit and failed to properly preserve its challenge to the Agency's authority to set a flow limit for the Plant.

7. The City failed to satisfy the threshold requirements for review under 40 C.F.R. § 124.19(a)(4) because the City did not identify, in the Petition for Review, any Permit condition relating to blending or any Permit provision that would render it potentially liable for the actions of its co-permittees.

Before Environmental Appeals Judges Mary Kay Lynch, Kathie A. Stein, and Mary Beth Ward.

Opinion of the Board by Judge Ward:

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I. *STATEMENT OF THE CASE*

On May 13, 2015, the City of Taunton ("City") petitioned the Environmental Appeals Board ("Board") to review a National Pollutant Discharge Elimination System ("NPDES") Permit ("Permit") that the United States Environmental Protection Agency ("EPA" or "Agency") Region 1 ("Region") issued to the City on April 10, 2015. The Permit authorizes the City to discharge wastewater effluent from its advanced secondary wastewater treatment facility ("Plant") into the Taunton River in Massachusetts. This Permit supersedes the City's existing 2001 NPDES permit.

The parties completed merits briefing on June 30, 2015, and the Board heard oral argument on March 1, 2016. For the reasons discussed below, the City of Taunton's Petition for Review ("Petition") is denied.

II. *PRINCIPLES GOVERNING BOARD 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)(4).

A. *Petitioner's Burden on Appeal, Including Threshold Requirements*

In considering a petition filed under 40 C.F.R. § 124.19(a), the Board first evaluates whether the petitioner has met threshold procedural requirements such as timeliness, standing, issue preservation, and specificity. *In re Indeck-Elwood, LLC*, 13 E.A.D. 126, 143 (EAB 2006). For example, a petitioner must demonstrate that any issues and arguments it raises on appeal have been preserved for Board review (i.e., were raised during the public comment period or public hearing on the draft permit), unless the issues or arguments were not reasonably ascertainable at the time. 40 C.F.R. §§ 124.13, .19(a)(4)(ii); *see, e.g.*, *In re City of Attleboro*, 14 E.A.D. 398, 405-06, 444 (EAB 2009); *In re City of Moscow*, 10 E.A.D. 135, 141, 149-50 (EAB 2001). Similarly, the Board requires that issues raised during the public comment period be specific, and the Board "will not entertain vague or unsubstantiated claims." *Attleboro*, 14 E.A.D. at 406, 443; *In re Beeland Group, LLC*, 14 E.A.D. 189, 203-05 (EAB 2008). If the petitioner satisfies all threshold procedural obligations, the Board then evaluates the petition to determine if it warrants review. *Indeck*, 13 E.A.D. at 143.

As noted above, in any appeal from a permit under part 124, the petitioner bears the burden of demonstrating that review is warranted. 40 C.F.R. § 124.19(a)(4). More specifically, "a petition for review must identify the contested permit condition or other specific challenge to the permit decision and clearly set forth, with legal and factual support, petitioner's contentions for why the permit decision should be reviewed." *Id.* § 124.19(a)(4)(i). To the extent a petitioner challenges an issue the permit issuer addressed in its response to comments, the petitioner must provide a record citation to the comment and response and also must explain why the permit issuer's previous response to that comment is clearly

erroneous or otherwise warrants review.[1] 40 C.F.R. § 124.19(a)(4)(ii); *see, e.g.*, *In re Teck Cominco Alaska Inc.*, 11 E.A.D. 457, 494-95 (EAB 2004); *In re Westborough*, 10 E.A.D. 297, 305, 311-12 (EAB 2002); *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). The Board consistently has denied review of petitions that 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, at 11-13 (EAB Mar. 4, 2009) (Order Denying Review), *aff'd*, 614 F.3d 7 (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."); *In re Hadson Power 14*, 4 E.A.D. 258, 294-95 (EAB 1992) (denying review where petitioners merely reiterated comments on draft permit and attached a copy of their comments without addressing permit issuer's responses to comments).

B. *Standard of Review*

The Board has discretion to grant or deny review of a permit decision. 40 C.F.R. § 124.19; *see In re Avenal Power Ctr., LLC*, 15 E.A.D. 384, 394-95 (EAB 2011) (*citing* Consolidated Permit Regulations, 45 Fed. Reg. 33,290, 33,412 (May 19, 1980)), *remanded on other grounds sub nom. Sierra Club v. EPA*, 762 F.3d 971 (9th Cir. 2014). Ordinarily, the Board will deny review of a permit decision and thus not remand it 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(a)(4)(i)(A)-(B);

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[1] Federal circuit courts of appeal have upheld this Board requirement that a petitioner must substantively address the permit issuer's response to the petitioner's previous objections. *City of Pittsfield v. EPA*, 614 F.3d 7, 11-13 (1st Cir. 2010), *aff'g In re City of Pittsfield*, NPDES Appeal No. 08-19 (EAB Mar. 4, 2009) (Order Denying Review); *Mich. Dep't of Envtl. Quality v. EPA*, 318 F.3d 705, 708 (6th Cir. 2003) ("[Petitioner] simply repackag[ing] its comments and the EPA's response as unmediated appendices to its Petition to the Board * * * does not satisfy the burden of showing entitlement to review."), *aff'g In re Wastewater Treatment Fac. of Union Twp.*, NPDES Appeal Nos. 00-26 & 00-28 (EAB Jan. 23, 2001) (Order Denying Petitions for Review); *LeBlanc v. EPA*, 310 F. App'x 770, 775 (6th Cir. 2009) (concluding that the Board correctly found petitioners to have procedurally defaulted where petitioners merely restated "grievances" without offering reasons why the permit issuer's responses were clearly erroneous or otherwise warranted review), *aff'g In re Core Energy, LLC*, UIC Appeal No. 07-02 (EAB Dec. 19, 2007) (Order Denying Review).

accord, e.g., In re Prairie State Generating Co., 13 E.A.D. 1, 10 (EAB 2006), *aff'd sub. nom Sierra Club v. EPA*, 499 F.3d 653 (7th Cir. 2007); *see also* Revisions to Procedural Rules Applicable in Permit Appeals, 78 Fed. Reg. 5281, 5282, 5284 (Jan. 25, 2013). In considering whether to grant or deny review of a permit decision, the Board is guided by the preamble to the regulations authorizing appeal under part 124, in which the Agency stated that the Board's power to grant review "should be only sparingly exercised," and that "most permit conditions should be finally determined at the [permit issuer's] level." Consolidated Permit Regulations, 45 Fed. Reg. 33,290, 33,412 (May 19, 1980).

When evaluating a challenged permit decision for clear error, the Board examines the administrative record that serves as the basis for the permit to determine whether the permit issuer exercised his or her "considered judgment." *E.g., In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 191, 224-25 (EAB 2000); *In re Ash Grove Cement Co.*, 7 E.A.D. 387, 417-18 (EAB 1997). The permit issuer must articulate with reasonable clarity the reasons supporting its conclusion and the significance of the crucial facts it relied upon when reaching its conclusion. *E.g., In re Shell Offshore, Inc.*, 13 E.A.D. 357, 386 (EAB 2007). As a whole, the record must demonstrate that the permit issuer "duly considered the issues raised in the comments" and ultimately adopted an approach that "is rational in light of all information in the record." *In re Gov't of D.C. Mun. Separate Storm Sewer Sys.*, 10 E.A.D. 323, 342 (EAB 2002); *accord In re City of Moscow*, 10 E.A.D. 135, 142 (EAB 2001); *In re NE Hub Partners, LP*, 7 E.A.D. 561, 567-68 (EAB 1998), *review denied sub nom. Penn Fuel Gas, Inc. v. EPA*, 185 F.3d 862 (3d Cir. 1999).

Similarly, the Board will uphold a permitting authority's reasonable exercise of discretion if that decision is cogently explained and supported in the record. *See, e.g., In re Guam Waterworks Auth.*, 15 E.A.D. 437, 443 n.7 (EAB 2011) (discussing the abuse of discretion standard); *Ash Grove*, 7 E.A.D. at 397 ("[A]cts of discretion must be adequately explained and justified.").

On matters that are fundamentally technical or scientific in nature, the Board will defer to a permit issuer's technical expertise and experience, as long as the permit issuer adequately explains its rationale and supports its reasoning in the administrative record. *See In re Dominion Energy Brayton Point, LLC*, 12 E.A.D. 490, 510, 560-62, 645-47, 668, 670-74 (EAB 2006); *see also, e.g., In re Russell City Energy Ctr.*, 15 E.A.D. 1, 12, 39-42, 66 (EAB 2010), *petition denied sub nom. Chabot-Las Positas Cmty. Coll. Dist. v. EPA*, 482 F. App'x 219 (9th Cir. 2012); *NE Hub Partners*, 7 E.A.D. at 570-71.

III. *LEGAL FRAMEWORK AND FACTUAL BACKGROUND*

A. *Relevant CWA Provisions and Implementing Regulations*

In 1972, Congress enacted the CWA "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." CWA § 101(a), 33 U.S.C. § 1251(a). To achieve this objective, the Act prohibits the discharge of pollutants into the waters of the United States, unless authorized by an NPDES or other CWA permit. *See* CWA §§ 301(a), 402, 502(7), 33 U.S.C. §§ 1311(a), 1342, 1362(7). The Region issues NPDES permits for the Commonwealth of Massachusetts.[2]

NPDES permits use two statutory mechanisms to protect water quality: (1) effluent limitations, and (2) water quality standards. *See generally* CWA §§ 301, 303, 304(b), 33 U.S.C. 1311, 1313, 1314(b); 40 C.F.R. pts. 122, 125, 131. Effluent limitations control pollutant discharges by restricting the types and amounts of particular pollutants a permitted entity may lawfully discharge. *Id.* Technology-based effluent limitations generally are established on an industry-wide basis, whereas water quality-based effluent limitations, such as those relevant in this matter, are developed in the context of individual permit decisions to meet water quality standards. *Id.*

Water quality standards are promulgated by states and approved by EPA. Water quality standards include the following three components: (1) the "designated uses" of a water body, such as public drinking supply, recreation, or wildlife habitat; (2) "water quality criteria," expressed in numeric or narrative form, specifying the quantities of various pollutants that may be present in the water body without impairing the designated uses; and (3) an "antidegradation" provision that protects existing uses and high quality waters. *See* CWA § 303(c)(2)(A), 33 U.S.C. § 1313(c)(2)(A); 40 C.F.R. §§ 131.10-.12.

The CWA and its implementing regulations require permitting authorities to issue NPDES permits that ensure compliance with the water quality standards of all states affected by the discharge. *See* CWA §§ 301(b)(1)(C), 401(a)(1)-(2), 33 U.S.C. §§ 1311(b)(1)(C), 1341(a)(1)-(2); 40 C.F.R. §§ 122.4(d), .44(d)(1). Specifically, NPDES regulations require permit issuers to determine whether a given discharge "*causes, has the reasonable potential to cause, or contributes to*"

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[2] Many states are authorized by EPA to administer their own NPDES permitting programs.

an exceedance of the numeric or narrative criteria for various pollutants set forth in state water quality standards. 40 C.F.R. § 122.44(d)(1)(ii) (emphasis added). If a discharge is found to cause, have the reasonable potential to cause, or contribute to exceedances of numeric or narrative state water quality criteria, the permit must contain water quality-based effluent limitations for the relevant pollutants. *Id.* § 122.44(d)(1)(i), (iii)-(vi).

Under CWA section 401, no NPDES permit may be issued until the state certifies (or waives certification) that the permit contains all conditions necessary to assure compliance with the CWA and appropriate state law requirements. *See* CWA § 401(a)(1), 33 U.S.C. § 1341(a)(1); 40 C.F.R. §§ 124.53(a), .55(a)(2). The certification requirement includes a "statement of the extent to which each condition of the draft permit can be made less stringent without violating the requirements of [s]tate law, including water quality standards." 40 C.F.R. § 124.53(e)(3). A state may grant, deny, or waive certification. *See* CWA § 401(a)(1), 33 U.S.C. § 1341(a)(1); 40 C.F.R. § 124.53.

In addition to regulating discharges by imposing effluent limits in NPDES permits, the CWA requires states to undertake separately a process pursuant to CWA section 303(d) to identify waters where the technology-based effluent limitations and other CWA pollution controls are not stringent enough to achieve applicable water quality standards. CWA § 303(d), 33 U.S.C. § 1313(d). The identified waters are commonly referred to as "impaired" waters and are prioritized on a list that is commonly referred to as a "303(d) list." The CWA and its implementing regulations require states to submit an updated 303(d) list to EPA for approval every two years, and require EPA to approve or disapprove that list. CWA § 303(d)(2), 33 U.S.C. § 1313(d)(2); 40 C.F.R. § 130.7(d)(1)-(2).

Once a water is identified on the 303(d) list, the state begins a planning process for bringing these waters into compliance with water quality standards. This process includes setting priorities for establishing total maximum daily loads ("TMDLs") for individual pollutants in the impaired waters. CWA § 303(d)(1)(C)-(D), 33 U.S.C. § 1313(d)(1)(C)-(D). Individual wasteload allocations are then determined based on the TMDL to limit and allocate pollution loads among facilities discharging to impaired water bodies. 40 C.F.R. §§ 130.2(h), .7(c).

Where TMDLs have been established, NPDES permit limits must ensure consistency with the assumptions and requirements of the wasteload allocations established by those TMDLs. 40 C.F.R. § 122.44(d)(1)(vii)(B); *see In re City of Homedale Wastewater Treatment Plant*, 16 E.A.D. 421, 426-27 (EAB 2014) (explaining that "consistent with" in this context does not mean that permit limits

must be identical to the wasteload allocation established by the TMDL). Where TMDLs have not been established, water quality-based effluent limitations in NPDES permits must nonetheless comply with applicable water quality standards. In discussing the relationship between NPDES permitting and TMDLs, EPA has explained that the applicable NPDES rules require the permitting authority to establish necessary effluent limits, even if 303(d) listing determinations and subsequent TMDLs lag behind. 54 Fed. Reg. 23,868, 23,878, 23,879 (June 2, 1989); *see also In re Upper Blackstone Water Pollution Abatement Dist.*, 14 E.A.D. 577, 604-05 (EAB 2010) (expressly rejecting the idea that the permitting authority cannot proceed to determine permit effluent limits where a TMDL has yet to be established) , *aff'd.* 690 F.3d 9 (1st Cir. 2012), *cert. denied*, 133 S. Ct. 2382 (2013).

B. *The Taunton River and Mount Hope Bay*

The City of Taunton is located in southeastern Massachusetts, along the Taunton River. The City's Plant discharges into the Taunton River, which in turn flows into Mount Hope Bay. Region 1, U.S. EPA, *City of Taunton Dep't of Public Works Wastewater Treatment Plant, Fact Sheet for Draft NPDES Permit No. MA0100897*, at 3-4, 12-13 (Mar. 20, 2013) (Administrative Record ("A.R.") B.2) ("Fact Sheet").[3] Located in both Rhode Island to the south and west and Massachusetts to the north and east, Mount Hope Bay comprises the northeastern part of the larger Narragansett Bay. Narragansett Bay in turn flows through Rhode Island Sound and eventually feeds into the Atlantic Ocean. *Id.* at 12-13.

An estuary is a partially enclosed coastal body of water located between freshwater ecosystems and coastal shelf systems where freshwater from the land mixes with saltwater from the ocean. *Id.* at 13. The Narragansett Bay Estuary includes Mount Hope Bay as well as portions of the Taunton River. The Taunton River Estuary[4] consists of the saltwater portion of the Taunton River, which extends approximately twenty miles upstream from the confluence of Mount Hope Bay to

[3] Together, the Taunton River and Mount Hope Bay comprise the "receiving waters" for the City's discharges. Fact Sheet at 3-4, 12-13; *see also, e.g.,* Response to Comments at 48 (describing the Taunton River and Mount Hope Bay as "segments of the same estuarine system")

[4] Both the City and the Region use "Taunton River," "Taunton Estuary," and "Taunton River Estuary" somewhat interchangeably throughout the briefs and the Administrative Record. For clarity, the Board will use "Taunton Estuary" in this decision to refer to the estuarine portion of the Taunton River (i.e., the portion of the River that is relevant to this Permit proceeding).

about four miles above the Plant's discharge point. *Id.* at 13. As such, the Taunton Estuary is influenced by tidal water inflow from Mount Hope Bay.

Estuaries such as the Taunton Estuary are extremely important aquatic resources, creating a unique environment that is critical for the survival of many species of fish, birds, and other wildlife, as well as providing significant recreational and commercial value. *Id.* at 13. Given the importance of estuaries, EPA's approach to pollution control in estuaries is both protective and expeditious, to prevent degradation of these critical natural resources. *Id.*

Most of the nation's estuarine and coastal waters are moderately to severely polluted by excessive nutrients, particularly nitrogen and phosphorus. *Id.* at 16. Too much nitrogen or phosphorous, or "overenrichment," can result in "cultural eutrophication"[5] or excessive growth of algae.[6] While algae are a necessary part of an aquatic ecosystem (e.g., as food for other organisms), excessive algal growth can reduce overall water clarity, make waters unappealing to swimmers, interfere with fishing by fouling fishing lures and equipment, and result in a loss of diversity in aquatic organisms. *Id.* at 15.

Moreover, excessive algal growth can cause low levels of dissolved oxygen through increased plant respiration and decomposition of dead plant matter. Notably, during the day, algae provide oxygen to the water as a by-product of photosynthesis. At night, however, when photosynthesis ceases but plant respiration continues, dissolved oxygen levels decline. Additionally, as these algae die, they are decomposed by bacteria that consume yet more oxygen. When dissolved oxygen levels are low, aquatic organisms become stressed and die, and overall aquatic health is degraded. *Id.* at 15-16.

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[5] The Fact Sheet refers to "eutrophication" and "cultural eutrophication" interchangeably to refer to nutrient overenrichment caused at least in part by human activities. *E.g.*, Fact Sheet at 14, 19.

[6] The reference here to "algae" includes phytoplankton (microscopic algae measured by levels of chlorophyll *a*), macroalgae (commonly referred to as seaweed), and other marine plants stimulated by nutrient overenrichment. For ease of discussion, the Board will refer in this decision to "algae" and "algal growth" to refer to all such plant growth, and to "algal levels," when discussing chlorophyll *a* levels that measure phytoplankton levels.

C. *Relevant Massachusetts Water Quality Standards and Impairment Listings*

Under the Massachusetts Surface Water Quality Standards, waters are divided into "designated use" classifications, including Class SA and Class SB for marine and coastal waters. The Taunton River and the eastern portion of Mount Hope Bay are classified as SB waters. Fact Sheet at 16. Class SB waters are designated as "habitat for fish, other aquatic life and wildlife, including for their reproduction, migration, growth and other critical functions, and for primary and secondary contact recreation." 314 Mass. Code Regs. § 4.05(4)(b). Waters in this classification "shall have consistently good aesthetic value." *Id.* In addition, dissolved oxygen concentrations in Class SB waters "[s]hall not be less than 5.0 [milligrams per liter ("mg/l")]." *Id.* § 4.05(4)(b)(1).

The western portion of Mount Hope Bay is designated as a Class SA water. Fact Sheet at 16. These waters are designated as "excellent habitat for fish, other aquatic life and wildlife," and "for primary and secondary contact recreation." 314 Mass. Code Regs. § 4.05(4)(a). These waters shall have "excellent aesthetic value," *id.*, and dissolved oxygen levels generally "[s]hall not be less than 6.0 mg/l," *id.* § 4.05(4)(a)(1).

Of significance here, Massachusetts imposes "[a]dditional [m]inimum [c]riteria [a]pplicable to all [s]urface [w]aters" for nutrients, such as nitrogen or phosphorous. *Id.* at § 4.05(5). This standard requires that:

> 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[.] * * * Any existing point source discharge containing nutrients in concentrations that would cause or contribute to cultural eutrophication, including the excessive growth of aquatic plants or algae, in any surface water shall be provided with the most appropriate treatment * * * to remove such nutrients to ensure protection of existing and designated uses.

Id. § 4.05(5)(c).

The Massachusetts Department of Environmental Protection ("DEP") has identified, on its 303(d) list, segments of the Taunton River downstream from the Plant's discharge point as impaired for dissolved oxygen and pathogens. *See* Mass. Div. of Watershed Mgmt., *Massachusetts Year 2012 Integrated List of Waters: Final Listing of the Condition of Massachusetts' Waters Pursuant to Sections 305(b), 314, and 303(d) of the Federal Clean Water Act*, at iii (Mar. 2013)

(A.R. J.2) ("2012 Mass. 303(d) List").[7] Mount Hope Bay, which receives the discharge from the Taunton River, is listed as impaired for nitrogen, dissolved oxygen, and algae, among other things. *Id.*

Massachusetts DEP follows a rotating watershed monitoring and assessment schedule that does not allow for new assessments to be completed for every watershed in each listing cycle. Region 1, U.S. EPA, *Response to Public Comments on NPDES Permit No. MA0100897,* at 38 (Apr. 10, 2015) (A.R. A.2) ("Response to Comments"); *see also* 2012 Mass. 303(d) List at iii (identifying the water bodies for which new water assessments had been completed and stating that new assessments on the identified water bodies furnished the majority of new information in support of 2012 listings). The last Taunton River Watershed Assessment Report was completed in 2001. Response to Comments at 38.

D. *Issuance of the 2015 Permit to the City*

The Region issued the City's current permit in 2001. Region 1, U.S. EPA, *City of Taunton Dep't of Public Works Wastewater Treatment Plant, NPDES Permit No. MA0100897* (Mar. 27, 2001) (A.R. B.8) ("2001 Permit"). Following the City's timely application for renewal, the Region published for public comment a draft permit in 2007. Region 1, U.S. EPA, *City of Taunton Dep't of Public Works Wastewater Treatment Plant NPDES Draft Permit No. MA0100897* (Feb. 2007) (A.R. B.5). Neither the 2001 Permit nor the 2007 draft contained a nitrogen limit. Based on its review of comments on the 2007 draft, however, the Region determined that substantial new questions had been raised regarding the need for a nitrogen limit. Fact Sheet at 3, 12. On March 20, 2013, the Region issued and requested comments on a new draft permit that superseded the 2007 draft and included a nitrogen limit of 3.0 mg/l as a rolling seasonal average in effect from May to October (meaning that compliance is measured based on the average of the current month and the preceding five months that the limit is in effect). Region 1, U.S. EPA, *City of Taunton Dep't of Public Works Wastewater Treatment Plant,*

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[7] Massachusetts DEP also designated the Taunton River as impaired for dissolved oxygen and pathogens in 2010, and for "Organic Enrichment/Low [Dissolved Oxygen]" in 2008. Mass. Div. of Watershed Mgmt., *Massachusetts Year 2010 Integrated List of Waters: Final Listing of the Condition of Massachusetts' Waters Pursuant to Sections 305(b), 314, and 303(d) of the Federal Clean Water Act,* at 216 (Apr. 2010) (A.R. J.3); Mass. Div. of Watershed Mgmt., *Massachusetts Year 2008 Integrated List of Waters: Final Listing of the Condition of Massachusetts' Waters Pursuant to Sections 305(b), 314, and 303(d) of the Federal Clean Water Act,* at 137 (Dec. 2008) (A.R. J.4).

NPDES Draft Permit No. MA0100897 (draft Mar. 20, 2013) (A.R. B.1) ("Draft Permit"); Fact Sheet at 12, 34.[8] The Region also included a requirement to "optimize nitrogen removal during the wintertime." Fact Sheet at 34. The Region imposed nitrogen limits in the Draft Permit to protect the Taunton Estuary and Mount Hope Bay, after having determined that "[t]he Taunton River and Mount Hope Bay have reached their assimilative capacity for nitrogen and are suffering from the adverse water quality impacts of nutrient overenrichment, including cultural eutrophication," and concluding that the City's "nitrogen discharges 'cause, have a reasonable potential to cause, or contribute'" to those water quality exceedances. *Id.* at 19, 29 (quoting 40 C.F.R. § 122.44(d)(1)).

Following an extended comment period, and after receiving certification from Massachusetts DEP,[9] the Region issued the final permit on April 10, 2015. Region 1, U.S. EPA, *City of Taunton Dep't of Public Works Wastewater Treatment Plant, NPDES Permit No. MA 0100897* (issued Apr. 10, 2015) (A.R. A.1) ("Permit" or "Final Permit").[10] The Permit includes a nitrogen limit of 3.0 mg/l as a rolling seasonal average in effect from May to October, expressed in the Permit as a mass load limit of 210 pounds per day ("lbs/day").[11] Permit pt. I.A.1, at 3 & 6 n.12. In

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[8] The 3.0 mg/l nitrogen limit was also expressed in the Draft Permit in terms of mass, or 210 pounds per day. That mass limit is "based on the seasonal average concentration limit and the design flow of the facility, and represents the highest load that the facility can discharge consistent with achieving water quality standards." Fact Sheet at 34; *see also* Draft Permit pt. I.A.1, at 3; Fact Sheet at 12.

[9] Pursuant to CWA § 401(a)(1), 33 U.S.C. § 1341(a)(1), and implementing regulations at 40 C.F.R. §§ 124.53(a), .55(a)(2), Massachusetts DEP certified to the Region that the Permit contains all conditions necessary to assure compliance with the CWA and the Massachusetts Clean Waters Act. *See* Letter from David Ferris, Dir., Wastewater Mgmt. Branch, Mass. DEP, to David Webster, Chief, Water Permits Branch, U.S. EPA, Region 1, *Water Quality Certification* (Apr. 8, 2015) (A.R. E.1) ("401 Certification").

[10] The authorization to discharge includes two independent permit authorizations: the federal NPDES Permit issued by the Region and an identical Massachusetts surface water discharge permit issued by Massachusetts DEP. Permit pt. I.A.1, at 22-23. Both the Region and Massachusetts DEP signed the Permit. *Id.* at 1.

[11] Rather than include both a 3.0 mg/l limit and a 210 lbs/day mass load limit, the Region included only the mass load limit in the Permit because, (i) a mass limit is required under permitting regulations (40 C.F.R. § 122.45(f)), (ii) the mass limit is based on a 3.0 mg/l concentration-based limit and this Plant's design flow of 8.4 million gallons per day, and (iii) the Region determined that the mass-only limit "is protective of water quality

addition, during the months of November through April, the Permit requires the City to reduce nitrogen discharges "to the maximum extent possible." Permit pt. I.A.1, at 3 & 6 n.13. Following issuance of the Permit, the City timely filed this appeal. While this appeal is pending, the City is continuing to operate under the 2001 Permit, which contains no nitrogen limit.[12]

IV. *ANALYSIS*

The Board addresses the merits of the City's appeal in Parts IV.B to IV.J below. Before turning to the merits, however, the Board first addresses in Part IV.A multiple procedural matters raised by the City's appeal.

A. *Procedural Challenges to the Permitting Process & Pending Procedural Matters on Appeal*

The City raises two broad procedural challenges to the Permit. The first procedural challenge concerns comments submitted to the Region after the public comment period had closed. The City alleges that the Region erred when it failed to address those comments in the Response to Comments document. Petition at 27-29. The second procedural challenge concerns alleged "new evaluations and data" that the Region added to the record in response to public comments, about which the City alleges it should have had an additional opportunity to comment. *Id.* at 25-27. The Board addresses each of these challenges in Parts IV.A.1 and IV.A.2 below.

Additionally, following the merits briefing for this appeal, the City filed two Motions to Supplement the Administrative Record that the Region opposes. *See* City of Taunton's Motion to Supplement the Administrative Record (Jul. 8, 2015) ("City's July 2015 Motion to Supplement"); City of Taunton's Motion to Supplement the Administrative Record (Feb. 29, 2016) ("City's February 2016 Motion to Supplement"). On August 6, 2015, the Region filed a Motion to Strike certain documents the City had included on appeal. EPA Region 1's Motion to Strike (Aug. 6, 2015) ("Region's August 2015 Motion to Strike"). The Board

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standards * * * without any corresponding concentration-based limit." Response to Comments at 13; *see also id.* at 127; Fact Sheet at 34. The parties refer in their pleadings to the nitrogen limit as a 3.0 mg/l limit and so, for ease of discussion, the Board will do the same in this decision.

[12] The 2001 Permit expired on March 27, 2006 (five years after its issuance) and has been administratively continued pursuant to 40 C.F.R. § 122.6.

granted this motion in part and deferred in part. *See* Order on Pending Motions and Setting Oral Argument at 3-5 (Oct. 30, 2015); *see also* Order Denying Motion for Reconsideration (Nov. 24, 2015). On March 17, 2016, the City filed a Motion to Strike statements made at oral argument together with certain Administrative Record documents. *See* City of Taunton's motion to strike and to supplement the Administrative Record (Mar. 17, 2016) ("City's March 2016 Motion to Strike."). On April 6, 2016, following oral argument on this matter, the City filed a Motion to correct allegedly improper questioning by the Board at oral argument and to request recusal of the presiding Judge based on alleged bias ("City's April 2016 Motion for Recusal"). And on April 7, 2016, the City filed another Motion to Supplement the Administrative Record with a draft NPDES permit for Nashua, New Hampshire ("City's April 2016 Motion to Supplement"). The Board addresses these remaining procedural matters in Part IV.A.3 and IV.A.4 below.

1. *The Region Did Not Clearly Err or Abuse Its Discretion in Handling the City's Supplemental Comments*

The public comment period for the Permit ran from March to June, 2013, three times the length of the required thirty-day public comment period. Response to Comments at 1. The City submitted over 600 pages of comments, including attachments, which the Region considered.[13] *Id.* at 1-2 & n.2; *see also* Letter from Thomas C. Hoye, Jr., Mayor, City of Taunton, to Susan Murphy, U.S. EPA Region 1, *Comments on Draft Permit* (Jun. 18, 2013) (A.R. C.1) ("City's June 2013 Comments"). The City then filed seven sets of supplemental comments (totaling approximately ninety-five pages) on July 22, September 16, November 25, 2014, and January 8, January 22, February 17, and March 20, 2015.[14] *See id.* at 1 n.1; *see also* A.R. D.1 to D.6.; H.93. On April 10, 2015, the Region issued the Final Permit together with the Region's Response to Comments document. Permit at 1. The

[13] The Region extended the deadline for filing comments in response to the City's request. Response to Comments at 1. In the Response to Comments document, the Region states that the comment period closed on June 17, 2013, *id.*, while the City states the comment period closed on June 20, 2013, *id.* at 2. Regardless, the Region accepted the City's comments as timely filed on June 18, 2013. *Id.*

[14] The January 22, 2015 submission consisted of correspondence from the City to the Region in preparation for a planned meeting on the Draft Permit, and attached a report by Dr. Craig Swanson, dated January 2015. *See* Letter from Mayor Thomas Hoye, City of Taunton, to Kurt Spalding, Regional Administrator, EPA Region 1, *Meeting to Discuss Proposed Permit Requirements and Issues Raised by the City* (Jan. 22, 2015) (A.R. H.93).

City argues that the Region erred by not addressing its supplemental comments in the Response to Comments document. Petition at 27-29.

A permitting authority is only required to respond to significant comments and materials submitted "during the public comment period," 40 C.F.R. § 124.17(a)(2), "[t]hat is, within the interval of time between the beginning and end of the public comment period, not before, not after." *In re Avon Custom Mixing Servs, Inc.*, 10 E.A.D. 700, 707 (EAB 2002). The Region was under no obligation to consider comments or materials submitted after the public comment period had closed. 40 C.F.R. §§ 124.13, .17(a)(2); *see also In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 194 n.32 (EAB 2000).

As the Board has stated in the context of addressing issues raised for the first time on appeal, "[t]he regulatory requirement that a petitioner [] raise issues during the public comment period 'is not an arbitrary hurdle, placed in the path of potential petitioners simply to make the process of review more difficult; rather it serves an important function related to the efficiency and integrity of the overall administrative scheme.'" *In re Christian County Generation LLC*, 13 E.A.D. 449, 459 (EAB 2008) (*quoting In re BP Cherry Point*, 12 E.A.D. 209, 219 (EAB 2005) (further quotation omitted); *see also In re ConocoPhillips Co.*, 13 E.A.D. 768, 800-01 (EAB 2008). One purpose of this requirement is to "'to provide predictability and finality to the permitting process.'" *In re Shell Offshore, Inc.*, 13 E.A.D. 357, 394 n.55 (EAB 2007) (*quoting In re New Eng. Plating Co.*, 9 E.A.D. 726, 732 (EAB 2001)); *In re Sutter Power Plant*, 8 E.A.D. 680, 687 (EAB 1999); *see also Christian County*, 13 E.A.D. at 449. In requiring that all comments be submitted during the comment period, the Region can predictably work through the comments after the close of the comment period, with the objective of issuing a final permit in a timely fashion. If the Region were also required to address post-comment period submissions – up to and until a final permit is issued – such a requirement would inevitably delay the permit's issuance. Indeed, allowing late comments could have unintended consequences, particularly where (as here) a permittee may continue to operate under an existing, less stringent, permit, until a new permit is issued.

The City argues that the Region was nevertheless required to respond to the supplemental comments because they (i) reflected available studies that should have been included in the Region's Permit record initially, or (ii) provided new analyses in response to post-comment period discussions with the Region in

September 2014.[15] Petition at 27-29; *see also id.*at 9-11. The City's arguments, however, misconstrue how the permitting process works.

First, with respect to available studies that pre-date issuance of the Draft Permit, the City could and should have identified those studies in the City's June 2013 comments and explained with a reasonable degree of clarity and specificity their relevance to those comments. *See* 40 C.F.R. §§ 124.13, .19(a)(4); *see also In re City of Attleboro*, 14 E.A.D. 398, 405-06, 444 (EAB 2009); *New England Plating*, 9 E.A.D. at 732-35.

Second, as to the new analyses submitted following post-comment discussions with the Region, the Region's agreement to meet with the City in September 2014 did not open the door for the City to submit new analyses in response to those discussions.[16] To conclude otherwise would undermine the predictability and finality of the permitting process.

In any case, the Region did not simply reject the City's supplemental comments as untimely. Instead, when it received the City's supplemental comments, the Region reviewed the substance of the contents enough to determine that they "relate[d] generally to the subject matter of the City's timely submitted comments," which the Region had already duly considered.[17] Response to Comments at 1 n.2.[18] Given that the supplemental comments related to issues the

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[15] The City's Petition cites nine attachments in support of this argument, which include the seven supplemental submissions from the City between July 2014 and March 2015 (Petition attachs. 17, 22-26, and 30) (A.R. D.1-D.6, H.93), and two reports dated September 2014 and January 2015 (Petition attachs. 42-43) (A.R. D.2(ii) and K.28).

[16] The City also claims that the Region did not consider the City's supplemental cost information related to its request for an eighteen-year compliance schedule. Petition at 27. As addressed more fully in Part IV.D below, the Region did consider these costs. Because the Region specifically requested and considered the additional cost information submitted by the City after the close of the comment period, Response to Comments at 25-26 & n.14, the Board is considering the Region's rationale in evaluating that supplemental information.

[17] The Region noted a few exceptions: a new, purely legal argument presented February 17, 2015, regarding EPA's authority to limit flow, and several new issues in the March 20, 2015 submittal. Response to Comments at 1 n.2.

[18] The Region also completed several memos to file relating to the supplemental comments, s*ee* EPA Region 1 Response Brief, Ex. O (A.R. O.23 to O.27) (June 12, 2015)

Region had duly considered, the fact that the existing permit had long ago expired, the evidence of ongoing water quality impairments, and the need for timely imposition of nitrogen controls, the Region rejected the comments as untimely and stated that it would not respond to them in the Response to Comments document. Response to Comments at 1 n.2. In sum, the Region was not required to consider the City's supplemental comments at all and did not clearly err or abuse its discretion in handling those supplemental comments here. *See supra* Part II.B (*citing* 40 C.F.R. § 124.19(a)(4)(i)(A)-(B)). The City's supplemental comments will not be further considered.

2. *The Region Did Not Clearly Err or Abuse Its Discretion in Including Additional Information in the Administrative Record Without Providing an Additional Opportunity for Public Comment*

The City argues that the Fact Sheet was "plainly deficient" and that the Region erred when it did not provide the public with a chance to comment on "new analyses and studies" introduced with the Response to Comments document. Petition at 25, 27. In essence, the City contends that the Region was required to include all of its rationale and the documents on which it relied up front in the Fact Sheet, and that the public must be given an opportunity to provide comment on any additional analyses or support on which the Region's decision is based. *See* Petition at 1 ("The Region * * * failed to provide the City with fair notice and the opportunity to comment on the basic analyses and information that should have been addressed in the Fact Sheet but appeared for the first time in EPA's response."), 27 ("EPA may not publish a plainly deficient Fact Sheet, issue broad conclusory scientific statements, and then, in the final hour, create and rely on new technical assessments in [the] response to public comments[.]").

A review of the Fact Sheet demonstrates that the Region provided extensive and detailed analyses for the different permit terms with citations to numerous

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("Region's Response"), and added the supplemental comments to the Administrative Record. *See* A.R. D.1 through D.5. However, simply because the Region prepared these memos to the file documenting that it had reviewed the comments and added them to the record did not make the supplemental comments timely. *Cf. In re Weber #4-8,* 11 E.A.D. 241, 243 n.2 (EAB 2003) (explaining that the Region's decision to respond to late-filed comments after it had issued the permit did not reopen the comment period or make those comments timely). "[A]s a matter of good government, the Region should retain the flexibility to freely respond to citizens' concerns, even those belatedly raised, without impairing the efficiency and finality of the permitting process." *Id.*

studies and data then available in support. With respect to the nitrogen limit, for example, the Region explained in twenty-two single-spaced pages of text, well-supported with citations throughout, the bases for that limit, describing the ecological setting of the Taunton Estuary and Mount Hope Bay, the effects of nutrients on estuarine quality, the applicable water quality standards, the receiving water quality violations, the reasonable potential analysis, and finally, the effluent limit calculation, including the threshold nitrogen level and allowable nitrogen load. Fact Sheet at 12-34. The Fact Sheet here readily satisfies the regulatory requirements to "briefly set forth the principal facts and the significant factual, legal, methodological and policy questions considered in preparing the draft permit." 40 C.F.R. § 124.8(a)*; see also id.* § 124.8(b) (describing what Fact Sheets must include). As such, the Fact Sheet provided a more than adequate opportunity for the City to comment on the Draft Permit.

Moreover, and contrary to the City's view, it is both permissible and expected for the Region to place new material in the Administrative Record when responding to significant comments. 40 C.F.R. §§ 124.17(b), .18(b)(4); *see, e.g., In re Ash Grove Cement Co.*, 7 E.A.D. 387, 431 (EAB 1997) (rejecting a petitioner's request to reopen the comment period based on new data added to the record and explaining that "40 C.F.R. [§] 124.17(b) specifically contemplates supplementation of the administrative record during the Region's preparation of the response to comments"). "The purpose of the response to comments and any supplementation of the administrative record at that time is to ensure that interested parties have full notice of the basis for final permit decisions and can address any concerns regarding the final permit in an appeal to the Board * * *." *Ash Grove*, 7 E.A.D. at 431; *see also In re City of Palmdale,* 15 E.A.D. 700, 714 (pointing out that "'if all new material in a response to comments required reproposal, the [A]gency would be put to the unacceptable choice of either providing an inadequate response or embarking on the same kind of endless cycle of reproposals [that] the courts have already rejected'") (*quoting* 45 Fed. Reg. 33,290, 33,412 (May 19, 1980), which cites *Int'l Harvester Co. v. Ruckleshaus*, 478 F.2d 615, 632 n.51 (D.C. Cir. 1973)).

Additionally, at its own discretion, the Region may decide to reopen the comment period if "data, information or arguments submitted during the public comment period * * * raise substantial new questions concerning a permit." 40 C.F.R. § 124.14(b); *see In re Cape Wind Assocs., LLC*, 15 E.A.D. 337, 335 (EAB 2011); *In re Ash Grove Cement Co.*, 7 E.A.D. 387, 431 (EAB 1997). Not all new information raises substantial new questions, however, and substantial deference is afforded to the permitting authority's determination in this regard. *See Cape Wind*, 15 E.A.D. at 335-36; *In re Dominion Energy Brayton Point, LLC,* 13

E.A.D. 407, 416 (EAB 2007); *In re NE Hub Partners, LP*, 7 E.A.D. 561, 586 (EAB 1998). Here, the Region considered the City's request to reopen the public comment period but denied that request because the "public comments [did] not appear to raise substantial new questions concerning the [P]ermit." Response to Comments at 1-2. While the City cites to "new analyses and studies" in the Response to Comments document, Petition at 25, the City fails to explain with any particularity how those "new analyses and studies" raised either substantial or new questions concerning the Permit, 40 C.F.R. § 124.14(b), as contrasted with simply relating to questions already presented by the Draft Permit. *See NE Hub*, 7 E.A.D. at 586-88 (refusing to reopen the comment period where new information was provided but that information related to questions already raised and considered and explaining that "the standard for reopening the public comment period turns on whether a substantial new question has arisen and not the genesis of information that may be added to the record").

The City also points to documents EPA provided in May 2015 in response to the City's October 2014 Freedom of Information Act ("FOIA") request as a basis for reopening the public comment period. Petition at 26-27. As EPA noted in its transmittal letter, the documents EPA provided are all documents from the Administrative Record for this Permit. *See* Letter from Quoc Nguyen, U.S. EPA Office of Gen. Counsel, to Philip B. Rosenman, Hall & Associates, *Freedom of Information Act Request EPA-RI-2015-000252* (May 7, 2015) (Petition attach. 66) ("May 2015 Letter"). And the Administrative Record has always been available to the City for review upon request, as is required by NPDES permitting regulations. *See* 40 C.F.R. §§ 124.9, .10(d)(1)(vi).[19] As such, the City could have at any time inspected the Administrative Record at the Region's offices in Boston. *See* Massachusetts DEP and U.S. EPA, *Joint Public Notice of a Draft NPDES Permit to Discharge into the Waters of the United States, Permit No. MA0100897*, at 2 (Mar. 20, 2013) (A.R. B.3) ("Joint Public Notice") ("The administrative record containing all documents relating to this draft permit is on file and may be inspected at the EPA Boston office * * * between 9:00 a.m. and 5:00 p.m., Monday through

[19] The NPDES permitting regulations require only that the permitting authority provide physical access to the record and do not require the permitting authority to provide copies to interested parties or make the permitting record available online. 40 C.F.R. §§ 124.9, .10(d)(1)(vi); *see also In re Energy Answers Arecibo, LLC*, 16 E.A.D. 294, 344-45 (EAB 2014) (*citing In re Russell City Energy Ctr.*, 15 E.A.D. 1, 97 (Nov. 2010), *petition denied sub nom. Chabot-Las Positas Cmty. Coll. Dist. v. EPA*, 482 F. App'x 219 (9th Cir. 2012)), *appeal dismissed sub nom. Sierra Club de Puerto Rico v. EPA*, No. 14-1138 (D.C. Cir Mar. 4, 2016).

Friday, except holidays."). Indeed, the Region informed counsel for the City of this fact on more than one occasion, but the City declined to inspect the record and instead opted to pursue only its FOIA request. *See* E-mail exchange between Susan Murphy, EPA Region 1 and John Hall, Hall & Assocs. (Sept. 30, 2014) (A.R. H.56) (indicating the availability of the record, followed by counsel for the City acknowledging his awareness of the NPDES administrative record process and stating his decision to instead request the information under FOIA); *see also* Letter from H. Curtis Spaulding, Regional Administrator, EPA Region 1, to Mayor Thomas C. Hoye, Jr., City of Taunton, *Correspondence dated November 19, 2014*, at 2 (Dec. 29, 2014) (A.R. H.15) (noting that the City had declined to review the Administrative Record and stating again that the record remained available for review); Email from Samir Bukhari, EPA Region 1, to John Hall, Hall & Assocs. (Mar. 6, 2015) (A.R. H.45).

The City nevertheless argues that these Administrative Record documents contain "new data and analyses" that the City should have had an opportunity to comment on, including one document it claims contradicts statements in the Response to Comments document. Petition at 26. But again, the City fails to explain how these "new data and analyses" raise either substantial or new questions *regarding the Permit* (i.e., questions that were not already raised and considered by the Region), and thus fails to demonstrate that the Region abused its discretion in not reopening the comment period. [20]

In sum, the Region did not clearly err or abuse its discretion when it included additional information in the Response to Comments document and the Administrative Record without providing an additional opportunity for public comment.

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[20] The City's July 2015 Motion to Supplement seeks to add to the record the May 2015 Letter transmitting Administrative Record documents responsive to the City's FOIA request. Because the May 2015 Letter postdates the Permit's issuance and was neither considered nor relied upon by the Region, it is not appropriate to add it to the Administrative Record, and the City's Motion with respect to the May 2015 Letter is denied. *See* 40 C.F.R. § 124.18; *see also Dominion Energy*, 13 E.A.D. at 417. Additionally, while the City objects to the timeliness of EPA's response to its FOIA request, Petition at 10, the Agency's compliance with FOIA requirements is not before the Board, and is not relevant to the issue of access to the Administrative Record in this NPDES process.

3. *City's Motions to Supplement the Administrative Record and Region's Motion to Strike*

The City's July 2015 Motion to Supplement, the City's February 2016 Motion to Supplement, and the City's April 2016 Motion to Supplement seek to add a total of seven documents to the Administrative Record, each of which the Board addresses where relevant in Parts IV.A.2 above and Parts IV.B, IV.H, and IV.I below. For all of the reasons provided, these three motions to supplement are denied.

Next, the portion of the Region's August 2015 Motion to Strike that remains pending concerns a declaration, introduced and relied upon by the City in its Reply brief. *See* Region's August 2015 Motion to Strike at 2-3, 4-9; City of Taunton Reply Brief (June 30, 2015) ("City's Reply") at 2 n. 3 (*citing* Attach. 82); The ten-page declaration (plus twenty-four pages of attachments) is authored by Mr. Benjamin M. Kirby, employed by counsel for the City as an environmental engineer. *See* Declaration of Benjamin M. Kirby (June 30, 2015) (City's Reply attach. 4) ("Kirby Declaration"); City's Reply at 2 n.3. The Kirby Declaration challenges charts the Region included in the Response to Comments document (to address the City's comments), raises additional arguments based on information added to the Administrative Record after the close of the public comment period, and purports to provide additional support to the City's arguments regarding the Permit's nitrogen limit. The Region moved to strike the Kirby Declaration, arguing that the document comprises late-filed arguments and impermissibly expands the length of the City's Reply. Region's August 2015 Motion to Strike at 2-9.

While it may be true, as the City argues, that in its Petition the City could have challenged the charts included in the Region's Response to Comments, it cannot raise those challenges for the first time in reply. *See* 40 C.F.R. §§ 124.19(a)(4) (requiring petitioner to identify issues warranting review in the petition for review), (c)(2) ("Petitioner may not raise new issues or arguments in the * * * reply."). Similarly, the City could have but did not timely raise in its Petition the arguments in the Kirby Declaration that are based on information added to the Administrative Record after the close of the public comment period.

The City's justification for its belated submission – that the Region did not provide the City with the data underlying the Region's decision in a timely

manner[21] – is undermined by the fact that the City waited until after the Region filed its Response to seek the underlying data. If the City wanted to raise the arguments made in the Kirby Declaration on appeal, it needed to seek the underlying data and conduct its review of the Region's analysis in time to assert, in its Petition, any clear errors it perceived. Again, the Administrative Record, including the underlying data, has always been available to the City for review upon request, as is required by NPDES permitting regulations. *See supra* Part IV.A.2; *see also* 40 C.F.R. §§ 124.9, .10(d)(1)(vi); *In re Energy Answers Arecibo, LLC*, 16 E.A.D. 294, 344-45 (EAB 2014); Joint Public Notice at 2.

The Kirby Declaration is also intended to provide further support for the City's arguments on appeal by providing brief excerpts from four "scientific reports" (all predating the public comment period) and attesting to conclusions drawn in those reports. Kirby Declaration ¶18 & attach. 17. Here, too, Mr. Kirby's declaration on these points (submitted with the City's Reply) is untimely. 40 C.F.R. § 124.19(c)(2) (prohibiting petitioners from raising new issues or arguments in a reply brief). More significantly, however, the City did not include these excerpts or any conclusions from them in its June 2013 comments, and therefore may not raise them in its appeal to the Board. *Id.* § 124.19(a)(4); *see also In re City of Attleboro*, 14 E.A.D. 398, 405-06, 444 (EAB 2009); *In re New Eng. Plating Co.*, 9 E.A.D. 726, 732-35 (EAB 2001). To allow otherwise would run counter to the guiding principle of Board permit review, which requires the Region to have the opportunity to address issues in the first instance. *See* Consolidated Permit Regulations, 45 Fed. Reg. 33,290, 33,412 (May 19, 1980) (stating that "most permit conditions should be finally determined at the [permit authority's] level").

By raising all of these issues via a thirty-four page declaration attached to its twenty-three page Reply, the City also contravenes Board regulations governing word limits for replies. *See* 40 C.F.R. § 124.19(d)(3) (limiting reply briefs to 7000 words). For all of the reasons stated, the Board concludes that the Kirby Declaration is procedurally improper. The Region's August 2015 Motion to Strike with respect to the Kirby Declaration is granted, and its contents will not be considered further.

[21] The data to which the City refers is the data underlying a report from the University of Massachusetts, School for Marine Science and Technology, more fully described in Part IV.B.2.a(ii) below.

4. *City's Motions Relating to Oral Argument Before the Board*

In its Motion to Strike, the City objects to certain statements made by the Region's counsel at oral argument and seeks either to have those statements (together with certain Administrative Record documents) stricken or alternatively to be given permission to depose Agency personnel. *See* City's March 2016 Motion to Strike. As to the Administrative Record documents, the City's motion is untimely and, in any event, does not demonstrate a basis to strike those documents or otherwise allow the City to depose Agency personnel. *Accord In re Town of Newmarket*, 16 E.A.D. 183, 246 (EAB 2013) (petitioner failed to demonstrate prejudice or denial of due process to justify its "unusual request" to depose EPA staff in an administrative appellate proceeding before the Board). Moreover, the Board bases its decisions in permit appeals on review of the administrative record in its entirety, *see* Part II above, and considers statements made by counsel at oral argument as argument. For all of these reasons, the City's March 2016 Motion to Strike is denied.

In its April 2016 Motion for Recusal, the City objects to the Board's line of questioning at oral argument, and requests that the Board issue an order confirming the City's positions on certain issues in this appeal. The City further seeks recusal of the presiding Judge, arguing that the Board's questions at argument – pressing the City on factual and legal positions taken in its merits briefs – demonstrate bias and a lack of impartiality.

As this Final Decision and Order constitutes the Board's decision on all issues in this appeal, the City's request for an order confirming certain of its legal positions is moot.

Additionally, the Board's questions directed to the City at oral argument do not establish bias (or lack of impartiality) on the part of the Board. There is no support for the City's contention that an appellate tribunal must allow a party to present argument, without interruption, and limit questions to points of clarity. *See* City's April 2016 Motion for Recusal at 11-12. Moreover, after a case is fully briefed on the merits, an appellate tribunal often challenges a party at argument on positions taken, or expresses doubt about the strength of arguments made, reflecting not bias but rather the tribunal's thorough preparation. Just as a Board decision that rules against a party does not indicate Board bias, challenging questions during oral argument do not indicate bias. *Cf. In re Energy Answers Arecibo, LLC*, PSD Appeal Nos. 13-05 to 13-09 (EAB May 30, 2014) (Order Denying Motion for Recusal of Panel and Denying Referral to Administrator for Rehearing) (explaining that a petitioner's dissatisfaction with the Board's decisions in a case does not

establish bias or grounds for recusal). Indeed, challenging questions benefit a party by allowing it the opportunity to demonstrate why its arguments are sound and its positions should prevail.

Lastly, as the Board is the final decision maker for the Agency in an NPDES appeal, it is incumbent upon the Board at oral argument to ask probing questions, including questions focused on issues not fully developed in the parties' briefs, to ensure that the Board decides the appeal "in accordance with applicable statutes and regulations." 40 C.F.R. § 1.25(e)(1). For all of these reasons, the City's April 2016 Motion for Recusal is denied.

B. *The Region Did Not Clearly Err or Abuse Its Discretion in Setting the Nitrogen Limit*

As stated above, the primary focus of the City's challenge to the Permit relates to the effluent limits for nitrogen. *See* Petition at 13-37. Specifically, the Permit limits nitrogen discharges to a seasonal average of 3.0 mg/l. Permit pt. I.A.1, at 3; Response to Comments at 163. The City has raised numerous issues related to the Permit's nitrogen limit, many of which overlap. Petition at 13-37. After describing the applicable legal standard, the Board organizes and addresses the City's challenges to the nitrogen limit in the following two categories: (1) the Region's determination that the Permit requires a nitrogen limit; and (2) the specific nitrogen limit imposed.[22]

As an initial matter, however, the Board observes that the establishment of a nitrogen limit in a permit is an inherently technical determination. *In re D.C. Water & Sewer Auth.*, 13 E.A.D. 714, 742 (EAB 2008). The Board assigns a heavy burden to petitioners seeking review of issues that are essentially technical in nature. *Id. (citing In re City of Moscow*, 10 E.A.D. 135, 142 (EAB 2001)). It is well established that the Board, when considering technical issues, will defer to the permit issuer's position if the record demonstrates that the permit issuer duly considered the issues and made a determination that is rational in light of all the

[22] The Board's organization of these two issues is consistent with the Board's previous description of the imposition of water quality-based effluent limitations in NPDES permits as involving a two-step process: First, the permitting authority determines whether an effluent limit for a particular pollutant is required to be included in the permit, and second, if so, the permitting authority determines what the appropriate limit should be. *See In re Upper Blackstone Water Pollution Abatement Dist.*, 14 E.A.D. 577, 595 (EAB 2010).

information in the record. *In re Scituate Wastewater Treatment Plant*, 12 E.A.D. 708, 718 (EAB 2006), *appeal dismissed per stip.*, No. 06-1817 (1st Cir. 2006); *see also In re Gov't of D.C. Mun. Separate Storm Sewer Sys.*, 10 E.A.D. 323, 334 (EAB 2002); *In re NE Hub Partners, LP*, 7 E.A.D. 561, 568 (EAB 1998), *review denied sub nom. Penn Fuel Gas, Inc. v. EPA*, 185 F.3d 862 (3d Cir. 1999). "'Clear error or reviewable exercise of discretion are not established simply because the petitioner presents a different opinion or alternative theory regarding a technical matter, particularly when the alternative theory is unsubstantiated.'" *Scituate*, 12 E.A.D. at 718 (*quoting In re MCN Oil & Gas Co.*, UIC Appeal No. 02-03, at 25-26 n.21 (EAB Sept. 4, 2002) (Order Denying Review)). Moreover, as the U.S. Court of Appeals for the First Circuit has stated, "where a complex administrative statute, like those the EPA is charged with administering, requires an agency to set a numerical standard, courts will not overturn the agency's choice of a precise figure where it falls within a 'zone of reasonableness.'" *Upper Blackstone Water Pollution Abatement Dist. v. EPA*, 690 F.3d 9, 28 (1st Cir. 2012); *see id.* at 28-29 n.25 (noting the Board's careful review of permit decisions notwithstanding the deferential standard it applies to decisions made at the regional level, particularly as applied to science-based and technical judgments).

1. *Applicable Legal Standard*

As noted above, NPDES permits must include appropriate water quality-based effluent limitations for any pollutant the permitting authority determines is or may be discharged at a level that "will cause, have the reasonable potential to cause, or contribute" to an exceedance of a water quality standard, including a narrative water quality standard.[23] 40 C.F.R. § 122.44(d)(1)(i); *see* CWA §§ 301, 402, 33 U.S.C. §§ 1311, 1342. The "reasonable potential" analysis "requires some degree of certainty greater than a mere possibility, but it leaves to the permit writer's scientific and technical judgment how much certainty is necessary." *Upper Blackstone*, 14 E.A.D. at 599 n.29. If a pollutant discharge is found to cause, have the reasonable potential to cause, or contribute to exceedances of water quality criteria, the permit writer must establish a limit. *See, e.g.*, 40 C.F.R. § 122.44(d)(1)(vi) ("[w]here a State has not established a water quality criterion for

[23] Other factors to be taken into account in determining whether a "reasonable potential" exists include consideration of "existing controls on point and nonpoint sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity), and where appropriate, the dilution of the effluent in the receiving water." 40 C.F.R. § 122.44(d)(1)(ii).

a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority *must* establish effluent limits") (emphasis added). Furthermore, "[a]s in many science-based policymaking contexts, under the CWA the [Region] is required to exercise its judgment even in the face of some scientific uncertainty." *Upper Blackstone,* 690 F.3d at 23 (observing that "[n]itrogen-based cultural eutrophication becomes more difficult to address the longer it is left unchecked," and that weighing the risks of scientific uncertainty against the consequences of waiting for better information is "within the EPA's policymaking discretion, and its judgment * * * is entitled to respect").

2. *The Region Had a Reasonable Basis to Conclude That a Nitrogen Limit Must Be Included in the Permit*

In applying the "reasonable potential" standard to this permit proceeding, the Region first examined whether the Massachusetts water quality standards relating to nitrogen were being, or were likely to be, exceeded. *See* Fact Sheet at 16-26. The Region concluded that the Taunton Estuary and Mount Hope Bay are suffering from "cultural eutrophication due to nitrogen overenrichment," which "has reached the level of a violation of both Massachusetts * * * water quality standards for nutrients and aesthetics, and has also resulted in violations of the numeric [dissolved oxygen] standards in these waters." *Id.* at 26. Having determined that applicable water standards were not being met, the Region then determined that the City's permitted discharges "will cause, have the reasonable potential to cause, or contribute" to those water quality exceedances, *id.* at 26-29, and that a nitrogen limit is necessary. For reasons explained below, the Board concludes that the Region reasonably determined that a nitrogen limit was required to be included in the Permit.

a. *The Region Reasonably Determined That the Taunton Estuary and Mount Hope Bay Are Suffering from Nitrogen Overenrichment*

To determine whether any nitrogen-related water quality violations were occurring or were likely to occur, the Region first identified the water quality standards applicable to the Taunton Estuary and Mount Hope Bay. As described in Part III.C above, Massachusetts does not have a numeric water quality limit for nitrogen. The applicable Massachusetts narrative water quality standard requires the Taunton Estuary and Mount Hope Bay to be free from nutrients (such as

nitrogen)[24] in levels that would cause or contribute to impairment or cultural eutrophication, including excessive algal growth. 314 Mass. Code Regs. § 4.05(5). Specifically, that standard provides:

> Unless naturally occurring, all surface water shall be free from nutrients in concentrations that would cause or contribute to impairment of existing or designated uses and shall not exceed the site specific criteria developed in a TMDL or as otherwise established by the Department pursuant to 314 [Mass. Code Regs. §] 4.00.

314 Mass. Code Regs. § 4.05(5)(c). Massachusetts water quality regulations also require that the Taunton Estuary and the eastern portion of Mount Hope Bay "have consistently good aesthetic value" and that dissolved oxygen concentrations not be less than 5.0 mg/l. *Id.* § 4.05(4)(b). Massachusetts regulations require water quality-based effluent limitations that "are adequate to assure the attainment and maintenance of the water quality standards of the receiving waters." *Id.* § 3.11(3).

The Region next identified appropriate criteria to use in evaluating whether the nitrogen levels in the Taunton Estuary or Mount Hope Bay were exceeding the first of these standards, the Massachusetts narrative water quality standard for nutrients.

(i) *Criteria for Evaluating the Narrative Nitrogen Water Quality Standard*

To evaluate the water quality of the Taunton Estuary and Mount Hope Bay, the Region looked to the best information available for evaluating whether nitrogen is exceeding the Massachusetts narrative water quality standard for nutrients. Fact Sheet at 17; Response to Comments at 5-8. For Massachusetts, the best available criteria for evaluating nitrogen are the "critical indicators" described in a Massachusetts DEP Report, developed by the Massachusetts Estuary Project ("MEP"). *See* Mass. Estuary Project, *Site-Specific Nitrogen Thresholds for*

[24] Both the City and the Region use the term "nutrient" and "nitrogen" interchangeably throughout the briefs and the Administrative Record. In most instances, the Board refers to "nitrogen" in this decision rather than "nutrients" because nitrogen is the only nutrient at issue.

Southeastern Massachusetts Embayments: Critical Indicators, Interim Report (rev. Dec. 27, 2003) (A.R. L.15) ("Critical Indicators Report").[25]

The purpose of the Critical Indicators Report is to provide "a translator" between the Massachusetts narrative water quality standard and a nitrogen level consistent with unimpaired conditions. *Id.* at 2. According to that Report, the development of a nitrogen level begins with defining and selecting key criteria or "critical indicators" for use in a site-specific determination. *Id.* at 3. A site-specific nitrogen level can then be determined and further calibrated and refined based on detailed analysis of the embayments and the development of other site-specific criteria. *Id.*; *see generally id.* at 26.

The Critical Indicators Report uses multiple criteria or "critical indicators" to ascertain healthy nitrogen levels, recognizing the "difficulty in developing a nitrogen threshold" that links "nitrogen concentrations to the more diagnostic biological and chemical indicators of habitat quality." *Id.* at 19. Ultimately, the Report identifies waters with an SB classification, such as the Taunton Estuary and the eastern portion of Mount Hope Bay, as being in "good to fair health" when dissolved oxygen levels are generally not less than 5.0 mg/l, algal levels are in the 3.0 to 5.0 micrograms per liter ("µg/l") range, and nitrogen levels are in the .39 to .50 mg/l range (embayment regions with nitrogen levels above .50 mg/l are considered clearly impaired). *Id.* at 22-23. Although the Critical Indicators Report was written for the purpose of developing TMDLs, the Region used these "critical indicators" of healthy oxygen, algal, and nitrogen levels to evaluate existing water quality in the Taunton Estuary and Mount Hope Bay in the context of determining discharge requirements for this Permit, and specifically to ascertain the critical indicators for determining the assimilative capacity for nitrogen[26] in these water bodies. *See* Fact Sheet at 17-18, 29-30; Response to Comments at 5-6, 42-43.

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[25] The City incorrectly refers to this report as a "draft." Petition at 8. Nothing in the Report, however, indicates that it is in draft form. Rather, it is titled an "Interim Report," because the document itself represents the first step in in a multi-step process of developing site-specific nitrogen thresholds for the southeastern Massachusetts embayments for use in developing TMDLs. Critical Indicators Report at 3.

[26] The Critical Indicators Report defines the "assimilative capacity for nitrogen" as "the level within the receiving waters that can be achieved without discernible ecosystem impairment or degradation." Critical Indicators Report at 16.

The use of criteria from the Massachusetts Critical Indicators Report to evaluate water quality is fully consistent with the NPDES permitting regulations, which allow the Region to "[e]stablish effluent limits using * * * a proposed State criterion, or an explicit State policy or regulation interpreting its narrative water quality criterion, supplemented with other relevant information which may include[] * * * current EPA criteria documents." 40 C.F.R. § 122.44(d)(1)(vi)(A).

EPA guidance on the development of nutrient criteria for use in managing estuarine and coastal waters further supports the Region's approach here. *See* Office of Water, U.S. EPA, EPA-822-B-01-003, *Nutrient Criteria Technical Guidance Manual: Estuarine and Coastal Marine Waters* 6-3 (Oct. 2001) (A.R. M.20) ("EPA's Nutrient Criteria Guidance"). EPA has not recommended national nitrogen criteria for estuarine and coastal waters. *See id.* at 1-8. According to EPA, it would be "impossible to recommend a single national criterion applicable to all estuaries" due to the unique and varied conditions of each particular estuary or coastal reach. *Id.* For this reason, the Guidance suggests that it will be necessary to determine the natural ambient background nutrient condition for each estuary or coastal area so that eutrophication caused by human activities can be addressed. *Id.* EPA's recommended approach for developing a target nutrient level is to identify a "reference" condition. *Id.* at 6-1. According to the Guidance, "[i]dentifying a reference condition in degraded waters should start with an analysis of the best existing estuarine or marine waters within a watershed or coastal area, or as commonly stated, 'the best of what's left.'" *Id.* at 6-3. Reference conditions "serve as the best initial measure for identifying nutrient loads that could cause use impairments."[27] *Id.*

(ii) *Applying the Criteria to the Taunton Estuary and Mount Hope Bay*

To determine the condition of the Taunton Estuary and Mount Hope Bay based on the criteria in the Critical Indicators Report, the Region relied primarily on 2004-2006 data from an estuarine water quality study conducted by the University of Massachusetts, School for Marine Science and Technology ("SMAST data"), contained in a 2007 Report. *See* Univ. of Mass. Dartmouth, School for Marine Science & Tech., *Summary of Water Quality Monitoring Program for the Mount Hope Bay Embayment System (2004-2006)* (Aug. 16, 2007) (A.R. K.18) ("SMAST Report"). The SMAST data consisted of sampling data

[27] Determining a target nitrogen level is relevant to both the evaluation of existing water quality and the establishment of a level from which specific permit limits may be derived.

from twenty-two monitoring sites in the Taunton Estuary and Mount Hope Bay over a period of three years.[28] *See* SMAST Report at 8-9, and Fig. 6, at 26 (illustrating the location of the twenty-two monitoring stations). The Region used this data to assess the condition of the Taunton Estuary and Mount Hope Bay:

> Using the full suite of data from this comprehensive monitoring of the Taunton River Estuary/Mount Hope Bay system, [the Region] was able to characterize the transition from unimpaired to impaired conditions associated with increasing [nitrogen] concentrations, expressed in terms of a location in Mount Hope Bay [that] represented the highest [nitrogen] concentration where impairments were not identified. This analysis is supplemented by consideration of [nitrogen] thresholds identified in other systems (a range of 0.39 to 0.50 mg/l identified for SB waters in Massachusetts).

Response to Comments at 35.

The SMAST data showed minimum dissolved oxygen levels of less than 5.0 mg/l at all Taunton Estuary stations in 2004 and 2006 and at a majority of the stations in 2005. Fact Sheet at 21. In Mount Hope Bay, all but one station was below 5.0 mg/l at least once between 2004 and 2006, and five out of ten stations were below 5.0 mg/l in both 2004 and 2005. *Id.*; *see also id.* at 23. The Region concluded that the SMAST data provide "compelling evidence" of pervasively low levels of dissolved oxygen conditions "throughout the Taunton River Estuary and Mount Hope Bay, given that the sampling was intermittent (and therefore unlikely to capture isolated low [dissolved oxygen] events) and was not timed to reflect the lowest [dissolved oxygen] conditions in the water body (just before dawn, when oxygen depletion due to respiration is greatest)."[29] *Id.* at 21-22.

The SMAST data also showed algal levels above 5 µg/l at every station monitored in all three monitoring seasons, with levels routinely above 20 µg/l. *Id.* at 22-24. These data again demonstrated pervasively elevated algal levels in both

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[28] The monitoring stations are labeled MHB1 through MHB21 and MHB-DO (or MHB-MOOR). *See* SMAST Report at 9, 13 n.1.

[29] *See supra* Part III.B (explaining that during the day, algae produce oxygen as a by-product of photosynthesis, but at night, when photosynthesis ceases but plant respiration continues, dissolved oxygen levels decline).

the Taunton Estuary and Mount Hope Bay, far in excess of the 3 to 5 µg/l range that is associated with a healthy system.

The third critical indicator, i.e., the level of nitrogen in the water, was also pervasively high throughout the Taunton Estuary and Mount Hope Bay. The SMAST data show elevated nitrogen levels (i.e., above .50 mg/l) throughout the system, with the three-year average above .50 mg/l at sixteen of the twenty-two sites monitored and with the highest nitrogen concentrations generally found in the tidal rivers, including the Taunton River (e.g., the nitrogen levels for the upper Taunton River ranged between .60 and 1.24 mg/l). *Id.* at 22, 23.

The Region's evaluation of the SMAST data is consistent with the SMAST Report itself, which concluded that the Taunton Estuary experienced very high levels of nitrogen and poor water quality due to high algal levels and oxygen depletion, and that water clarity was impacted in both the Taunton Estuary and Mount Hope Bay. SMAST Report at 22-23, 25, 58; *see also* Response to Comments at 80. The SMAST Report further observed that nitrogen levels were generally highest in the upper part of the Taunton Estuary due to the higher population in the vicinity of the tidal river, as compared to the lower nitrogen levels in the main basin of Mount Hope Bay where the water mixes with the incoming waters and experiences greater flushing and access to the higher quality waters of the lower Bay. Fact Sheet at 24 (*quoting* SMAST Report at 22-23).

In addition to the SMAST Report and its underlying data, the Region relied on additional evidence of conditions in Mount Hope Bay, using data from the Narragansett Bay Water Quality Network to confirm its conclusions.[30] Fact Sheet at 24. These data were derived from one fixed monitoring station in Mount Hope Bay, the "Mount Hope Bay sonde," that is equipped with one near-bottom datasonde and one near-surface datasonde that measure dissolved oxygen and algal levels on a continuous basis. *Id.* at 24-25 (describing the Mount Hope Bay sonde); *see also* Response to Comments at 52, 73 (noting the availability of continuous monitoring data from the sonde). Since 2005, the datasondes have been located in the Rhode Island portion of Mount Hope Bay near the SMAST MHB13 site, from May or June through October. Fact Sheet at 24. These co-located datasondes

[30] Data from this fixed monitoring station are maintained by the Rhode Island Department of Environmental Management, Office of Water Resources, and are also referred to as the "RIDEM data" in the parties' briefs. For consistency and ease of discussion in this decision, the Board refers to the Mount Hope Bay data from this fixed monitoring station as the "Mount Hope Bay sonde data."

showed multiple events (three in 2005 and seven in 2006) where dissolved oxygen levels fell below 4.8 mg/l, with individual events lasting between two and twelve days. *Id.* Two of the 2006 events were characterized as "hypoxic," with dissolved oxygen levels falling below 2.9 mg/l for more than two days. *Id.* at 25. Thus, the Mount Hope Bay sonde data (from the two datasondes in this one fixed station) were consistent with the Region's conclusions from the SMAST data with respect to dissolved oxygen.

Similarly, the Mount Hope Bay sonde data confirmed elevated algal levels in Mount Hope Bay. *Id.* In 2005, the Mount Hope Bay sonde data showed multiple events with algal levels well above 20 µg/l, even higher than the maximum levels that the intermittent SMAST sampling had captured. *Id.* The Region also noted that the Mount Hope Bay sonde data (which continues beyond the 2005-2006 timeframe) confirms that these concerning levels of low dissolved oxygen and high algal levels persist, with data from 2010 (the most recent published at the time the Region issued the Draft Permit) continuing to show elevated algal levels and low dissolved oxygen levels. *Id.* In fact, the most recent Mount Hope Bay sonde data at the time the Region issued the Permit "confirm[ed] continued water quality violations," with the maximum algal level recorded in 2013 (32.65 µg/l) being the highest level in any year recorded since 2006, and extensive periods in 2013 showing dissolved oxygen levels below 5.0 mg/l. Response to Comments at 113.

Based on information submitted by the City during the comment period, the Region also examined data collected by the University of Rhode Island's Graduate School of Oceanography ("URI data"). *Id.* at 108. Those data consisted of sampling data from one site in Mount Hope Bay that measured nitrogen from 2006 to the present. *Id.* From these data, the Region concluded that nitrogen levels have not improved over time, *id.* at 108, and that this information supports the conclusions the Region drew from the SMAST data. *Id.* at 58.

Based on the SMAST sampling data, the confirming Mount Hope Bay sonde data, and the other sources of information reviewed, the Region concluded that "cultural eutrophication due to nitrogen overenrichment in the Taunton Estuary and Mount Hope Bay has reached the level of a violation of both Massachusetts * * * water quality standards for nutrients and aesthetics, and has also resulted in violations of the numeric [dissolved oxygen] standards in these waters." Fact Sheet at 26; *see also* Response to Comments at 58, 68, 107, 113.

b. *The Region Reasonably Determined That the City's Discharge of Nitrogen to the Taunton Estuary and Mount Hope Bay Has the Reasonable Potential to Contribute to Exceedances of Water Quality Standards*

Having determined that the Taunton Estuary and Mount Hope Bay suffer from levels of nitrogen in excess of water quality standards, the Region next considered whether discharges from the City's Plant would have the reasonable potential to cause or contribute to an exceedance of those water quality standards. Fact Sheet at 26-29. The Region concluded that discharges from the Plant alone account for 14% of the total nitrogen load for the Taunton Estuary and that the City's nitrogen load together with other wastewater treatment plant loads account for 66% of that load. *Id.* at 28. On this basis, the Region concluded that the City's Plant is a significant contributor of nitrogen to the Taunton Estuary. *See id.* at 29.

In reaching this conclusion, the Region observed that "[e]ven if the evidence is unclear that a pollutant is currently causing an impairment, a limit may be required if the pollutant has the reasonable potential to cause, or contribute to an exceedance of a water quality standard (i.e., the permit limit may be preventative)." Response to Comments at 36. The Region also noted that "the pollutant need not be the sole cause of an impairment before an NPDES limit may be imposed; an effluent limit may still be required, if the pollutant 'contributes' to a violation." *Id.* (*citing In re Town of Newmarket,* 16 E.A.D. 182, 223 (EAB 2013). Ultimately, the Region concluded that the City's discharges cause, have a reasonable potential to cause, or contribute to nitrogen-related water quality violations in the Taunton Estuary and Mount Hope Bay. *See* Fact Sheet at 29; *see also* Response to Comments at 42, 46. As such, CWA regulations required the Region to impose a nitrogen limit in the Permit. *See* 40 C.F.R. § 122.44(d)(1)(vi); Response to Comments at 7; Fact Sheet at 29.

c. *The City's Arguments Do Not Establish That the Region Clearly Erred in Determining a Nitrogen Limit Is Necessary*

The City challenges the Region's decision to include a nitrogen limit in the Permit, arguing that:

(i) the Region's conclusion that the Taunton Estuary and Mount Hope Bay suffer from cultural eutrophication due to nitrogen overenrichment directly conflicts with the Massachusetts DEP determination in the context of its EPA-approved 303(d) list that the Taunton River is not "impaired";

(ii) the Region failed to apply appropriate methodologies when considering whether Massachusetts water quality standards may be exceeded;

(iii) the Region failed to demonstrate that nitrogen is "causing" or "likely to cause" impairment in the Taunton Estuary;

(iv) the Region failed to consider improvements in conditions that have occurred since the SMAST data were collected; and

(v) the Region relied on the 2004-2006 SMAST data without taking into account more recent monitoring and modeling efforts.

Petition at 13-25, 29-37.

The Region's determination that a nitrogen limit is necessary involved numerous technical determinations. *Cf. In re D.C. Water & Sewer Auth.*, 13 E.A.D. 714, 742-43 (EAB 2008). As such, and as explained previously, the City has a heavy burden to demonstrate that review is warranted. *Id. (citing In re City of Moscow*, 10 E.A.D. 135, 142 (EAB 2001). The Board will defer to the Region's technical determinations if the Board concludes that the Region duly considered the issues and issued a decision that is rational in light of all of the information in the record. *See In re Scituate Wastewater Treatment Plant*, 12 E.A.D. 708, 718 (EAB 2006), *appeal dismissed per stip.*, No. 06-1817 (1st Cir. 2006). The Board addresses each of the City's arguments below.

(i) *The Region's Determination to Impose a Nitrogen Limit in This NPDES Permit Is Not Inconsistent with Its Approval of the Massachusetts DEP 303(d) List*

The City argues that the Region erred in determining that a nitrogen limit is necessary because the Taunton River is not designated as nitrogen-impaired on the EPA-approved Massachusetts 303(d) list.[31] Petition at 13-16. In so arguing, the City asserts that the Massachusetts DEP's omission of the Taunton River from its 303(d) list with respect to nitrogen, and the EPA's approval of that list, are

[31] The Massachusetts 303(d) list actually lists "Waters requiring a TMDL" for specific pollutants. For ease of discussion, the Board refers to "waters requiring a TMDL" under 303(d) as "impaired." *See supra* Part III.A.

tantamount to a Massachusetts DEP and EPA decision that the Taunton River is *not* impaired for nitrogen. *Id.*

As explained in Part IV.B.2.a above, the Region did not assume that the Taunton River was "impaired" due to excess nitrogen levels based on the Massachusetts 303(d) list. Nor is the Region's NPDES determination constrained by that list. Response to Comments at 36-38, 40-41. As the Region explained in its Response to Comments document, NPDES regulations do not support the City's contention that a permit authority must include effluent limits only for the pollutants discharged into receiving waters that are identified as impaired on the state's 303(d) list. *Id.* at 36. In relying on the 303(d) list to establish a permitting error, the City's Petition reflects a misunderstanding of the relationship and distinction between the 303(d) listing process and the NPDES permitting process.

(a) *The 303(d) Listing Process Is Distinct from NPDES Permitting*

The 303(d) listing process and the NPDES permitting process are two different components of the CWA. Impairment designations under CWA section 303(d) are not made using the same process or standard as NPDES permitting decisions. *See* Response to Comments at 36, 38, 41. Rather, each represents a distinct aspect of the CWA statutory scheme that is implemented under a separate set of regulatory authorities. *Compare* 40 C.F.R. § 122.44 (containing NPDES permitting regulations) *with* 40 C.F.R. § 130.7 (containing CWA section 303(d) and TMDL regulations); *see also* Response to Comments at 41.

States use 303(d) lists to prioritize the development of TMDLs for identified pollutants in specified water bodies. CWA § 303(d)(1)(A), 33 U.S.C. § 1313(d)(1)(A). The 303(d) listing process represents a statutory *response* to water pollution – i.e., it is aimed at identifying water bodies that fail to meet state water quality standards for the purpose of prioritizing and addressing that existing impairment or threatened impairment, as determined by chronic or recurring monitored violations of the applicable numeric or narrative water quality criteria. *See supra* Part III.A (describing the CWA section 303(d) listing process).

In contrast, NPDES permitting under CWA section 301 applies to individual discharges and represents a more *preventative* component of the regulatory scheme in that, under section 301, no discharge is allowed except in accordance with a permit. Moreover, the CWA's implementing regulations require the Region to include effluent limits in discharge permits based on the *reasonable potential* of a discharge facility to cause or contribute to exceedances of water quality standards, even if the receiving water body is not yet on a state's 303(d) list. *See* 40 C.F.R. § 122.44(d)(1)(i). Although a 303(d) listing could presumably

establish that water quality standards are being exceeded, necessitating an appropriate permit limit, the Region is not constrained from acting where a water body has not yet been placed on the 303(d) list. *Id.; see also In re Upper Blackstone Water Pollution Abatement Dist.*, 14 E.A.D. 577, 599 (EAB 2010) (explaining that the NPDES regulations require a "precautionary" approach to determining whether the permit must contain a water quality-based effluent limit for a particular pollutant), *aff'd.* 690 F.3d 9 (1st Cir. 2012), *cert. denied*, 133 S. Ct. 2382 (2013).

(b) *The Absence of an "Impairment" Designation on the 303(d) List Does Not Obviate the Region's Obligation to Include Appropriate Effluent Limits in NPDES Permits*

The City argues that NPDES permitting regulations require consistency with 303(d) listing determinations. Petition at 15 & n.10. The Region's approval of the Massachusetts 303(d) list (which does not identify the Taunton River as "impaired" for nitrogen) does not undermine the Region's permitting determination here that the Taunton Estuary and Mount Hope Bay are suffering from nitrogen overenrichment and cultural eutrophication. These two determinations are not inconsistent: The Region's approval of Massachusetts DEP's determination that the Taunton River is impaired for dissolved oxygen and that Mount Hope Bay is impaired for nitrogen is entirely consistent with the Region's findings here that (i) water quality standards are being exceeded and (ii) the discharge of nitrogen from the City's Plant is causing or will contribute to, or has the "reasonable potential" to cause water quality exceedances in the Taunton Estuary or Mount Hope Bay.

The City cites 40 C.F.R. § 122.44(d)(1)(vii)(B) in support of its argument that the NPDES regulations require consistency with the 303(d) list. That provision, however, establishes that, where wasteload allocations (based on TMDLs) have been established pursuant to 40 C.F.R. § 130.7, any effluent limits in an NPDES permit should be consistent with the assumptions and requirements of those wasteload allocations. *See* 40 C.F.R. § 122.44(d)(1)(vii)(B) ("When developing water quality-based effluent limits * * * the permitting authority shall ensure that * * * [e]ffluent limits developed to protect a narrative water quality criterion, a numeric water quality criterion, or both, are consistent with the assumptions and requirements of any available wasteload allocation for the discharge prepared by the State and approved by EPA pursuant to 40 [C.F.R. §] 130.7," i.e., consistent with wasteload allocations established by TMDLs); *see also In re City of Homedale Wastewater Treatment Plant*, 16 E.A.D. at 421, 426-27 (EAB 2014) (explaining that permit limits need not be identical with the wasteload

allocations established by the TMDLs, but only "consistent with" these allocations).

Moreover, this regulatory provision does not prevent the Region from acting in the NPDES permitting context where TMDLs or wasteload allocations are not available. Instead, the regulations contemplate that permit issuers will establish numeric permit limits, even when there are no TMDL or wasteload allocations available. *See* 40 C.F.R. § 122.44(d)(1)(vii)(B) (requiring effluent limits to be consistent with "*any available* wasteload allocation") (emphasis added); *see also Upper Blackstone*, 12 E.A.D. at 604 ("By using the phrase 'any available,' the regulations expressly recognize that a TMDL or wasteload allocation may not be available."). Additionally, in addressing the relationship between NPDES permitting (under CWA section 301) and TMDLs and wasteload allocations (under section 303(d)), EPA has emphasized the need to establish necessary permit effluent limitations to comply with water quality standards based on available information even if section 303(d) designations lag behind permitting. *See* 54 Fed. Reg. 23,868, 23,879 (June 2, 1989) (clarifying in the preamble to 40 C.F.R. § 122.44 that subsection (d)(1)(vii) "do[es] not allow the permitting authority to delay developing and issuing a permit if a wasteload allocation has not already been developed and approved"). Lastly, in not imposing detailed procedures for establishing permit limits, EPA intended to "give the permitting authority the flexibility to determine the appropriate procedures for developing water quality-based effluent limitations." *Id.* Thus, the City's reliance on 40 C.F.R. § 122.44(d)(1)(vii)(B) is misplaced.[32] *See also Upper Blackstone,* 14 E.A.D. at 604-06 (expressly rejecting the notion that permit issuers must wait until a TMDL or wasteload allocation is developed before setting an effluent limit in a permit and reiterating that scientific uncertainty is not a basis for delay in issuing an NPDES permit).

[32] The City cites three Board NPDES permit cases in which nutrient limits were imposed on discharges into water bodies that were identified as impaired on the state 303(d) list. Petition at 15 n.9. While that may have been true in those cases, as explained above, the Region is obligated under NPDES regulations to include appropriate effluent limits in a permit, even where 303(d) listing determinations lag behind. Thus, these cases are inapposite.

(c) *The 303(d) List Does Not Represent a Massachusetts DEP or EPA Determination of Whether the Taunton River is Nitrogen-Impaired*

As stated above, the City argues that the Massachusetts DEP's omission of the Taunton River from its 303(d) list as impaired for nitrogen, and the EPA's approval of that list, constitute a considered determination by Massachusetts DEP and EPA that the Taunton River is not impaired for nitrogen. Massachusetts DEP, however, updates its impairment designations based on watershed monitoring and assessments that are completed on a rotating schedule. Response to Comments at 38, 40. As the Region noted, that schedule was initially envisioned to take five years, but Massachusetts is behind schedule. *See id.* The Taunton River watershed assessment was last completed in 2001. *See* Response to Comments at 38. After noting the Massachusetts DEP watershed assessment schedule and when the last assessment of the Taunton River was completed, the Region concluded that the Taunton River likely is not on the list as impaired for nitrogen because Massachusetts DEP is deferring revision of the Taunton River designations pending updated assessments. *Id.*; *see also id.* at 40-41. The record contains no evidence that Massachusetts DEP has affirmatively considered whether the Taunton River is nitrogen-impaired in the context of revising its 303(d) list.[33] Thus, contrary to the City's assertions, the 303(d) list does not reflect a considered, affirmative determination by Massachusetts DEP that the available indicator evidence does not support a nitrogen impairment listing of these segments.[34] *Id.* at 38, 40.

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[33] Each 303(d) list identifies which water quality assessments have been incorporated into the update. *See* Response to Comments at 40; *see also* 2012 Mass. 303(d) List, at iii (identifying the water bodies for which new water assessments had been completed and stating that new assessments on the identified water bodies furnished the majority of new information in support of 2012 listings); *see also* Mass. Div. of Watershed Mgmt., *Massachusetts Year 2010 Integrated List of Waters: Final Listing of the Condition of Massachusetts' Waters Pursuant to Sections 305(b), 314, and 303(d) of the Federal Clean Water Act*, at iii (Apr. 2010) (A.R. J.3); Mass. Div. of Watershed Mgmt., *Massachusetts Year 2008 Integrated List of Waters: Final Listing of the Condition of Massachusetts' Waters Pursuant to Sections 305(b), 314, and 303(d) of the Federal Clean Water Act*, at iii (Dec. 2008) (A.R. J.4).

[34] In Reply, the City acknowledges that Massachusetts DEP has not done a watershed assessment of the Taunton River since 2001. City's Reply at 10 n.13. The City nevertheless argues that in developing a 303(d) list, a state is required to "'assemble and evaluate all existing and readily available water quality-related data and information,'" Petition at 3 (*quoting* 40 C.F.R. § 130.7(b)(5)). From there, the City appears to argue that

The record further reflects Massachusetts DEP's concurrence with the permitting decision. As described in Part III.D above, the City's authorization to discharge includes two independent permit authorizations: one NPDES discharge authorization from the Region that is the subject of this appeal, and an identical Massachusetts surface water discharge authorization issued by Massachusetts DEP. Permit pt. I.A.1, at 22-23. Both the Region and Mass DEP signed the Permit. *Id.* at 1. Additionally, Massachusetts DEP certified, pursuant to CWA section 401, that the Permit contains all conditions necessary to assure compliance with the CWA and the Massachusetts Clean Waters Act (including state water quality standards). 401 Certification at 2; *see* CWA § 401(a)(1), 33 U.S.C. § 1341(a)(1) (providing that no permit may be issued unless state certification has been granted or waived); 40 C.F.R. §§ 124.53(a), .55(a)(2); *see also* 40 C.F.R. § 124.52(e)(3) (allowing the state to include "[a] statement of the extent to which each condition of the draft permit can be made less stringent without violating the requirements of [s]tate law.")

Similarly, EPA's approval of the 303(d) list does not reflect an Agency determination that the Taunton River is not nitrogen-impaired. The Region, in its role of approving the 303(d) list, "recognizes the resource constraints of the state agencies and accommodates [Massachusetts DEP's] rotating watershed assessment cycle."[35] Response to Comments at 38. As noted in its Response to Comments,

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Massachusetts DEP's 303(d) list reflects its determination based on the most current information that the Taunton River is not nitrogen-impaired. *See id.* at 15 (arguing that Massachusetts DEP "has repeatedly determined that * * * [the Taunton Estuary] is not impaired for nutrients"); City's Reply at 10 & n.13 (claiming that Massachusetts DEP has "repeatedly declined to list [the Taunton Estuary] as nutrient impaired" and the fact that the Massachusetts DEP has not done a watershed assessment since 2001 "does not mean [Massachusetts DEP] [has not] been considering any of the new information, datasets, and evaluations for the system as they become available"). The inference the City seeks to draw, however, is unsupported by anything in the Administrative Record for this permit proceeding. Thus, the Region did not clearly err in concluding that the Taunton River likely is not on the 303(d) list as nitrogen-impaired because Massachusetts DEP is deferring revision of the Taunton River designations pending updated assessments. Response to Comments at 38.

[35] EPA's approval of each 303(d) list recognizes the rotating nature of these updates. *See, e.g.,* Letter from Kenneth Moraff, Acting Dir., Office of Ecosystem Protection, U.S. EPA Region 1, to Kenneth L. Kimmell, Comm'r, Mass. DEP, *EPA New England's Review of Massachusetts' 2012 CWA Section 303(d) List* 5 (May 2, 2013) (A.R. J.8) ("Massachusetts developed its 2012 section 303(d) list [of waters needing

the Region "believes it likely that [future] water quality assessments for the Taunton watershed, and future 303(d) listings incorporating such assessments, will support a nitrogen impairment listing for these segments." *Id.* at 41; *see also id.* at 37 (noting that while an organic enrichment/dissolved oxygen impairment is not equivalent to a nitrogen impairment, "such an impairment is certainly not inconsistent with nutrient impairments (indeed, the mechanism by which nutrients cause [dissolved oxygen] depletions is through increased organic matter)").

In sum, neither the Massachusetts 303(d) list, nor the Region's approval of that list, are inconsistent with or determinative of the need for a nitrogen limit in this permitting action. Rather, the Region acted reasonably in concluding that it could not wait for Massachusetts' separate 303(d) listing process to catch up before meeting its obligation to issue an appropriate NPDES permit, consistent with the CWA and its implementing regulations.

(ii) *NPDES Regulations Do Not Require the Region to Use Any Particular Methodology or Conduct Any Specific Modeling to Determine Whether the Reasonable Potential Standard Is Met*

The City argues that the Region failed to conduct any site-specific analysis or modeling in determining whether a nitrogen limit was necessary. Petition at 16 (arguing that the Region "must provide a site-specific analysis using applicable [Massachusetts DEP] procedures, current data, and studies" to demonstrate why the dissolved oxygen exceedances are due to excessive algal growth); *see also id.* at 21-23 & n.20; City's Reply at 13 (arguing that the Region provided "no objective analysis" linking nitrogen to low levels of dissolved oxygen in the Taunton Estuary). While the City might prefer that the Region follow a more rigorous analytical process than it did, nothing in the CWA, its implementing regulations, or Board precedent requires the Region to do the type of modeling or causation analysis that the City complains is lacking in order to determine the existence of a reasonable potential under 40 C.F.R. § 122.44(d)(1)(i). *See In re Upper Blackstone Water Pollution Abatement Dist.*, 14 E.A.D. 577, 599, 601 (EAB 2010), *aff'd.* 690 F.3d 9 (1st Cir. 2012), *cert. denied*, 133 S. Ct. 2382 (2013).

More specifically, the City argues that the Region was required but failed to use the methods set forth in the 2012 Massachusetts Consolidated Assessment and Listing Methodology Guidance Manual to analyze the narrative water quality

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TMDLs] by updating its 2010 section 303(d) list using all * * * water quality assessments that have been completed since the [2010 list] was published.").

standards. Petition at 4-5, 20-21; *see* Mass. Div. of Watershed Mgmt. Watershed Planning Program, *Massachusetts Consolidated Assessment and Listing Methodology (CALM) Guidance Manual* (July 2012) (A.R. J.1) ("CALM Guidance"). The Massachusetts DEP, however, developed the CALM Guidance to assist it in making 303(d) listing determinations, and not for conducting a "reasonable potential" analysis in the permitting context.[36] *See* CALM Guidance at 1. As explained above, the 303(d) listing process is distinct from the NPDES permitting process. The NPDES regulations do not require the Region to follow the 303(d) listing methodology prescribed by a state. Nor does the CALM Guidance refer to or purport to apply to NPDES permitting determinations. As such, the City's Petition misapprehends the scope of the CALM Guidance.

The City cites 40 C.F.R. § 122.44(d)(1)(vi)(A) in support of its argument that the Region is required to use the CALM Guidance to determine the need for a nitrogen limit. Petition at 20. This permitting provision describes how a permitting authority is to establish an appropriate effluent limitation in cases where the reasonable potential of an excursion above a narrative water quality standard has already been established. 40 C.F.R. § 122.44(d)(1)(vi)(A)*; see also* 54 Fed. Reg. 23,868, 23,873 (June 2, 1989) (describing 40 C.F.R. § 122.44(d)(1)(ii) as the paragraph prescribing how to determine whether a pollutant or a pollutant parameter is exceeding or expected to exceed a water quality criterion and sections 122.44(d)(1)(iii) through (vi) as the paragraphs to be used in determining the appropriate controls for the pollutant or parameter).

Regardless, the cited provision confirms that the Region was not required to use the CALM Guidance. The City's Petition selectively quotes from 40 C.F.R. § 122.44(d)(1)(vi) to assert that the Region "is *required* to utilize the state's published methods, where available, in implementing narrative criteria." Petition at 5 (emphasis added). The permissive language highlighted below, however, demonstrates that a permitting authority has a significant amount of flexibility in establishing appropriate effluent limits:

> Where a State has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or

[36] Specifically, the stated purpose of the CALM Guidance is to "satisfy reporting requirements pursuant to Sections 305(b), 314, and 303(d) of the Federal Clean Water Act (CWA)." The Guidance does not mention CWA section 301 or NPDES permitting. CALM Guidance at 1.

> contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits *using one or more* of the following *options*:
>
> (A) Establish effluent limits using a calculated numeric water quality criterion for the pollutant which the permitting authority demonstrates will attain and maintain applicable narrative water quality criteria and will fully protect the designated use. Such a criterion *may be derived* using a proposed State criterion, or an explicit State policy or regulation interpreting its narrative water quality criterion, supplemented with other relevant information which may include: EPA's Water Quality Standards Handbook, October 1983, risk assessment data, exposure data, information about the pollutant from the Food and Drug Administration, and current EPA criteria documents; or
>
> (B) Establish effluent limits on a case-by-case basis, using EPA's water quality criteria, published under section 304(a) of the CWA, supplemented where necessary by other relevant information; or
>
> (C) Establish effluent limitations on an indicator parameter for the pollutant of concern * * * .

40 C.F.R. § 122.44(d)(1)(vi)(A)-(C) (emphases added); *see also* 54 Fed. Reg. at 23,875-76, 23,878.

The permissive language highlighted above is consistent with the "significant amount of flexibility [a permitting authority has] in determining whether a particular discharge has a reasonable potential to cause an excursion above a water quality criterion." 54 Fed. Reg. at 23,873. This is not to say that the Region could not have relied upon the CALM Guidance in considering the necessity of a nitrogen limit, only that its use was not required.

Moreover, as a practical matter, the methods prescribed in the CALM Guidance are consistent with the methods identified in the Critical Indicators Report for assessing whether a water body is suffering from nutrient overenrichment. *See* Response to Comments at 42 (explaining that nutrient assessments under the CALM Guidance utilize the Massachusetts Estuary Project indicators to determine the health status of embayments in southeastern Massachusetts). Significantly, the CALM Guidance uses a "weight-of-evidence"

approach in its evaluations, as opposed to requiring a demonstration that nitrogen discharges are causing dissolved oxygen violations:

> Nutrient enrichment is not considered to be problematic when indicators * * * are absent even if nutrient concentrations exceed their recommended criteria. However, *when the multiple, supporting indicators show nutrient enrichment to be problematic and concentration data exceed their criterion,* the nutrient is also identified as a cause of impairment.

CALM Guidance at 21 (quoted in Response to Comments at 42) (emphasis added).[37]

In sum, the City fails to demonstrate that the Region was required to use the methodology in the CALM Guidance or conduct any other modeling preferred by the City, or that the Region's approach was inconsistent with the CALM Guidance in any event.

(iii) *The Region Was Not Required to Demonstrate That Nitrogen Is Causing Impairment*

The City argues that the Region failed to demonstrate that nitrogen is "causing" or "likely to cause" impairment in the Taunton Estuary and Mount Hope Bay. *See, e.g.*, Petition at 13 (asserting that the Region is required to apply a "rational cause and effect analysis"), 21 (asserting that the both federal (40 C.F.R. § 122.44(d)) and state regulations (314 Mass. Code Regs. § 4.05(5)(c)) "specifically

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[37] The City cites four cases in support of the general proposition that the Region must defer to a state's interpretation of its own narrative water quality standard. Petition at 6 & n.4. Assuming without deciding that the cited cases stand for this principle, they do not establish that the Region was required to follow the methodology in the CALM Guidance. As stated above, the Region relied on a Massachusetts DEP document that is "intended to provide a detailed discussion of the issue and types of indicators that can be used, as well as propose an acceptable range of nitrogen thresholds that will be used to interpret the current narrative standard." Critical Indicators Report at 2. The CALM Guidance – although consistent with the Critical Indicators Report – was intended to be used for the purpose of developing TMDLs. As such, the Board does not find the cases cited, or the City's rationale, to be persuasive. Moreover, to the extent that the City is arguing that the Region's analysis is inconsistent with the Massachusetts' approach to interpreting its narrative standard, that argument is also not persuasive. *See supra* Part IV.B.2.c(i)(c).

state the need to address causation and not presume that nutrients were causing a given condition"); *see also* City's Reply at 5. In so arguing, the City's Petition misapprehends the applicable legal standard, and the arguments premised on that misapprehension fail to demonstrate clear error.

(a) *The Region Was Not Required to Prove a Causal Link*

As explained above, the NPDES regulations do not require cause-and-effect proof between a pollutant discharge and an existing water quality impairment before effluent limits are required. *See In re Town of Newmarket*, 16 E.A.D. 182, 223 n.23 (EAB 2013) ("The plain language of the regulatory requirement (that a permit issuer determine whether a source has the 'reasonable potential to cause or contribute' to an exceedance of a water quality standard) does not require a conclusive demonstration of 'cause and effect.'") (*citing Upper Blackstone*, 14 E.A.D. at 599 & n.29). Instead, the requirement to impose a permit limit is triggered by a finding that the facility may discharge a pollutant at a level that "contributes" to or has the "reasonable potential" to cause a water quality standard violation.[38] *Upper Blackstone*, 14 E.A.D. at 599 & n.29; *see also* 40 C.F.R. § 122.44(d). Rather than demonstrating "cause and effect," to establish a "reasonable potential" the permitting authority must show some level of certainty greater than a mere possibility in the technical judgment of the permitting authority. *See* Response to Comments at 36, 71; *Upper Blackstone*, 14 E.A.D. at 599 n.29 (explaining that "'[r]easonable potential' requires some degree of certainty greater than a mere possibility, but it leaves to the permit writer's scientific and technical judgment how much certainty is necessary").

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[38] In its Reply, the City cites a definition for "reasonable potential" from a 1991 EPA technical support guidance document and argues from that definition that "reasonable potential" does not mean that there is no causation requirement. Rather, the City contends that "reasonable potential" is "merely an analysis framework for projecting" whether a violation of a water quality standard may occur. City's Reply at 7 (*citing* Office of Water, U.S. EPA, EPA/505/2-90-001, *Technical Support Document for Water Quality-Based Toxics Control* (Mar. 1991), *available at* https://www3.epa.gov/npdes/pubs/owm0264.pdf). Because the City introduces this argument for the first time in its Reply, any argument based on this document is waived. *See* 40 C.F.R. §§ 124.13, .19(a)(4)(ii) (requiring all reasonably ascertainable issues and arguments to be raised during the public comment period), 124.19(c)(2) (prohibiting petitioners from raising new issues or arguments in a reply brief). Moreover, the City's argument is not persuasive – "projected" to cause or contribute to a water quality exceedance is not dissimilar from having the "reasonable potential" to cause or contribute to a water quality exceedance.

Additionally, the reasonable potential analysis must be based on "worst-case" effluent conditions. *See Upper Blackstone*, 14 E.A.D. at 599 (*citing In re Wash. Aqueduct Water Supply Sys.*, 11 E.A.D. 565, 584 (EAB 2004)). Thus, as explained previously, this analysis requires "a precautionary approach when determining whether the permit must contain a water quality-based effluent limit for a particular pollutant," rather than "certainty of an existing causal link between a specific discharge and a particular violation of water quality standards."[39] *Id.*

(b) *The City Fails to Disprove the Link Between Levels of Nitrogen and Levels of Dissolved Oxygen in the Taunton Estuary*

The City, operating on the incorrect premise that a demonstration of a causal link is required, attempts to disprove that causal link by arguing that no correlation exists between nitrogen and low dissolved oxygen in the Taunton Estuary using selected SMAST data from Mount Hope Bay and the Taunton Estuary. Petition at 21-24; City's Reply at 13-15, 19. In response to the City's comments on this point, the Region explained that the SMAST data were not appropriate for the type of

[39] In connection with its arguments regarding the need for a causation demonstration, the City seeks to add to the Administrative Record an Op-Ed article co-authored by EPA's Region 1 Administrator and the Commissioner for the New Hampshire Department of Environmental Services. City's July 2015 Motion to Supplement at 7-8. The article was published after the Permit was issued and, thus, is not part of the Administrative Record. *See* 40 C.F.R. § 124.18. Contrary to the City's assertions, the article does not contradict the permitting decision in this matter or "confirm that 'causation' is an important requirement to be demonstrated in mandating more restrictive limitations." *See* City's July 2015 Motion to Supplement at 7-8; City of Taunton's Response to EPA's Opposition to the Motion to Supplement the Administrative Record at 8-9 (Aug. 19, 2015). Nor does it support the other general proposition for which it was cited (i.e., that it is "widely understood that a system requires time to adjust to load reduction effects"). Petition at 37. Additionally, the City has provided no justification for an exception to the general rule that only documents considered by the Agency in making its permitting decision be considered on appeal. *See In re Deseret Power Elec. Coop.*, 14 E.A.D. 212, 225 (EAB 2008) (explaining that the Board allows supplementation of the permitting authority's rationale on appeal where the missing explanation is fairly deducible from the record); *In re Dominion Energy Brayton Point, LLC*, 13 E.A.D. 407, 418 (EAB 2007) (describing circumstances where the Board both considered and rejected materials submitted for the purpose of appeal). Thus, the City's July 2015 Motion to Supplement with the Op-Ed article is denied.

analysis (a stressor-response analysis)[40] performed by the City, and that the SMAST data were generally insufficient to produce any statistically significant correlations. Response to Comments at 90. Additionally, the Region stated that the selection of SMAST data used by the City would be expected to produce the results the City sought. *Id.* at 90-91. For these reasons, the Region did not rely on such analyses as the basis for the nitrogen limit. *Id.* at 92. Nevertheless, the Region explained that its own analysis of the SMAST data (as demonstrated in charts the Region included in the Response to Comments document) supported the conclusion that higher algal levels result in lower levels of dissolved oxygen. The Region cautioned, though, against drawing any firm conclusions, given the limited nature and sampling conditions for the data on dissolved oxygen. *Id.* at 91-92; *see also id.* at 94, 98, 99-100.

In its comments, the City also presented its own analysis of data from the Mount Hope Bay sonde. *See id.* at 86. In response, the Region pointed out that the City's analysis was flawed because it relied on average daily dissolved oxygen levels from the Mount Hope Bay sonde data and daily averages mask the large daily swings that occur between day (when photosynthesis is taking place and dissolved

[40] The City both faults the Region for not conducting a stressor-response type of analysis and criticizes the Region for applying a stressor-response type of analysis. *Compare* Petition at 35 (describing the Region's statement that the SMAST data are insufficient to conduct stressor-response analyses as "irrational and unsupported") *with id.* at 37 (describing the Region's selection of MHB16 based on the presumption that the nitrogen "stressor" at that site predicts the minimum dissolved oxygen "response" for the system). These statements reflect a misunderstanding of what the Region intended by use of the phrase "stressor-response." The Region explained that "stressor-response analysis" is not a general description of any analysis where pollutants are linked to an impact; rather, it is a specific reference to a type of statistical analysis that is used to estimate the relationships among variables to predict how the value of a dependent variable will change as an independent variable is altered (i.e., regression analysis). *See generally* Response to Comments at 51, 54-55, 58. As the Region further explained, the SMAST data are insufficient to provide a statistically valid regression analysis because the monitoring was not designed for that purpose and there were too few data points, rendering the stressor-response analyses submitted by the City statistically invalid. *Id.* That does not mean, however, that the SMAST data cannot be used for any purpose. The Region reasonably used that SMAST data to confirm that nitrogen, algal and dissolved oxygen levels at various locations were indicative of a well-accepted scientific relationship between excess nitrogen and low dissolved oxygen.

oxygen levels are high) and night (when respiration is taking place and dissolved oxygen levels are low). *See id.* at 56, 87-88.

In both its Petition and Reply, the City neither acknowledges the Region's specific response to its comments nor attempts to explain why the Region's response was clearly erroneous. Instead, the City only repeats its claim that the Region did not conduct an appropriate analysis of whether nitrogen and algal levels in the Taunton Estuary are affecting the dissolved oxygen levels, and that the Region failed to analyze other major factors influencing dissolved oxygen. Petition at 22-23. This failure to address the Region's response to comments is fatal to the City's argument.[41] *See, e.g.*, *In re City of Pittsfield*, NPDES Appeal No. 08-19, at 10-11 (EAB Mar. 4, 2009) (Order Denying Review), *aff'd*, 614 F.3d 7 (1st Cir. 2010).

Indeed, rather than addressing the Region's reasoned explanation of the City's flawed analysis of both the SMAST data and the Mount Hope Bay sonde data, the City presents for the first time on appeal four additional charts in support of its argument that nitrogen in the Taunton Estuary is not responsible for low dissolved oxygen levels. Petition at 22; City's Reply at 14, 19.

The City's first chart is based on 2004-2006 SMAST data. Petition at 22 (chart entitled "*Mount Hope Bay (2004-2006)*"). The City could have included this chart in its comments on the Draft Permit but did not.[42] The City's introduction of this new chart on appeal runs counter to the guiding principle of Board permit review that the Region should have the opportunity to address issues in the first instance. *See* Consolidated Permit Regulations, 45 Fed. Reg. 33,290, 33,412 (May 19, 1980) (stating that "most permit conditions should be finally determined at the

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[41] The City attempts to challenge the charts the Region included in its response to the City's comments by introducing (in its Reply Brief) the Kirby Declaration discussed in Part IV.A.3, above. City's Reply at 2 n.3. As explained in Part IV.A.3, the Board grants the Region's August 2015 Motion to Strike with respect to the Kirby Declaration, including the additional argument and analyses contained within, as untimely. Thus, the City may not rely on the new analyses and arguments in that Declaration for the purpose of arguing the lack of a causal link between dissolved oxygen and nitrogen in the Taunton Estuary.

[42] Although the City claims that not all of the underlying SMAST data were made available until after the Permit was issued, the Administrative Record, including the underlying data, has always been available to the City for review upon request. *See supra* Part IV.A.2; *see also* 40 C.F.R. §§ 124.9, .10(d)(1)(vi); *In re Energy Answers Arecibo, LLC*, 16 E.A.D. 294, 344-45 (EAB 2014); Joint Public Notice at 2.

[permit authority's] level"). Thus, the first chart is untimely as the City may not introduce it for the first time on appeal.

The City's second chart is based on the same 2004-2006 SMAST data. City's Reply at 14 (chart entitled "*Annual Min. DO vs. Ave. TN - SMAST ALL-2004-2006*"). As with the first chart, the City could have included the second chart with its comments but did not. Thus, the second chart is also untimely. In addition, even if the chart were not untimely, the City should have included it with the Petition, which would have given the Region the opportunity to respond to it. A petitioner may not raise new arguments in a reply. 40 C.F.R. § 124.19(c)(2). *See also* 40 C.F.R. § 124.19(a)(4).

Even if the City were justified in submitting the first and second charts for the first time on appeal, nothing in the Petition addresses whether these two new charts (which are based on the SMAST data) cure the flaws previously identified by the Region with respect to charts that the City submitted during the comment period and which were similarly based on the SMAST data. Specifically, the Region explained that (i) the SMAST data set used to create the charts was too small (only three years of data) and thus the results were not statistically significant, and (ii) the data were not derived from continuous monitoring at fixed sites, rendering them less effective in measuring dissolved oxygen conditions. *See* Response to Comments at 90-91, 99-100. The Region further explained that the SMAST data collection efforts for dissolved oxygen, in particular, are difficult to use for statistical analyses because the data were not collected in a manner that corresponded to actual minimum levels. Instead, samples were collected at different times of the day rather than the critical predawn time, before photosynthesis takes place. *Id.* at 87-88, 99-100. Because the City has not addressed these previously identified flaws, the Board does not find persuasive the new charts submitted by the City on appeal and declines to consider them further.[43]

The Board also declines to consider the City's third and fourth charts, which the City did not introduce until its Reply. *See* City's Reply at 14 (chart entitled "*MHB Bottom DO vs. Chl-a (RIDEM 2011)"*) and 19 (chart entitled "*Bottom DO Analysis: MHB RIDEM June-Oct. 2011*"). These two additional charts are based

[43] The Board observes that the chart in the City's Reply (at 14) itself is identical to the chart included and discussed in the Kirby Declaration. *See* Kirby Declaration ¶12 attach. 11. For reasons already explained, the Board grants the Region's August 2015 Motion to Strike with respect to the Kirby Declaration because the Declaration is untimely. *See supra* Part IV.A.3.

on Mount Hope Bay sonde data from 2011, which were not available at the time the Region issued the Draft Permit. *See* City's Reply at 14, 19; Fact Sheet at 25. Thus, the City could not have submitted these charts during the comment period. Nevertheless, the City should have included these charts in its Petition rather than waiting for its Reply.[44] *See* 40 C.F.R. § 124.19(c)(2); 40 C.F.R. § 124.19(a)(4).

In sum, the City fails to disprove the link between levels of nitrogen and levels of dissolved oxygen in the Taunton Estuary. As such, the City has not established any clear error on the part of the Region. *See In re Scituate Wastewater Treatment Plant*, 12 E.A.D. 708, 718 (EAB 2006), *appeal dismissed per stip.*, No. 06-1817 (1st Cir. 2006) ("'[c]lear error or reviewable exercise of discretion are not established simply because the petitioner presents a different opinion or alternative theory regarding a technical matter, particularly when the alternative theory is unsubstantiated'") (citation omitted).

(c) *The Region Reasonably Rejected Stratification as the Cause of Low Dissolved Oxygen in the Taunton Estuary*

In addition to challenging the association between increased nitrogen levels and decreased concentrations of dissolved oxygen in the Taunton Estuary, the City argues that the Region failed to consider alternative explanations for the low dissolved oxygen concentrations, including the influence of stratification. Petition at 22-24; *see also* City's Reply at 13-15, 19. The City first raised the issue of stratification in its comments on the Draft Permit. Response to Comments at 85-87. Specifically, the City asserted that the interaction of fresh water and saline water in the Taunton Estuary causes stratification, with the colder and denser saline water sinking to the bottom of the estuary and the warmer and less-dense fresher water rising to the surface. *Id*. at 85. The City further contended that in Mount Hope Bay, stratification intensifies low dissolved oxygen conditions where the waters are deeper and less subject to turbulent mixing (i.e., are more stratified). *Id.* From there, the City posited that (i) stratification in the Taunton Estuary is far less intense and is primarily caused by the tides; and (ii) low dissolved oxygen in the Taunton Estuary is more a function of the tidal influence (from Mount Hope Bay) than algal growth. *Id.* at 86.

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[44] These two charts are also identical to two charts included and discussed in the Kirby Declaration. *See* Kirby Declaration ¶¶ 13, 15 attachs. 12, 14. Again, for reasons already explained, the Board grants the Region's August 2015 Motion to Strike with respect to the Kirby Declaration because the Declaration is untimely. *See* Part IV.A.3.

In response to the City's comment, the Region agreed that stratification is a factor in low dissolved oxygen levels but disagreed that this factor would play a role only in Mount Hope Bay and not also in the Taunton Estuary. *Id.* at 87 (pointing to the City's comments elsewhere that suggest that stratification in the Taunton Estuary may be contributing to low dissolved oxygen). Regardless, the Region disagreed that stratification is the "primary factor triggering low [dissolved oxygen]" in the Taunton Estuary, as asserted by the City. *Id.* As the Region noted, the City presented no data on stratification in its comments, and its claim – that low dissolved oxygen levels in the Taunton Estuary are primarily caused by waters entering from Mount Hope Bay – is contradicted by the fact that dissolved oxygen levels are consistently worse in the Taunton River than in Mount Hope Bay. *Id.* at 75. Rather, the Region explained that stratification exacerbates other processes that deplete dissolved oxygen, such as algal blooms, and that the data on dissolved oxygen correlate to high algal levels, suggesting that "[w]hile stratification may well be a factor in intensifying [dissolved oxygen] depletions at this site, the primary control appears to be algae." *Id.* at 88.

The Region also pointed out that the State's listing of a low dissolved oxygen impairment in "Category 5" of its 303(d) list indicates the State's conclusion that dissolved oxygen violations are pollutant-driven. *Id.* at 73. Impairments that are natural and not pollutant-driven are listed in a different category (Category 4.C) on the 303(d) list. *Id.*; 2012 Mass. 303(d) List at 99-107 (Identifying "Massachusetts Category 4c Waters: 'Impairment not caused by a pollutant – TMDL not required'").

Rather than addressing the Region's response regarding stratification, the City relies again on the Kirby Declaration that the City submitted for the first time in its Reply. City's Reply at 15, 19. As stated in Part IV.A.3 above, the Board grants the Region's August 2015 Motion to Strike with respect to the Kirby Declaration and thus its contents will not be further considered.[45]

[45] In its Petition, the City also cites a 2006 document as supporting its contention that stratification is the cause of low dissolved oxygen in the Taunton Estuary. Petition at 7 (citing attach. 13; also cited in Petition attach. 67). Because the cited document was not identified in the City's June 2013 comments, along with a reasonably clear and specific explanation as to why the document was relevant to its comments, the City may not rely on this document in its appeal to the Board. 40 C.F.R. §§ 124.13, .19(a)(4); *see also Attleboro*, 14 E.A.D. at 405-06, 444; *New England Plating*, 9 E.A.D. at 732-35.

In sum, the Region reasonably rejected stratification as the cause of low dissolved oxygen levels in the Taunton Estuary. Again, the City fails to establish clear error simply by putting forth a different opinion or alternate theory, particularly where the Region reasonably rejects that alternate theory. *See Scituate*, 12 E.A.D. at 718.

(iv) *The Region Considered Potential Improvements in Conditions and the Effects on Algal Levels*

The City argues that since the SMAST Report, dissolved oxygen and algal conditions have improved, but that the Region failed to take into account those changed conditions. Petition at 17-18 (*citing* Response to Comments at 62-65, 92). In particular, the City points to decreasing contributions of combined sewer overflows to the Taunton Estuary, the reductions in thermal discharges from the Brayton Point Power Plant, and lower algal levels and nitrogen loads in the Taunton Estuary and Mount Hope Bay based on nitrogen-reduction efforts elsewhere by Massachusetts and Rhode Island. All of these, the City argues, improve the conditions of the Taunton Estuary and undermine the need for a nitrogen limit. Petition at 16-20. As explained below, the Region considered each of these potential improvements in conditions and reasonably determined that none had the effect that is asserted by the City.

(a) *The Region Considered the Reduction in Contributions Expected from Combined Sewer Overflows*

The City asserts that the Region "conceded" that "[combined sewer overflow] contributions to the Taunton Estuary have dropped considerably," and, the City infers, that this would materially affect the dissolved oxygen regime and the algal levels in the system.[46] Petition at 18 (*citing* Response to Comments at 63-64). The City's Petition, however, mischaracterizes the Region's Response to Comments. As the Region explained:

> The [Combined Sewer Overflow] reductions * * *, while important in addressing other pressing water quality problems, are not

[46] The City's argument is based on its assumption that the "millions of gallons of untreated wastewater" that have been reduced from combined sewer overflows since 2004 as a result of improved controls, will reduce organic enrichment in the estuary and thereby reduce the low dissolved oxygen levels associated with that enrichment. *See* Response to Comments at 60.

> expected to have a significant impact on [dissolved oxygen] conditions in the upper Taunton River estuary * * *. While [the City] portrays a lump sum of "1,293 [million gallons of combined sewer overflow discharges per] year" as being reduced by "the Cities of Taunton and Fall River," this volume, and the associated [nutrient] reductions, are related essentially entirely to reductions in Fall River Combined Sewer Overflow discharges and not to City of Taunton discharges. Within the Fall River system almost the entire reduction has occurred in discharges from * * * [combined sewer overflows that] are located more than 6 miles downstream of the station used as the locus for the loading analysis and discharge only during wet weather, when flows from the Taunton River are at their highest and flows move most strongly away from the mouth of the estuary. In addition, most of these [combined sewer overflow] discharges addressed occur primarily in wet months and therefore have limited effect on the summer conditions that are analyzed in the Fact Sheet.
>
> Moreover these [combined sewer overflow] reductions did not eliminate organic and nutrient loadings from these flows. The flows did not disappear * * *. Even for those flows now receiving secondary treatment it is unclear that any organic and nutrient reduction is being provided due to the dilute nature of the [combined sewer overflow] discharges * * *. Thus, while wet weather controls are providing important reductions in pathogen loads and other pollutants, there does not seem to be evidence that a substantial reduction in organic and nutrient loads can be expected from the [combined sewer overflow] mitigation efforts to date.

Response to Comments at 63-64. As demonstrated above, the Region's response clearly is not the equivalent of a concession that "[combined sewer overflow] contributions to the Taunton Estuary have dropped considerably" or that "algal conditions have changed for the better." [47]

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[47] In support of its argument that algal conditions have improved, the City also asserts that the Region (i) conceded in Response to Comments that the Taunton Estuary is more sensitive to oxygen-demanding combined sewer overflow discharges than Mount Hope Bay, but (ii) failed to consider that fact in its analysis. Petition at 18. The Region, however, made no such concession. Instead, in addressing the limited utility of attempting to perform statistical regression analyses using the SMAST data, the Region stated only

(b) *The Region Considered Potential Effects from Reductions in Thermal Discharges at the Brayton Point Power Plant*

Next, the City asserts that the Region concedes that reductions in thermal discharges at the Brayton Point Power Plant "have had a significant effect on the temperature of [Taunton Estuary] and [Mount Hope Bay] (which reduces algal growth and improves [dissolved oxygen] saturation)."[48] Petition at 18 (*citing* Response to Comments at 65); City's Reply at 11-12 (*citing* 2003 document stating the Region's belief at that time that Brayton Point thermal discharge was "contributing to low dissolve[d] oxygen concentrations in [Mount Hope Bay]"). To the contrary, the Region explained that while "Brayton Point thermal discharges may also have contributed incrementally to dissolved oxygen depletion in Mount Hope Bay, * * * extensive modeling efforts * * * were unable to quantify the impact of those thermal discharges on [dissolved oxygen] concentrations." Response to Comments at 64-65. Moreover, "the influence of the thermal plume is negligible in the Taunton River Estuary portion of the system, where temperatures are naturally higher." *Id.* at 65. Additionally, the Region explained that "while thermal loads have been dramatically reduced since 2011, [dissolved oxygen] depletions have continued within Mount Hope Bay," and that the theory that "reduction in thermal loads from Brayton Point have resolved the [dissolved oxygen] issue in the upper Taunton Estuary is unsupported by any evidence at all." *Id.* Again, the Region's response regarding Brayton Point is not the concession the City asserts it to be.

(c) *The Region Considered Potential Improvements Due to Nitrogen Reduction Efforts in Massachusetts and Rhode Island*

Finally, the City contends that the Region conceded that algal levels in the Taunton Estuary, as well as incoming nitrogen loads to both Mount Hope Bay and

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that "to the extent any conclusions can be drawn from such low power statistical relationships based on small datasets," the Taunton River "*appears* to be more sensitive to oxygen depletion than Mount Hope Bay." Response to Comments at 92 (emphasis added).

[48] In its Petition, the City also cites a 2005 document in support of its argument as to the impact of thermal load reductions at Brayton Point. Petition at 7 (*citing* attach. 57; also cited in Petition attach. 67). Because the cited document was not identified in the City's June 2013 comments, along with a reasonably clear and specific explanation as to why the document was relevant to its comments, the City may not rely on this document in its appeal to the Board. 40 C.F.R. §§ 124.13, .19(a)(4); *see also Attleboro*, 14 E.A.D. at 405-06, 444; *New England Plating*, 9 E.A.D. at 732-35.

the Taunton Estuary, have decreased considerably due to nitrogen reduction efforts at wastewater treatment plants in Massachusetts and Rhode Island. Petition at 18 (*citing* Response to Comments at 62-63). The City also cites charts from a December 2014 University of Rhode Island ("URI") PowerPoint presentation to demonstrate that nitrogen reduction efforts in Rhode Island have resulted in improved conditions at the Narragansett Bay monitoring station closest to Mount Hope Bay. *See id*. at 16, 26, 32 & 34 (citing Heather Stoffel, *2014 Dissolved Oxygen Assessment* (PowerPoint Presentation to CHRP Meeting) (Dec. 17, 2014) (A.R. K.21) ("URI PowerPoint Presentation")).[49]

To the contrary, the Region explained that, while some nitrogen reductions have occurred in connection with improved treatment at other wastewater treatment plants in Massachusetts, these reductions are not predicted to be sufficient to achieve the target nitrogen concentration or water quality standards. Consistent with the Region's analysis, the available Mount Hope Bay sonde data show continued elevation of algal levels and dissolved oxygen depletions. Response to Comments at 63, 107. In any event, the Region did take into account reductions in nitrogen discharges at other wastewater treatment plants in setting the City's nitrogen limit.[50] Response to Comments at 63.

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[49] The City cites five pre-2013 documents in an effort to refute the Region's response to comments on this point. Petition at 33 (*citing* attachs. 11-13, 56-57; also listed in Petition attach. 67). The City failed to raise these documents in support of its June 2013 comments and explain with a reasonable degree of clarity and specificity their relevance to the issues raised. *See* Region's Response at 31. As such, the City may not rely on these documents in its appeal to the Board. 40 C.F.R. § 124.19(a)(4); *In re City of Attleboro*, 14 E.A.D. 398, 405-06, 444 (EAB 2009); *In re New Eng. Plating Co.*, 9 E.A.D. 726, 732-35 (EAB 2001).

[50] The City seeks to supplement the Administrative Record with a letter from the Region to the City of Fall River, Massachusetts. *See* City's February 2016 Motion to Supplement attach. 1 (Letter from Ken Moraff, Director, Office of Ecosystem Protection, U.S. EPA Region 1, to Terrance Sullivan, Adm'r, City of Fall River (Sept. 8, 2014)); *see also* EPA Region 1's Response to the City of Taunton's [Feb. 2016] Motion to Supplement the Administrative Record attach. 1 (Mar. 4, 2016). The City claims the letter demonstrates that the Region was well aware that other major discharges impact Mount Hope Bay and that the Region ignored the significant discharges from the City of Fall River in setting limits for the Taunton Plant. City's February 2016 Motion to Supplement at 4. The Region did not rely on this document from a different permit proceeding in issuing the City's Permit and, thus, the document is not properly part of the Administrative Record. *See* 40 C.F.R. § 124.18; *see also In re Dominion Energy Brayton Point, LLC*, 13 E.A.D. 407,

The Region also explained that "reductions by Rhode Island treatment plants are not relevant to this system as those treatment plants discharge to Narragansett Bay proper and not to Mount Hope Bay," and research indicates that Mount Hope Bay is a net transporter of nitrogen to Narragansett Bay and not the other way around. *Id.* at 61 & n.23; *see also* Jason S. Krumholz, *Spatial and Temporal Patterns in Nutrient Standing Stock and Mass-Balance in Response to Load Reductions in a Temperate Estuary* (2012) (Unpublished Ph.D. dissertation, University of Rhode Island) (A.R. C.1.iii) (included in the City's June 2013 comments).[51]

The Response to Comments document thus does not reflect the concessions the City asserts the Region has made. The Region presented cogent reasons for disagreeing with each of the City's assertions, and the City has made no effort to address the Region's points, as required by 40 C.F.R. § 124.19(a)(4)(ii). This failure to address the Region's response to comment and explain why that response is clearly erroneous, an abuse of discretion, or otherwise warrants review constitutes grounds for denial of review. *See, e.g.*, *In re City of Pittsfield*, NPDES Appeal No. 08-19, at 10-11 (EAB Mar. 4, 2009) (Order Denying Review), *aff'd,*

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417 (EAB 2007). In any event, the Region did consider nitrogen discharges from the City of Fall River in setting limits for the Taunton Plant: "While other loads to Mount Hope Bay (*particularly the Fall River [Wastewater Treatment Plant]*) will need to be addressed as well, the reduction in nitrogen loadings from the Taunton River will ensure that those discharges do not cause or contribute to nitrogen-related impairments in Mount Hope Bay." Fact Sheet at 34 (emphasis added). Because the City has provided no justification for an exception to the general rule that only documents considered by the Agency in making its permitting decision are properly part of the Administrative Record, the City's February 2016 Motion to Supplement the record with the Fall River letter is denied.

[51] With respect to the cited charts from the URI PowerPoint presentation, the Region notes that the charts do not in any event reflect a pattern of improvement in conditions at the Narragansett Bay monitoring station closest to Mount Hope Bay. Region's Response at 31-32. This PowerPoint presentation is also the document that the City claims conflicts with the analysis in the Response to Comments document, arguing on that basis that the Region should have reopened the comment period. Petition at 26. As noted in Part IV.A.2 above, the City failed to explain with particularity how the information in this document raises substantial or new questions concerning the Permit to warrant reopening the comment period. And as demonstrated here, the point for which it is cited by the City does not call into question the Region's determination that nitrogen reductions in Rhode Island are not relevant to the setting of a limit for the City's Plant in the Taunton Estuary.

614 F.3d 7 (1st Cir. 2010). Moreover, as stated above, "'[c]lear error or reviewable exercise of discretion are not established simply because the petitioner presents a different opinion or alternative theory regarding a technical matter, particularly when the alternative theory is unsubstantiated.'" *In re Scituate Wastewater Treatment Plant*, 12 E.A.D. 708, 718 (EAB 2006), *appeal dismissed per stip.*, No. 06-1817 (1st Cir. 2006) (citation omitted). In sum, the City has not met its burden to demonstrate that the Region failed to consider potential improvements in conditions due to nitrogen reduction efforts in Massachusetts and Rhode Island.

(v) *The Region Based Its Decision on All the Relevant Data*

Throughout its Petition, the City argues that the Region erred in relying on the 2004-2006 SMAST data, rather than relying on the most current data or existing conditions in determining that the Taunton Estuary is nitrogen-impaired. As described above, however, the Region's decision was not based solely on the SMAST data. Indeed, the Region's conclusion that the Taunton Estuary is suffering from the adverse water quality impacts of nitrogen overenrichment was based on the following:

- The SMAST data for twenty-two monitored sites in the Taunton Estuary (which showed extremely high nitrogen levels, elevated algal levels, and widespread dissolved oxygen depletion);
- Thresholds for nitrogen levels identified in the Massachusetts DEP/ Massachusetts Estuary Project Critical Indicators Report;
- Continuous monitoring data from the Mount Hope Bay sonde (through 2013);
- The URI data collected by the University of Rhode Island's Graduate School of Oceanography;
- Extensive scientific literature and EPA technical guidance documenting the relationships among nitrogen levels, algal levels and dissolved oxygen depletion
- Proposed and adopted criteria from other states;
- Conclusions from research within the Taunton Estuary and Mount Hope and Narragansett Bays; and
- Thresholds in other Massachusetts estuaries (e.g., West Falmouth Harbor and Oyster Pond).

See Response to Comments at 36-37; *see also id.* at 107-08 & tbl. R1 (providing a table of the monitoring data the Region considered); Fact Sheet at 29 n.8.

With respect to the more recent monitoring data collected by the University of Rhode Island's Graduate School of Oceanography (i.e., the URI data) and from

the Mount Hope Bay sonde, the Region explained that both were limited in terms of location and parameters monitored and thus were insufficient to form the basis for an alternative analysis of the Taunton Estuary. Response to Comments at 58. For example, the Mount Hope Bay sonde monitored just one location in Mount Hope Bay, not in the Taunton Estuary, and did not measure nitrogen. *Id.* The URI data were similarly insufficient, representing data from only one sampling location in Mount Hope Bay and none in the Taunton Estuary. *Id.* at 58, 108. Nevertheless, the Region concluded that the data were consistent with the Region's analysis of the SMAST data and indicated continued adverse water quality impacts. *Id.* at 58.

In contrast, the SMAST data measured twenty-two sites over a period of three years and included a measure of nitrogen. *Id.* at 58, 108 tbl. R1. The Region further explained that no subsequent studies had been done that were comprehensive enough to support a complete alternative analysis of the necessity of a nitrogen limit. *Id.* at 58, 107. In the absence of more recent comprehensive studies, the Region used all of the information it had to formulate and support a nitrogen limit for the Permit. *See id.* at 7 (discussing the unavoidable level of scientific and technical uncertainty in this permitting action and explaining that the uncertainty "does not excuse [the Region] from its obligation to set permit limits"); *see also In re Upper Blackstone Water Pollution Abatement Dist.*, 14 E.A.D. 577, 606-07 (EAB 2010), *aff'd.* 690 F.3d 9 (1st Cir. 2012), *cert. denied*, 133 S. Ct. 2382 (2013).

The City dismisses the Region's response as irrelevant arguing that "comprehensiveness" is not a valid consideration and that the Region is required to "base its regulatory decisions on the latest and most current scientific information." Petition at 16 (*citing Sierra Club v. EPA*, 671 F.3d 955 (9th Cir. 2012) (involving a challenge to an EPA approval under the Clean Air Act in which EPA was alleged to have relied on outdated data without articulating why it had not considered more recent data)); *see id*. at 17 (*citing* 40 C.F.R. § 122.44(d)(1)(ii), which requires the permitting authority to "use procedures [that] account for existing controls on point and nonpoint sources of pollution"). Contrary to the City's view, neither EPA regulations nor case law require the Region to dismiss valid data in favor of more recent but less meaningful data, particularly where the Region explains that no current comprehensive data are available and no reason exists to believe the earlier data are no longer valid.

The City contends that several more recent water quality monitoring and hydrodynamic and hydrothermal modeling efforts have been undertaken for the Taunton Estuary and surrounding water bodies that the Region ignored. *See* Petition at 17. In support of this argument, the City cites to its own list of post-

2005 documents (Petition attach. 67) that the City claims the Region rejected as not "comprehensive." *Id.* (*citing* Response to Comments at 58, 112). The Region, however, was not referring to any document on the City's list, but rather to other post-2005 data the Region considered (i.e., the Mount Hope Bay sonde data). Response to Comments at 58, 12. Moreover, in its June 2013 comments on the Draft Permit, the City did not cite (let alone explain with reasonable clarity and specificity) the relevance of the post-2005 documents on the City's list to the issues raised. Thus, the City cannot rely upon these documents in making arguments that could have been made during the public comment period.[52] *See* 40 C.F.R. § 124.19(a)(4); *see also In re City of Attleboro*, 14 E.A.D. 398, 405-06, 444 (EAB 2009); *In re New Eng. Plating Co.*, 9 E.A.D. 726, 732-35 (EAB 2001).

In a related challenge to the Region's consideration of data, the City argues that the Region inconsistently used the SMAST data from 2006, because the Region excluded 2006 data in parts of its analyses (based on the Region's determination that 2006 was an extraordinarily wet year) while including the 2006 data in other parts of its analyses. Petition at 36. The Region however, did not exclude the use of the 2006 data for every purpose. Rather, the Region concluded that it would be inappropriate to use the 2006 data in setting a nitrogen limit because the high flows that year were atypical and invalidated the steady state assumption of its analysis (as described more full in Part IV.B.3, below). Fact Sheet at 26; Response to Comments at 94-95, 99. In other places, i.e., to refute the City's analysis of the SMAST data, the Region determined that it was appropriate to use the 2006 data and explained its basis for doing so – reasons the City does not contest. *See* Response to Comments at 93 n.28. As such, the Region's use of the SMAST data from 2006 was reasonable.

In sum, the Region relied on the earlier and more comprehensive SMAST data but did not base its decision solely on consideration of that data. Rather, the Region considered all of the relevant data and provided reasoned bases for choosing not to rely on certain data. The record, in its entirety, supports the Region's reasonable reliance on the available data.

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[52] The two studies on the City's list that post-date the June 2013 comments (Petition attachs. 42-43) were submitted by the City in conjunction with supplemental comments after the comment period had closed. The Region reasonably rejected those supplemental comments as untimely. *See supra* Part IV.A.1.

d. *The Region Did Not Clearly Err or Abuse Its Discretion When It Determined That a Nitrogen Limit Must Be Included in the Permit*

Although the Region was not required to meet the causal demonstration that is sought by the City, the Region nevertheless did specifically find that nitrogen discharges are in fact causing cultural eutrophication in the Taunton Estuary and Mount Hope Bay. Fact Sheet at 19, 26; Response to Comments at 72. In making that determination, the Region described extensive evidence that nitrogen is causing water quality violations, including the conclusion of the SMAST Report that recommended focusing on the restoration of the Taunton Estuary due to an excess of nitrogen. Fact Sheet at 19-26; *see also* Response to Comments at 72, SMAST Report at 59. Additionally, the Region established that the nitrogen discharges from the City's Plant contribute significantly to the nitrogen load in the Taunton Estuary. Based on all of the evidence before it, the Region reasonably concluded that the City's nitrogen discharges will cause, have the reasonable potential to cause, or contribute to exceedances of the applicable Massachusetts water quality standards. Having concluded that the reasonable potential standard was met, the Region was required to include a nitrogen limit in the Permit. The City has not met its burden to demonstrate that the Region clearly erred or abused its discretion in doing so, or that the Region's decision otherwise warrants review.

3. *The Region Did Not Clearly Err or Abuse Its Discretion in Determining the Specific Nitrogen Limit*

Having determined that the Permit must include a nitrogen limit, the Region next proceeded to determine what the specific nitrogen limit should be. As stated above, establishing a nitrogen limit for a permit requires an inherently technical determination that is deserving of deference. *See In re D.C. Water & Sewer Auth.*, 13 E.A.D. 714, 742 (EAB 2008); *In re Scituate Wastewater Treatment Plant*, 12 E.A.D. 708, 718 (EAB 2006), *appeal dismissed per stip.*, No. 06-1817 (1st Cir. 2006)). As also noted previously, the Board assigns a heavy burden to petitioners seeking review of issues that are essentially technical in nature. *D.C. Water*, 13 E.A.D. at 742 *(citing In re City of Moscow*, 10 E.A.D. 135, 142 (EAB 2001)).

a. *Setting the Nitrogen Limit*

Under the permitting regulations, "[w]here a State has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits using one" of the options provided. 40 C.F.R. § 122.44(d)(1)(vi). One of those options is to

"[e]stablish effluent limits using a calculated numeric water quality criterion for the pollutant [that] the permitting authority demonstrates will attain and maintain applicable narrative water quality criteria and will fully protect the designated use." *Id.* § 122.44(d)(1)(vi)(A). The regulations further provide that an appropriate water quality-based effluent limitation "may be derived using a proposed State criterion, or an explicit State policy or regulation interpreting its narrative water quality criterion, supplemented with other relevant information," including EPA criteria documents. *Id.*

To arrive at the limit for the City's Permit, the Region first determined a threshold nitrogen concentration in the receiving waters that would be consistent with unimpaired conditions. Fact Sheet at 29. From there, the Region determined the allowable load from watershed sources generally, and from the City's Plant in particular, that would result in receiving water concentrations at or below that allowable threshold. *Id.* at 29, 30. Each of these steps is described below.

(i) *Determining the Threshold Nitrogen Level*

To determine an appropriate threshold nitrogen level that would be consistent with unimpaired conditions, the Region used the SMAST data to identify, as a reference, a location within the Estuary where water quality standards were not violated. Fact Sheet at 29. The Region explained that this approach of using a reference location to set a nitrogen threshold is consistent with the procedure developed by the Massachusetts Estuary Project in the Critical Indicators Report, as well as EPA's Nutrient Criteria Guidance. *Id.*; *see also* Part IV.B.2.a(i); Critical Indicators Report at 3, 26 (describing the Massachusetts Estuary Project approach of identifying site-specific nitrogen threshold based on evaluating embayment habitats against water quality standards, to identify and categorize waters as excellent, excellent/good, good/fair, moderately impaired, significantly impaired, or severely degraded); EPA's Nutrient Criteria Guidance at 1-8, 6-1, 6-3 (suggesting that determining a nitrogen threshold should start with analyzing the best estuarine waters within a watershed to identify a "reference" condition to use in identifying nutrient loads that could cause use impairments, so that eutrophication caused by human activities can be addressed). The Region examined dissolved oxygen levels in the Estuary as the primary water quality parameter to determine the reference location. The Region then used a minimum dissolved oxygen level of 5.0 mg/l as an indicator of unimpaired conditions, based on the Massachusetts numeric water quality standard for dissolved oxygen and the level of dissolved oxygen identified in the Critical Indicators Report as associated with "good to fair" health. Fact Sheet at 18, 29; Response to Comments at 35; *see also* 314 Mass. Code Regs § 4.05(4)(b)(1); Critical Indicators Report at 22.

Examining the 2004-2006 SMAST data, the Region found only one site where dissolved oxygen levels exceeded the minimum of 5.0 mg/l in all three years. Fact Sheet at 23, 29. That site was the monitoring station "MHB16." *Id.* at 29. Based on this information, the Region selected MHB16 as an appropriate reference location where dissolved oxygen levels represented unimpaired conditions in the Taunton Estuary and Mount Hope Bay.[53] *Id.* at 30. After identifying this reference location, the Region averaged the 2004-2005[54] nitrogen levels recorded at MHB16 to identify a nitrogen concentration of .45 mg/l as representing a threshold level that would be protective of the minimum dissolved oxygen water quality standard of 5.0 mg/l and the nutrient water quality standard. *Id.*; Response to Comments at 35. The Region noted that nitrogen levels higher than .45 mg/l were associated with multiple instances of dissolved oxygen levels below 5.0 mg/l and elevated algal levels, based on the available monitoring data.[55] Fact Sheet at 30; Response to Comments at 35.

The Region also observed that a nitrogen threshold of .45 mg/l falls within the range of target nitrogen concentrations previously found to be protective of dissolved oxygen levels in other southeastern Massachusetts estuaries, namely the thresholds used in setting the TMDLs for West Falmouth Harbor (.35 mg/l) and Oyster Pond (.55 mg/l). Fact Sheet at 29-30 & n.8; *see also* Response to Comments at 35. A nitrogen threshold of .45 mg/l is also at roughly the mid-point of the range

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[53] The Region referred to this reference location for determining a nitrogen threshold representing unimpaired conditions as a "sentinel site." *See* Fact Sheet at 29-30. The City's argument notwithstanding, Petition at 31, this term was not used by the Region to describe any type of relationship between MHB16 and the Taunton Estuary (e.g., a stressor-response relationship) or as any kind of predictive indicator.

[54] The Region explained that it used 2004-2005 data because the data represent a "typical" year based on precipitation data. Fact Sheet at 26 & n.5. The Region excluded data from 2006 because it was a very wet year (with rainfall totals of more than twice the long-term average), and the data might "disturb the steady-state assumption that underlies [the Region's] load analysis." *Id.* at 26 n.5.

[55] Additional data on nitrogen concentrations from the SMAST monitoring station MHB13 during the same time period further supported the use of MHB16 as a reference location. Fact Sheet at 30 (explaining that the Mount Hope Bay sonde near MHB13 indicated extensive periods of dissolved oxygen below 5.0 mg/l in 2005-2006 (the datasonde was not operating in 2004) and that the average nitrogen concentration at MHB13 between 2004 and 2006 was .473 mg/l, suggesting that the Region should set the nitrogen threshold lower than that value).

identified in the Critical Indicators Report (.39 to .50 mg/l) as being consistent with unimpaired conditions for use in developing TMDLs. Critical Indicators Report at 22.

More broadly, the Region viewed its use of a reference-based approach to set the nitrogen threshold as "rational and scientifically defensible." Response to Comments at 77. The approach is consistent with the approach taken in setting numerous TMDLs in Massachusetts and is based on the "best available information for establishing a target threshold in [the Taunton/Mount Hope Bay] system." *Id.* at 77-78. Based on its evaluation of the available information, the Region determined that "there is simply no evidence that a higher target [nitrogen] concentration would be sufficiently protective." *Id.* at 79.

Federal courts have recognized that there "may be no strong reason for choosing [one numerical standard over another] somewhat higher or lower number," and "will uphold the agency's choice of a numerical standard if it is within a 'zone of reasonableness.'" *In re Upper Blackstone Water Pollution Abatement Dist.*, 14 E.A.D. 577, 606 (EAB 2010) (*quoting Small Refiner Lead Phase-Down Task Force v. EPA*, 705 F.2d 506, 525 (D.C. Cir. 1983) (some citations omitted), *aff'd.* 690 F.3d 9 (1st Cir. 2012), *cert. denied*, 133 S. Ct. 2382 (2013); *see also Hercules, Inc. v. EPA*, 598 F.2d 91, 116-17 (D.C. Cir. 1978). Here, the Region's target nitrogen level of .45 mg/l falls within a range of reasonable numeric standards, placing that nitrogen level squarely within a "zone of reasonableness."

(ii) *Determining the Nitrogen Limit for the City's Plant*

The Region next determined the allowable nitrogen load for the Taunton Estuary and Mount Hope Bay and from there, the nitrogen limit for the City's Plant. The Region based the allowable nitrogen load on the need to keep nitrogen concentrations in receiving waters at or below the .45 mg/l nitrogen threshold that the Region had established. The Region applied a "steady state ocean water dilution model based on salinity." Fact Sheet at 30. By doing so, there was no need for the Region to model for the variability of tides, weather, and stream flows because the steady state assumption is based on long-term average conditions. *Id.* Based on the overall flow of the estuary (again, averaging data from 2004 and 2005), the Region calculated that the allowable nitrogen load to the Taunton Estuary would be 2081 lbs/day. *Id.* at 32. Based on that allowable load, the Region determined that an approximate 51% reduction in nitrogen, or 2147 lbs/day, is required to meet the .45 mg/l nitrogen threshold, which would ensure that the applicable water quality standards in the Taunton Estuary are met. *Id.* After

accounting for reductions that could be expected to be achieved from nonpoint sources,[56] the Region determined that wastewater discharges of nitrogen should not exceed 939 lbs/day. *Id.* at 32-33.

To determine an equitable allocation among all wastewater treatment facilities with significant contributions to the Taunton Estuary, the Region stated that the largest dischargers, such as the City, would have an upper bound possible limit of 3.4 mg/l and a lower bound of 3.0 mg/l (based on reductions available technology can achieve). Ultimately, the Region imposed the lower bound limit of 3.0 mg/l on the City's Plant. The Region based its decision to impose the lower limit on the City (and similarly sized facilities) because upgrades to meet the most stringent permit limits are more cost-effective at larger facilities. *Id.* at 33. Additionally, the Region considered that the City's Plant is the second largest discharger to the Taunton Estuary and that its discharges enter the upper portion of the Taunton Estuary, "with no potential for uptake or attenuation" of its nitrogen content. *Id.* The Region thus concluded that a nitrogen limit of 3.0 mg/l was necessary to achieve the water quality standards in the Taunton Estuary and Mount Hope Bay as required by 40 C.F.R. § 122.44(d)(1). Fact Sheet at 26, 34. Again, that limit was expressed in the Permit as a mass limit of 210 lbs/day. *See* Part II.D, above; *see also* Permit at 3; Fact Sheet at 34; Response to Comments at 163.

b. *The City's Arguments Do Not Establish the Region Clearly Erred in Determining the Specific Nitrogen Limit*

The City raises numerous claims that the Region erred in setting the nitrogen limit, many of which overlap with arguments the Board has already addressed regarding the necessity of including a nitrogen limit in the Permit. *See supra* Part IV.B. The Board does not repeat that analysis here. Most of the City's remaining arguments are centered on the Region's use of the SMAST monitoring data from MHB16 to determine a nitrogen threshold. The Board turns to these remaining arguments below.[57]

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[56] The Region explained that a 51% reduction in nonpoint source contribution to the nitrogen load is unlikely and, thus, a higher proportion of the reduction is allocated to wastewater point sources. Fact Sheet at 32. The Region assumed a 20% reduction from nonpoint source contributions, which it considered to be "reasonably aggressive." *Id.* The City does not contest these conclusions.

[57] The City also asserts that the Region made ten specific "factual errors" in imposing the nitrogen limit. Petition at 32-37. These assertions intertwine and overlap

(i) *The Region's Reliance on MHB16 as a Reference Location From Which to Derive the Nitrogen Threshold Is Supported by Massachusetts and EPA Guidance*

The City argues that the Region's method for setting the nitrogen limit (i.e., relying on MHB16 as a reference location from which to derive the nitrogen threshold) was irrational and unsupported. Petition at 29. The City further argues that the MHB16 data do not accurately reflect what is happening in the Taunton Estuary. *Id.* at 31-32; City's Reply at 16. In so arguing, the City's Petition misapprehends the Region's use of the data from MHB16.

As explained, the Region used MHB16 as a reference location for unimpaired conditions in the Taunton Estuary and Mount Hope Bay. Specifically, the Region looked at MHB16 data because this was the only monitoring location where dissolved oxygen levels met the Massachusetts water quality standard for dissolved oxygen and the critical indicator level identified in the Critical Indicators Report. The Region selected the corresponding nitrogen level as a starting point for determining a nitrogen threshold. As previously explained, this approach is consistent with the approach the Massachusetts Estuary Project used in the Critical Indicators Report for determining nitrogen thresholds for TMDLs, as well as the approach described in EPA's nutrient guidance. *See supra* Part IV.B.3.a(i). Contrary to the City's characterization, the Region did not use MHB16 to establish "what is happening in the Taunton River Estuary" or as a "messenger" or sentinel of what is going to happen or how. *Id.; see also supra* Part IV.B.2.a(i).

In its Petition, the City cites a letter written by the Director of the Massachusetts Estuary Project ("MEP") to support its contention that the Region's approach to determining a nitrogen threshold is inconsistent with what the City terms the "MEP process." Petition at 30-31. That letter, however, is dated May 1, 2015, after the Permit was issued, and thus is not part of the Administrative Record.[58] *See* 40 C.F.R. § 124.18; *In re Dominion Energy Brayton Point, LLC*, 13 E.A.D. 407, 417 (EAB 2007).

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with the City's arguments regarding the need for a nitrogen limit and its challenge to the Region's method of determining the nitrogen limit as "irrational and unsupported." *Id.* at 29-32. The Board addresses the "factual errors" claimed by the City throughout this decision while striving to avoid overlap and redundancy.

[58] Although the Board has, in some circumstances, considered materials submitted on appeal that are not part of the administrative record, as explained below, the City does

The City seeks to supplement the Administrative Record, justifying the untimely letter by contending that the Region first stated in its Response to Comments document that its approach to determining the nitrogen limit "was consistent with the MEP process." City's Reply at 2 (*citing* Response to Comments at 50, 55, 99); *see also* Petition at 34; City's July 2015 Motion to Supplement at 4 ("the need for [the MEP Director's] letter did not become apparent until [the Region's] response to comment document was issued"). The City is mistaken on this point. The Region first noted in the Fact Sheet that it was using the "procedure developed by the [MEP]," an approach consistent with EPA guidance regarding use of a reference-based approach. Fact Sheet at 29. To the extent the City had concerns regarding the Region's references in the Fact Sheet to its application of the MEP procedures in its permitting approach, the City could have sought the MEP Director's views during the comment period for the Draft Permit in 2013. Having failed to do so then, the City is foreclosed from doing so on appeal to the Board.[59]

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not justify doing so here. *See, e.g., In re Deseret Power Elec. Coop.*, 14 E.A.D. 212, 225 (EAB 2008) (explaining that the Board allows supplementation of the permitting authority's rationale on appeal where the missing explanation is fairly deducible from the record) (*citing In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 191 (EAB 2000)); *In re Dominion Energy Brayton Point, LLC*, 13 E.A.D. 407, 418 (EAB 2007) (considering new materials submitted on appeal in response to changes made between the draft and final permit); *In re Pollution Ctrl. Indus. of Ind., Inc.*, 4 E.A.D. 162, 165-66 (EAB 1992) (allowing supplementation on appeal to clarify the record below); *see also In re Christian County Generation, LLC*, 13 E.A.D. 449, 458-59 (EAB 2008) (discussing federal precedent noting that even a change in the Supreme Court's interpretation of a law does not provide a litigant the opportunity to raise a completely new challenge that could have been, but was not, raised earlier) (*citing Old Ben Coal Co. v. Dir., Office of Workers' Comp. Programs*, 62 F.3d 1003, 1007 (7th Cir. 1995)).

[59] Indeed, the City's claim that it was prompted to seek the MEP Director's views only after reading the Region's statements in the Response to Comments document (in April 2015) is at odds with the City's e-mails to the MEP Director seeking his views on the Fact Sheet a month before the Response to Comments document was issued. *See* City of Taunton's Response to Board Order attach. 3 (Nov. 4, 2015) (e-mail from John Hall, Counsel for City of Taunton, to Brian Howes, Dir., MEP, *Taunton Estuary Project* (Mar. 22, 2015)). When asked about this factual defect at oral argument, counsel for the City stated that the City sought Dr. Howes' views in response to statements made by the Region in meetings held after the close of comments, but prior to issuance of the Permit. EAB Oral Argument Transcript at 17-18, 19. That assertion, however, is inconsistent with both the City's documentation of its communication with Dr. Howes in March 2015, which

See 40 C.F.R. § 124.19(a)(4); *see also In re City of Attleboro*, 14 E.A.D. 398, 405-06, 444 (EAB 2009); *In re New Eng. Plating Co.*, 9 E.A.D. 726, 732-35 (EAB 2001).

Moreover, the City's position on this issue is based on the incorrect assumption that, when the Region described its "reference-based approach" as being consistent with the approach "widely applied in TMDLs developed under the MEP," Response to Comments at 50, the Region was suggesting it had followed the more extensive MEP process that the SMAST Report contemplates would ultimately be undertaken for the Mount Hope Bay/Taunton Estuary system. *See* SMAST Report at 59. On this point, the City is mistaken. Rather, that latter process – termed the "Linked Watershed-Embayment Modeling Approach" – requires further "assessment, modeling and analysis" to determine a nitrogen threshold for the system (for the purpose of setting TMDLs) and has not yet been completed. *Id.* at 21, 27; Fact Sheet at 23-24. The Region clearly did not imply that it had undertaken such an assessment:

> [The Region's] approach examined the continuum of water quality conditions in the Taunton River Estuary and Mount Hope Bay to identify a transition point [] from impaired to unimpaired conditions. It is not a stressor-response approach, "truncated" or otherwise[.] * * * Rather this approach is a form of reference-based approach and a similar approach has been widely applied in TMDLs developed under the MEP and approved by Massachusetts DEP and EPA. The results are consistent with ranges and thresholds for acceptable [nitrogen] concentrations found in other estuaries within and outside of Massachusetts. Although this is a simplified approach that does not attempt to quantify individual subprocesses involved in eutrophication, it is entirely appropriate for assessing large nutrient load reductions over relatively long periods.

Response to Comments at 50. As such, in addition to being untimely, the MEP Director's letter addressing that latter process is irrelevant to the approach taken by the Region here.

For all these reasons, the Board finds no merit in the City's challenge to the Region's determination of the nitrogen threshold using a reference-based approach,

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references only the Fact Sheet, and statements in the City's July 2015 Motion to Supplement.

and further denies the City's July 2015 Motion to Supplement the Administrative Record with the MEP Director's letter.

(ii) *MHB16 Is a Reliable Indicator of Unimpaired Conditions*

The City argues that MHB16 is not a reliable indicator of unimpaired conditions in multiple ways that the Board addresses in two categories: first, the City's assertion that algal levels at MHB16 are higher than in the Taunton Estuary; and, second, the City's assertion that relevant physical differences between MHB16 and the Taunton Estuary render MHB16 a poor indicator of conditions in the upper Taunton Estuary. Petition at 32-34.

(a) *Algal Levels in the Taunton Estuary Are Excessive, Even When Compared with Algal Levels at MHB16*

The City argues that, even if it were appropriate to rely on the data from MHB16, the data on algal levels from MHB16 do not support the Region's conclusion that algal levels are excessive in the Taunton Estuary and are impairing dissolved oxygen. Petition at 32-33. The City specifically points to the algal levels at MHB16 as being higher than the algal levels at three SMAST monitoring stations located in the Taunton Estuary (MHB18, MHB19, and MHB21) during the "normal" years of 2004 and 2005.[60] *Id.* at 32-33. The City also asserts that algal levels in the Taunton Estuary are "less than 10 µg/l" and that the Region's "new data analysis confirmed a 10 µg/l algal level would meet a 5.0 mg/l" standard for dissolved oxygen.[61] *Id.* (*citing* chart from the URI PowerPoint Presentation).

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[60] When the City raised this comment on the Draft Permit, the City included algal levels from 2006, which the Region explained was inappropriate. Response to Comments at 81. On appeal, the City refers only to algal levels from the years 2004 and 2005, but continues to argue that algal levels at MHB16 are higher than they are in the Taunton Estuary and thus do not support the Region's conclusion that algal levels are excessive in the Taunton Estuary and are impairing dissolved oxygen. Petition at 32.

[61] In its Petition, the City also cites a 2008 document in support of its contention that the Taunton Estuary has the "highest nitrogen levels but the lowest algal levels in the [Mount Hope Bay] system." Petition at 7 (*citing* Petition, Attach. 12; also listed in Petition attach. 67). Because the cited document was not identified in the City's June 2013 comments, along with a reasonably clear and specific explanation as to why the document was relevant to its comments, the City may not rely on this document in its appeal to the

As the Region pointed out in the Response to Comments document, the algal levels at each of the monitoring stations (in both the Taunton Estuary and at MHB16 in Mount Hope Bay) far exceed the critical indicator level for algae of 3 to 5 µg/l, demonstrating that algal growth is excessive in both the Taunton Estuary and Mount Hope Bay. Response to Comments at 80; *see also* Fact Sheet at 23 (Table 5) (documenting mean algal levels at those locations as ranging between 7.5 and 10.8 µg/l, with maximum algal levels ranging from 16.1 to 38 µg/l). Additionally, the mean algal levels at MHB16 for 2004 (10.5 µg/l) and 2005 (10.3 µg/l) were not higher than the highest mean algal levels in the Taunton Estuary for 2004 (10.8 µg/l) and 2005 (10.5 µg/l), as the City contends. *See* Fact Sheet at 23. Lastly, the City's reliance on a chart from the URI PowerPoint Presentation to assert that a 10 µg/l algal level "roughly" would meet a 5.0 mg/l standard for dissolved oxygen is misplaced. *See* Petition at 32 (mischaracterizing this chart as "EPA's new data analysis"). The chart on which the City relies shows a seasonal average algal level of 10 µg/l very roughly corresponding to a seasonal average of 5.0 mg/l, based on one monitoring station in Mount Hope Bay, with the rest of the data coming from monitoring in the western portion of Narragansett Bay. The Region, however, is tasked with establishing a permit limit that ensures dissolved oxygen levels meet the minimum Massachusetts water quality standard of 5.0 mg/l at all times, not as a seasonal average.[62] *See* 314 Mass. Code Regs. § 4.05(4)(b)(1). The City's differing opinion on this issue does not establish clear error. *In re Scituate Wastewater Treatment Plant*, 12 E.A.D. 708, 718 (EAB 2006), *appeal dismissed per stip.*, No. 06-1817 (1st Cir. 2006).

Board. 40 C.F.R. §§ 124.13, .19(a)(4); *see also In re City of Attleboro*, 14 E.A.D. 398, 405-06, 444 (EAB 2009); *In re New Eng. Plating Co.*, 9 E.A.D. 726, 732-35 (EAB 2001).

[62] Again, the URI PowerPoint Presentation is the document the City claims conflicts with the analysis in the Response to Comments document, and argues on that basis that the Region should have reopened the comment period. As noted in Part IV.A.2 above, the City failed to explain with particularity how the information in this document raises substantial or new questions concerning the Permit to warrant reopening the comment period. And as demonstrated here, the point for which it is cited by the City does not call into question the Region's use of a 5.0 mg/l dissolved oxygen level in setting the 3.0 mg/l nitrogen limit.

(b) *Physical Differences at MHB16 Do Not Render Mount Hope Bay an Unreliable Indicator of Unimpaired Conditions*

The City also asserts that the Region failed to understand the physical differences between MHB16 and the SMAST monitoring sites in the Taunton Estuary when it opted to use MHB16 as a reference location. Petition at 32-34 (referring to the physical characteristics of hydrodynamics, sensitivity to oxygen demand, and tidal flow). The City further argues that the physical differences between MHB16 and another monitoring station in the Taunton Estuary (labeled MHB19) render MHB16 inappropriate for "predicting" algal or dissolved oxygen levels in the Taunton Estuary. *Id.* at 32.

To the extent that this argument is repetitive of the City's argument that the Region failed to consider the effects of stratification, the Board has already addressed that issue. *See supra* Part IV.B.2.c(iii)(c). To the extent that the City is arguing that MHB16 does not provide a reliable reference location for determining the nitrogen threshold (because it cannot predict conditions in the Taunton Estuary due to other physical differences between the two locations), the City's Petition again misinterprets the Region's analysis. The Region did not use MHB16 as an indicator of what is happening at MHB19 or elsewhere upstream in the Taunton Estuary. Rather, the Region used MHB16 to derive an appropriate target level of nitrogen from a location where dissolved oxygen levels met the Massachusetts water quality standard for dissolved oxygen and the critical indicator level identified in the Critical Indicators Report. In any case, the City's difference of opinion on whether Mount Hope Bay provides a reliable reference for unimpaired conditions does not establish clear error. *See Scituate*, 12 E.A.D. at 718.

(iii) *Even Without Relying on MHB16 as a Reference Location for Unimpaired Conditions, the Nitrogen Limit Is Well Supported*

As articulated above, the Region did not rely solely on MHB16 data to determine the nitrogen limit for the Permit. The monitoring data for MHB16 was chosen as a reference location in part because the MHB16 dissolved oxygen levels for each year from 2004-2006 met the Massachusetts quality standard for dissolved oxygen and the critical indicator level identified in the Critical Indicators Report, when no other monitoring station in the SMAST Report did. *See* Fact Sheet at 23, 29. The target nitrogen level chosen is consistent with nitrogen levels identified in other systems. *Id.* at 30; Response to Comments at 35. Moreover, as the Region stated, even if it were to remove MHB16 from its analysis, the calculated Permit limit would not change. *Id.* at 96; Fact Sheet at 29-30. For example, even if the Region had used a nitrogen target of .47 mg/l or .50 mg/l (a level at the high end of

the Critical Indicators Report range, where the occurrence of eutrophication is clearly indicated), the City would still be required to achieve a 3.0 mg/l nitrogen limit, after taking into account the allowable watershed load, nonpoint source reduction, and the size of the City's Plant. *See* Response to Comments at 96.

Based on all of the information considered, the Region's choice of a 3.0 mg/l nitrogen limit for the Permit is well within a "zone of reasonableness." *See Upper Blackstone,* 14 E.A.D. at 606 (noting that while there "may be no strong reason for choosing [one numerical standard over another] somewhat higher or lower number," a federal court "will uphold the agency's choice of numerical standard if it is within a 'zone of reasonableness.'") (*quoting Small Refiner Lead Phase-Down Task Force v. EPA,* 705 F.2d 506, 525 (D.C. Cir. 1983) (citation omitted). When confronted with a difficult choice between scientific certainty and the obligation to eliminate water quality impairments, it is reasonable for a permitting authority to opt for a greater reduction in pollutant discharge over a more finely tuned numerical limit. *Cf. Natural Res. Def. Council, Inc. v. Costle*, 568 F.2d 1369, 1380 (D.C. Cir. 1977) (weighing the agency's obligations under the CWA and stating that "this ambitious statute is not hospitable to the concept that the appropriate response to a difficult pollution problem is not to try at all") (cited in *Upper Blackstone*, 14 E.A.D. at 606). The City has not established that the Region's reliance on data from MHB16 was clearly erroneous, an abuse of discretion or otherwise warrants review.

c. *The Region's Rationale for the Nitrogen Limit was Reasonable in Light of All of the Information in the Record*

Despite the City's many attempts to characterize the Region's rationale in setting the 3.0 mg/l nitrogen limit as speculative and unsupported, the Board concludes the City's arguments are merely based on a misapprehension of the applicable law and disagreements over the highly technical determination of the nitrogen limit. The Board further concludes that the Region fully articulated and supported its rationale for determining the nitrogen limit and its rationale was reasonable in light of all of the information in the record. In sum, the City has not met its burden to demonstrate that the Region clearly erred or abused its discretion in setting the nitrogen limit for the Permit, or that the Region's decision otherwise warrants review.

C. *The City Failed to Properly Preserve Its Challenge to the Requirement to Reduce Nitrogen Year-Round*

The nitrogen limit in the Permit applies from May 1 through October 31, but the Permit also requires the City to operate the facility "to reduce the discharge

of total nitrogen during the months of November to April to the maximum extent possible." Permit pt. I.A.1, at 3, 6 n.13. The City argues that the Region erred in requiring the City to "run its nutrient reduction operations" year-round. Petition at 38. The City complains that the Region first provided its rationale for this requirement – "to keep annual loads low and limit the recycling of winter discharges in the system in the critical summer period" – in the Response to Comments document and did not give the public a chance to comment on the Region's rationale. City's Reply at 20; *see* Response to Comments at 20. The City also argues that this requirement is unnecessary because there is no possibility that water quality standards will be violated during the winter months. Petition at 38. Finally, the City suggests that the Region should have differentiated the Taunton Estuary's characteristics from those of the Long Island Sound, where year-round nitrogen reduction purportedly is not required. *Id.*

The Board denies review of this issue. Petitioners must raise issues with a reasonable degree of clarity and specificity during the comment period for those issues to be considered by the Board on appeal. 40 C.F.R. § 124.19(a)(4); *see In re City of Attleboro*, 14 E.A.D. 398, 405-06, 444 (EAB 2009); *In re New Eng. Plating Co.*, 9 E.A.D. 726, 732-35 (EAB 2001) (explaining the rationale behind the specificity requirement and denying review of the permit issuer's failure to include a compliance schedule or delayed effective date because petitioner's comments regarding its inability to meet a limit were insufficient to preserve that issue for review); *see also In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 230 (EAB 2000) (noting that the Board has "often denied review of specific issues that were raised in a general manner during the public comment period"). The purpose of this rule is to ensure that the permitting authority has the opportunity to address permit objections and to give some finality to the permitting process. *See In re City of Marlborough,* 12 E.A.D. 235, 244 n.13 (EAB 2005) (collecting cases).

While the City's comments on the Draft Permit touched on the requirement to reduce nitrogen year-round, those comments did not reflect the issues it now seeks to raise on appeal. *See* Response to Comments at 18-19. Rather, the City's comments expressed concern that the Draft Permit's nitrogen removal requirements for the winter months conflicted with a statement in the Fact Sheet that the City need not measure for "Carbonaceous Biochemical Oxygen Demand" or $CBOD_5$[63]

[63] The Permit utilizes $CBOD_5$ "as the measure of oxygen demand." Fact Sheet at 9. The accurate assessment of oxygen demand during the nitrogen removal process is important to effective operations. The Region describes $CBOD_5$ as the "more appropriate

during the winter months, when the facility discontinues the nitrogen removal process. At the same time, the City recognized that "[i]f some degree of total nitrogen removal must be attempted in the colder season, the use of year round $CBOD_5$ analyses would be necessary and appropriate * * *." *Id.* at 18. Because the Fact Sheet indicated that the nitrogen removal operations could be ceased from November through April, the City suggested removing the requirement in the Draft Permit to reduce nitrogen from November to April to eliminate the contradiction. *Id.* at 18. The City also recognized, however, that the Permit language requiring nitrogen removal during the winter months might control over the Fact Sheet. *Id.* at 19.

In response to the City's comment, the Region agreed that $CBOD_5$ analysis should continue year round, given the requirement to continue reducing nitrogen to the maximum extent possible during the winter months. *Id.* As a result, and as requested by the City, the Region included $CBOD_5$ limits on a year-round basis in the Permit and clarified that "the permit language [requiring nitrogen removal year round] in all cases takes precedence over any arguably inconsistent or unclear language in the Fact Sheet." *Id.*

Nowhere in its comments did the City argue that the year-round requirement was unnecessary because there is no possibility of water quality standards being violated during the winter months. Similarly, the City did not express in its comments that year-round requirements are not imposed at other facilities, including facilities on Long Island Sound. As such, the City failed to preserve these arguments for appeal, as it could have raised these objections to the year-round requirement for nitrogen in its comments on the Draft Permit, but did not.[64] *See* 40 C.F.R. § 124.19(a)(4); *Attleboro*, 14 E.A.D. at 405-06, 444; *New England Plating*, 9 E.A.D. at 732-35.

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measure of whether technology-based biological oxygen demand limits are achieved" during nitrogen removal operations. Response to Comments at 19.

[64] The City states that it "objected to the requirement that it run its nutrient reduction operations year round, even when there is no possibility of criteria violation." Petition at 38 (citing Response to Comments at 8-9). Those pages of the Response to Comments document, however, contain no such objection. As described above, the City's comments mention the year-round requirement only in the context of the $CBOD_5$ analysis required. *See* City's June 2013 Comments attach. 1 at 7-8. These comments, however, are insufficient to preserve the issues raised in this appeal.

Even if the City had properly preserved these arguments, the Region's inclusion of this requirement in the Permit is well supported in both the Fact Sheet and the Response to Comments document. In the Fact Sheet, the Region explained that estuaries have a lengthy retention period for pollutants, resulting in waterborne pollutants remaining in estuaries for a long time, which magnifies their potential to adversely affect the estuary's plants and animals. Fact Sheet at 14. Recognizing that potential, the Region required the City to optimize nitrogen removal during the wintertime to assist in "keep[ing] the annual discharge load low" and ensuring that "the discharge does not cause or contribute to violations of applicable water quality standards." *Id.* at 34. In the Response to Comments document, the Region further explained that this requirement is essential "to keep annual loads low and limit the recycling of winter discharges in the system in the critical summer period." Response to Comments at 20. The City does not acknowledge the Region's explanation for the year-round requirement in the Fact Sheet.[65] Petition at 38. Instead, the City argues that the Region's justification in the Response to Comments document is "conclusory" and "theoretical," without providing any counter-argument to the Region's rationale. *Id.* As such, even if the issue had been properly preserved, the City would not meet its burden to demonstrate the Region's rationale was clearly erroneous, an abuse of discretion or otherwise warrants review. *See In re City of Pittsfield v. EPA*, 614 F.3d 7, 13 (1st Cir. 2010) (upholding the Board's requirement that petitioners explain why the Region's response to comments is clearly erroneous or otherwise warrants review); 40 C.F.R. § 124.19(a)(4)(ii) (requiring petitioners to identify and address the Region's responses to comments).

D. *The City Failed to Address the Region's Explanation for Its Determination to Set the Compliance Schedule for the Nitrogen Limit at Ten Years*

In the Draft Permit, the Region proposed a five-year compliance schedule for upgrades to the Plant in order to meet the 3.0 mg/l nitrogen limit. *See* Draft Permit pt. I.G, at 18-19; Fact Sheet at 34. In response to financial information on the cost of Plant upgrades submitted by the City, the Region increased the compliance period in the Final Permit from five to ten years. Permit pt. I.G.1, at 18-19; Response to Comments at 24-29. On appeal, the City seeks an eighteen-

[65] The City incorrectly claims that it is "indisputable" that the Region first offered its basis for the year-round requirement in the Response to Comments document. *Compare* City's Reply at 20 *with* Fact Sheet at 34 ("As noted earlier, EPA is imposing a condition requiring the permittee to optimize nitrogen removal during the wintertime. The summer limits and the winter optimization requirements will serve to keep the annual discharge load low.").

year compliance schedule and argues that the Region erred in setting a ten-year schedule by basing it on the City's initial, and not updated, financial information. Petition at 39.

In responding to the City's request for a longer compliance schedule, the Region evaluated the City's initial and updated financial information, applied the relevant EPA guidance, and determined that a ten-year compliance schedule is appropriate. Response to Comments at 24-29. In reaching this conclusion, the Region did not use the City's original total cost figure ($82 million) for upgrading the Plant. Rather, the Region used a higher cost figure of $95.3 million based on the City's updated information submitted in May 2014,[66] adjusted to account for the number of households (and not the number of meters) connected to the City's sewer system in calculating the per-ratepayer cost.[67] *See id.* at 24 (indicating the City's original figure); *id*. at 26 (explaining the Region's use of the higher figure of $95.3 million).

In this same discussion, the Region acknowledged that the City had submitted revised calculations in March 2015 that increased the projected total cost of Plant upgrades by another $3 million to $98.3 million, but noted that this increase would not result in a longer compliance schedule under EPA's guidance. *Id.* at 26 n.14. In an April 2015 memorandum to the permitting file, the Region addressed information included in a worksheet attached to the City's March 20, 2015 supplemental comments, noting that the revised figures further increased projected total costs to $140 million. The Region declined to rely on this much-higher cost

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[66] The Region considered the May 2014 submission, Response to Comments at 26, notwithstanding its general rejection of the City's multiple late submissions as untimely. *Id.* at 1 n.2. As the Region correctly observed, permitting authorities are under no obligation to consider comments received after the close of the public comment period. *See supra* Part IV.A.1. Nevertheless, because the Region specifically requested and considered the additional documentation submitted by the City in May 2014, Response to Comments at 25-26, the Board considers the Region's rationale in evaluating the May 2014 submission here. *See In re P.R. Elec. Power Auth.*, 6 E.A.D. 253, 257 n.5 (EAB 1995) (declining to reject as untimely an issue first raised in the petition where that issue, although not specifically raised during the comment period, was adequately addressed in the Region's response to comments).

[67] The City based its analysis of the impact of Plant upgrades on the number of meters connected to its system. The relevant guidance, however, requires use of the number of households and household equivalents (nonresidential users) connected to the system. Response to Comments at 26.

estimate in setting the compliance schedule because it was "speculative and unsupported," and further continued to use an incorrect figure for the number of households connected to the City's sewer system. Memorandum to file from David Pincumbe, Team Leader, EPA Region 1, *Re: Taunton MA Final Permit – Affordability Analysis* (Apr. 9, 2015) (A.R. O.28).[68] In the Response to Comments document, the Region noted that if actual costs to upgrade the Plant are significantly higher than projected, "the City can seek a revised schedule based on affordability considerations." Response to Comments at 28.

The Board denies review of this issue. In its Petition, the City incorrectly claims that the Region rejected the City's request for an eighteen-year compliance schedule based on the original, rather than the updated, financial information submitted by the City. Petition at 39. As demonstrated above, that is not the case. The Region considered the updated financial information, based its determination on an updated total cost figure of $95.3 million, concluded that the slightly higher figure of $98.3 million the City later submitted would not change the outcome, and declined to use the much higher figure of $140 million as speculative and unsupported. In its Petition, the City does not address the Region's explanation. While the City does cite to a series of attachments,[69] it fails to specify what specific

[68] As with the May 2014 submission, the Region referenced the March 2015 submission as it relates to costs in the Response to Comments document, notwithstanding its general rejection of the City's multiple late submissions as untimely. Response to Comments at 26 & n.14; *id.* at 1 n.2. Again, because the Region considered the March 2015 cost submission, the Board considers the Region's rationale in rejecting the $140 million figure included with that submission here.

[69] The City cites, without elaboration, eight separate attachments. Petition at 39 (citing Petition attachs. 31-38). Attachments 31 through 34 (A.R. H.60, H.64, H.65 and H.69) are a series of e-mails exchanged between the Region and the City in 2013 and 2014. While the e-mails in some instances refer to documents being transmitted with the e-mail, the City did not include those documents with these attachments or provide specific citations to relevant information within those documents. Attachment 35 includes two e-mails dated May 5, 2015, in which the City's consultant lists what financial information it contends was submitted to the Region. As these May 2015 e-mails post-date issuance of the Permit, they are not part of the Administrative Record and are stricken. Attachment 36 (A.R. H.24) is a six-page document titled "Opinion of Probable Project Cost Summary," with a date notation on the first page of December 5, 2013. Attachment 37 (A.R. H.24) is a one-page document with two tables of figures that appear to reflect sewer use fees. Attachment 38 (A.R. H.47) is a PowerPoint presentation titled "Review of Proposed

financial information in those attachments that the City asserts the Region "ignored." *Id.* It is "not incumbent upon the Board to sift through multiple documents to identify the issues and arguments raised in an appeal." *In re FutureGen Indus. Alliance, Inc.*, 16 E.A.D. 717, 731-33 (EAB 2015). And although the City belatedly addresses in its Reply the Region's decision not to use the $140 million figure, the City has the burden to explain in its Petition (not in its Reply) why the Region's decision to reject the $140 million figure was clearly erroneous, an abuse of discretion, or otherwise warrants review. *See* 40 C.F.R. § 124.19(a)(4)(i)-(ii) (setting forth petition content requirements, including the requirement to address the permitting authority's response to comments by explaining why the response is clearly erroneous or otherwise warrants review); *see also City of Pittsfield v. EPA*, 614 F.3d 7, 11-13 (1st Cir. 2010), *aff'g In re City of Pittsfield*, NPDES Appeal No. 08-19 (EAB Mar. 4, 2009) (Order Denying Review). The City failed to do so here.

Even if the Board were to consider the City's arguments in its Reply, the City fails to demonstrate that the Region erred when it declined to use the much higher $140 million total cost figure as speculative and unsupported. In order to meet its burden on appeal, the City must demonstrate why the Region should have used the higher cost figure, which represents an increase of almost 50%. Simply claiming – without any factual or legal support – that the higher figure is based on "new costs * * * not included in previous analyses" and that these new costs are "consistent with EPA's guidance," City's Reply at 20, does not suffice. Additionally, the City nowhere addresses the Region's conclusion that the higher $140 million figure was based on an incorrect figure for the number of households connected to the City's sewer system. 40 C.F.R. § 124.19(a)(4)(i) (petitioner must clearly set forth, with legal and factual support, the reasons why the permit decision should be reviewed). In sum, the City has not met its burden to demonstrate that the Region's decision to set a ten-year compliance schedule is clearly erroneous, an abuse of discretion, or otherwise warrants review.[70]

NPDES Permit Issues and Suggested Resolution of Scientific Uncertainties" with a date notation on the first page of February 18, 2015.

[70] The City also fails to explain how the $140 million cost figure would result in an eighteen-year compliance schedule based on EPA's guidance. Even if that higher cost figure resulted in a "high burden" on ratepayers, EPA's guidance would support only a schedule of up to fifteen years, with a longer schedule up to twenty years dependent on "negotiation with EPA and state NPDES authorities." Response to Comments at 27-28

E. *The Region Did Not Clearly Err or Abuse Its Discretion in Determining an Interim Limit for Nitrogen*

In addition to giving the City ten years to meet the 3.0 mg/l nitrogen limit, the Region set an interim nitrogen limit, requiring the City to meet a monthly average of 5.0 mg/l within five years of the effective date of the Permit. Permit pt. I.G.5, at 19. The City challenges the interim limit, arguing that the 5.0 mg/l monthly average limit (which the City terms a "monthly maximum") is as stringent as, if not more stringent than, the final 3.0 mg/l seasonal average limit (measured on a six-month rolling average basis). Petition at 37-38. The City seems to be arguing that the longer six-month averaging period for the final limit allows an individual monthly average to exceed 5.0 mg/l while still meeting the lower seasonal average, but that a 5.0 mg/l monthly average limit does not allow any individual monthly average to exceed 5.0 mg/l. *See id.* at 38 n.26. The City further claims (without explanation) that the Region's own data analysis shows that the interim limit would be as difficult to attain as the final limit. *Id.* at 38 (*citing* Response to Comments at 9-13). As such, the City argues, the interim limit is not an interim limit at all. *Id.*

In response, the Region argues that while some wastewater treatment facilities meeting a 5.0 mg/l monthly average limit will also be able to meet a 3.0 mg/l seasonal average limit, most will not. Region's Response at 41. In support of its position, the Region cites performance information (submitted by the City with its comments on the Draft Permit) from ten Connecticut wastewater treatment facilities. Of those ten facilities, three reported a maximum monthly nitrogen average of approximately 5.0 mg/l, but two of those three failed to meet a lower 3.0 mg/l seasonal average, with the third only slightly below at 2.8 mg/l. Response to Comments at 9, 11-12; *see also* Region's Response at 41. Additionally, of all ten facilities, the average difference between the seasonal average and the maximum monthly average was only 1.1 mg/l, and only one seasonal average was lower than the maximum monthly average by greater than 2.0 mg/l. Response to Comment at 9; *see also* Region's Response at 41. The Region cites these data to demonstrate that a facility meeting a 5.0 mg/l monthly average is unlikely to be able to meet a lower 3.0 mg/l seasonal average, and that the 3.0 mg/l seasonal average is thus the more stringent limit. Region's Response at 41.

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tbls. 3 & 4. The failure to provide an explanation to support its proposed eighteen-year compliance schedule further supports denial of review on this issue.

The City has not demonstrated any clear error with respect to the interim nitrogen limit. It may be possible in theory for a facility's monthly average to exceed 5.0 mg/l for one month and still meet a 3.0 mg/l seasonal average (for example, by having another month in which average discharges are less than 1.0 mg/l). That theoretical possibility standing alone, however, is insufficient to show that this Permit's interim 5.0 mg/l monthly average limit is as stringent as, or more stringent than, the final 3.0 mg/l seasonal limit. And the City fails to counter the record here showing that wastewater treatment facilities meeting a 5.0 mg/l monthly average for nitrogen are unlikely to be able to meet a 3.0 mg/l seasonal average, and that a 3.0 mg/l seasonal average is thus the more stringent limit. In sum, the City has not met its burden to demonstrate that the Region's decision to set an interim (monthly average) nitrogen limit of 5.0 mg/l, a highly technical issue, is clearly erroneous, an abuse of discretion, or otherwise warrants review.

F. *The Region Did Not Clearly Err or Abuse Its Discretion in Determining the Copper Limits*

In addition to establishing the nitrogen limits, the Permit establishes copper limits of 8.0 µg/l (average monthly discharge) and 16 µg/l (maximum daily discharge). Permit pt. I.A.1, at 3. The Region determined these copper limits using the lowest observed river flows over a ten-year period[71] to calculate the available dilution, as required by Massachusetts surface water quality standards. 314 Mass. Code Regs. § 4.03(3)(a). The City objects to the copper limits as too stringent, arguing that the Region should also have factored in tidal dilution. Petition at 39-40; City's Reply at 20-21.

In responding to the City's comments on the Draft Permit, the Region noted that the City's tidal flow estimates appeared to rely on the Region's tidal flow analysis for the nitrogen limit performed at a location several miles downstream of

[71] This hydrologic condition is referred to as the "7Q10" flow and defined as "the lowest observed mean river flow for seven consecutive days, recorded over a ten year recurrence interval." Fact Sheet at 7. Initially, the Region used a 7Q10 flow rate of 31.6 cubic feet per second based on data available through 2002. *See id.* at 7. In response to a request by the City, the Region agreed to recalculate the 7Q10 flow rate using data available through 2012 and derived a revised 7Q10 rate of 33.2 cubic feet per second. Response to Comments at 21. Application of the revised rate had no effect on the monthly average copper limit but did slightly increase the daily maximum limit, from 15 µg/l under the Draft Permit to 16 µg/l under the Final Permit. See Draft Permit at I.A.1, at 3; Permit pt. I.A.1, at 3; Response to Comments at 21.

the discharge point. Response to Comments at 117-18. The Region explained that it would be inappropriate to establish copper limits using the tidal flow analysis for the nitrogen limit because the water-quality analysis performed for copper discharges must take place "in the area of discharge." *See id*. at 117. And even if the Region were to factor in tidal dilution at the point of discharge, the monthly average copper limit would increase by at most 1.5 µg/l. See Response to Comments at 118. Regardless, the Region decided not to factor in tidal flow in setting copper limits. As the Region noted, two factors may at times prevent full mixing of tidal flow at the point of discharge: (i) the short term stratification of fresh and saltwater components, and (ii) the tidal nature of the receiving waters (flood, ebb, and slack tides). The Region further noted that the copper criteria are applicable at short time periods – just one hour for the acute criterion and four days for the chronic criterion. Given the need to set limits to satisfy these short time periods, and the factors that may at times prevent full mixing of the tidal flow, the Region determined that it would be incorrect to include tidal flow in its calculations. *Id.*

The City has not demonstrated any clear error with respect to the copper limits. Contrary to the City's assertion, the Region was not engaging in post hoc rationalization in the Response to Comments document when the Region addressed whether it should factor in tidal dilution. *See* City's Reply at 21. Rather, the Region was responding to timely filed comments on the Draft Permit, precisely as it is required to do. *See* 40 C.F.R. § 124.17. Further, in addressing the Region's response to the City's comments on this issue, the City fails to set forth factual support for any of its claims. *See id.* § 124.19(a)(4)(i). For example, while asserting that the tidal and freshwater flows are "already mixed * * * at the point of discharge," that in dry weather "tidal dilution increases," or that the transient nature of the tidal flow is "largely irrelevant" to the four-day copper criterion, the City provides no citations in support. *See* Petition at 40. Nor did the Region "admit" that the discharge "completely mixes" with the tidal flow simply because it mixes with the freshwater flow. *See id*. The Region gave cogent reasons (stratification and the ebb and flow of the tide) for why complete mixing with the tidal component should not be presumed. Response to Comments at 118. And most significantly, the City's apparent contention that there are times when tidal dilution may occur (*citing* to dry weather increasing tidal dilution) misses a fundamental point of the Region's response: that the copper criteria apply at one-hour and four-day time periods and that mixing cannot be presumed always to occur during those short time frames. *Id*. In sum, the City has not demonstrated that the Region's highly technical determination not to factor in tidal dilution in setting the copper limits is clearly erroneous, an abuse of discretion, or otherwise warrants review.

G. *The City Failed to Address the Region's Response to Comments on the Issue of Setting Separate Wet Weather Limits for the Permit*

The City next challenges the Region's denial of its request for less stringent discharge limits applicable to wet weather events, during which the City claims it is required to process more wastewater and stormwater from combined sewer overflows. Petition at 41-42. The City argues that the Region denied the City's request based on a mistaken belief that the Region lacked authority to set less stringent wet weather limits. *Id.* The City claims that less stringent limits are appropriate during wet weather events because higher instream dilution of pollutant loads renders more restrictive limits unnecessary and because the City otherwise cannot comply with the Permit's limits during such events. *Id.*

In its Response brief, the Region details the reasons it provided in the Response to Comments document for denying the City's request, demonstrating that it did not deny the request because wet weather limits, as a general matter, are impermissible. Rather, the Region denied the request because less stringent wet weather limits are not appropriate in this instance given the applicable water quality standards and the data in the record. Response to Comments at 31-33.

In its Response to Comments, the Region first noted that the City provided no basis for concluding it would be required to process more stormwater or wastewater during wet weather events, pointing out that existing mitigation plans have significantly reduced stormwater and wastewater overflows to the Plant. *Id.* at 31, 33. The City similarly failed to explain how setting a relaxed standard based on higher wet weather flows (and greater dilution) would comport with Massachusetts' requirement to set water quality-based effluent limitations using as a dilution factor the lowest observed river flows over a ten-year period.[72] Response to Comments at 33; *see also* 314 Mass. Code Regs. § 4.03(3)(a).[73]

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[72] As described in Part IV.F above, this dilution factor is termed the "7Q10" flow and is more precisely defined as "the lowest observed mean river flow for 7 consecutive days, recorded over a 10 year recurrence interval." Fact Sheet at 7.

[73] In support of this point, the Region cites to a 1996 letter sent by EPA's Office of Water to the City of Rochester, New Hampshire. Response to Comments at 33. The letter states that, as a general matter, higher seasonal flows and associated dilution may allow for less stringent discharge limits under the Clean Water Act. Letter from James F. Pendergast, Acting Director, Permits Division, Office of Water, U.S. EPA, to Gary Stenhouse, City Manager, City of Rochester, NH, at 1 (Sept. 20, 1996) (A.R. M.39). The letter goes on to state that where – as here – a specific state water quality standard

The Region further noted that the City failed to provide support for its claim that the Plant's discharges have no meaningful impact on water quality during wet weather events. To the contrary, the Region concluded that (i) total nitrogen loads in the Taunton Estuary are significantly higher during wet weather events, (ii) wastewater treatment plants that discharge to the Taunton Estuary contribute a significant percentage of those total loads, and (iii) applicable water quality standards are violated during wet weather years. Response to Comments at 16-18, 33.

With respect to these latter points, the Region undertook a detailed analysis demonstrating the need to maintain the same nitrogen discharge limit during wet weather events to ensure water quality standards are not violated. Extrapolating from available data in the record, the Region calculated total nitrogen loads in the Taunton Estuary as two to three times higher in wet weather years (such as 2006) than in normal years (such as 2004 and 2005).[74] While recognizing that these figures are estimates, the Region viewed the figures as reliable, given similar Narragansett Bay Commission data showing nitrogen loads in that system as averaging about twice as high during wet weather events.[75] *Id*. at 16-18. Using the Commission's figures, the Region calculated that the 2006 total nitrogen loads in

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requires discharge limits to be based on the 7Q10 flow, the permit issuer's discretion is limited. *Id.* The 1999 Combined Sewer Overflow guidance cited by the City, Petition at 42, similarly speaks in general terms and does not undercut the Region's determination based on (i) the need to comply with the applicable water quality standards here, or (ii) the specific water quality impacts from nitrogen discharges to the Taunton Estuary, even during wet weather events as discussed below. *See* Office of Water, U.S. EPA, EPA 832-B-99-002, *Combined Sewer Overflows: Guidance for Monitoring and Modeling* (Jan. 1999) (A.R. M.46).

[74] To arrive at this conclusion, the Region used (i) the available nitrogen load data from 2004 and 2005 (as measured at Weir Village, just upstream from the City's Plant); and (ii) 2004-2006 flow data (showing flows were four-times higher in the Taunton Estuary in 2006). Using these data, the Region estimated nitrogen loads at Weir Village in 2006 as 140% to 220% higher than 2004 and 2005 average loads (between 6000 and 8000 lbs/day in 2006 versus an average of 2474 lbs/day in 2004-2005), and assumed that this same increase in nitrogen loads would occur throughout the Taunton Estuary. Response to Comments at 16-17.

[75] The Commission based its figures on streamflow monitoring data since 2005, which indicate that nitrogen loads increase by 88% to 152% during wet weather events. Response to Comments at 17.

the Taunton Estuary would have been approximately 9300 lbs/day,[76] with 30% of that load (2800 lbs) contributed by the City's Plant and other wastewater treatment plants. *Id.* at 33; *see also* Fact Sheet at 28. While nitrogen contributions from wastewater treatment plants in wet (versus dry) years are a lower percentage of total loads (30% versus 66%), 30% is still a substantial contribution, with a concomitant overall impact on water quality. And, as the Region noted, water quality standards are still violated during wet weather years, as demonstrated by 2006 data from the Mount Hope Bay sonde reporting the highest algal levels in any year from 2006 to 2010. Response to Comments at 33.

In reply, the City characterizes the Region's response as a concession that wet weather limits are permissible, and claims (without any contrary evidence or support) that the Region's analysis of wastewater treatment plant contributions to total nitrogen loads during wet weather events is a "complete fabrication." City's Reply at 22.

The Board denies review of this issue. In its Petition, the City does not address the Region's merits-based responses to the request for less stringent wet weather limits. Specifically, the City addresses neither the constraint imposed by the Massachusetts requirement to set limits based on the lowest observed river flows over a ten-year period, nor the analysis of data demonstrating that nitrogen loads are still significant and causing water quality problems during wet weather years. Instead, the City incorrectly argues on appeal that the Region denied the request to set less stringent wet weather limits because the Region believed it generally lacked the authority to do so. Response to Comments at 31-33. The City's failure to address the Region's merits-based responses in its Petition is grounds for denial of review. 40 C.F.R. § 124.19(a)(4)(i)-(ii); *see also City of Pittsfield v. EPA*, 614 F.3d 7, 11-13 (1st Cir. 2010), *aff'g In re City of Pittsfield*, NPDES Appeal No. 08-19 (EAB Mar. 4, 2009) (Order Denying Review).

Even if the Board were to consider the City's challenge on its merits, the City has not met its burden to demonstrate that the Region's denial of its request to set less stringent wet weather limits is clearly erroneous, an abuse of discretion, or otherwise warrants review. Here, the Region declined to set less stringent wet

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[76] In calculating the total nitrogen load, the Region used the midpoint of the Commission's figures (120%) to arrive at 9300 lbs/day, which is 120% higher than the average total nitrogen load for 2004 and 2005 of 4228 lbs/day. Response to Comments at 17; Fact Sheet at 28 (detailing the components of the total nitrogen load estimate of 4228 lbs/day for the Taunton Estuary in 2004 and 2005).

weather limits because the Massachusetts regulations preclude setting a limit based on higher flows associated with wet weather events and because the City's Plant contributes significantly to the total nitrogen loads in the Taunton Estuary during wet weather events when water quality violations still occur. Response to Comments at 33. The City's Petition and Reply simply ignore the constraint imposed by the Massachusetts regulation. And the unsupported attack in the City's Reply on wastewater treatment plant contributions to total loads is insufficient to counter the Region's detailed analysis of this point in the Response to Comments and otherwise fails to show that the Region's decision is clearly erroneous. The City's remaining contention – that the Region should have set less stringent wet weather limits because the City cannot otherwise comply with Permit limits during such events – fails because it is raised for the first time on appeal and thus is waived. *See* 40 C.F.R. §§ 124.13, .19(a)(4)(ii) (requiring all reasonably ascertainable issues to have been raised during the public comment period in order to preserve them for Board review); *Attleboro*, 14 E.A.D. at 405-06, 444; *New England Plating*, 9 E.A.D. at 732-35; *see also Christian County*, 13 E.A.D. at 449. Moreover, feasibility is not a factor in determining a permit limit that must ensure water quality standards are met. *See* CWA § 301(b)(1)(C), 33 U.S.C. § 1311(b)(1)(C); *see also In re City of Fayetteville, Arkansas*, 2 E.A.D. 594, 600-01 (CJO 1988) (explaining that the CWA "requires unequivocal compliance with applicable water quality standards, and does not make any exceptions for cost or technological feasibility").

H. *The City Failed to Properly Preserve Its Challenge to the Agency's Authority to Set a Flow Limit for the Plant*

The Permit limits the Plant's average monthly effluent flow to 8.4 million gallons per day ("mgd"). Permit pt. I.A.1, at 2. Both the 2001 Permit and the Draft Permit circulated in 2013 contain identical flow limits. *Compare id.* pt. I.A.1, at 2, *with* 2001 Permit pt. I.A, at 2, *and* 2013 Draft Permit pt. I.A.1, at 2. In a one-paragraph argument, the City contends that the Region lacks the authority to impose this limit because "flow is not a pollutant under the CWA." Petition at 41.

The Board denies review of this issue. The City had notice of the flow limit and could have raised this issue regarding EPA's authority during the comment period. The City has regularly recorded and submitted data concerning the Plant's flow volumes, as evidenced by the summary of 2010-2012 discharge monitoring reports included with the Fact Sheet. *See* Fact Sheet tbl. 1, at 49. Further, although the City did not challenge EPA's authority to set the flow limit during the comment period, the City demonstrated awareness of the limit by referring to it in the context of challenging the proposed nitrogen limit, claiming that the limit "effectively caps future plant flow rates to the current permitted flow of 8.4 mgd." Response to

Comments at 13. Because the City could have challenged EPA's authority to set the flow limit in its comments on the Draft Permit but did not do so, the City failed to preserve this issue for appeal. *See* 40 C.F.R. § 124.19(a)(4); *In re City of Attleboro*, 14 E.A.D. 398, 405-06, 444 (EAB 2009); *In re New Eng. Plating Co.*, 9 E.A.D. 726, 732-35 (EAB 2001).

The City argues that EPA's authority to set a flow limit is a jurisdictional issue that cannot be waived. *See* City's Reply at 21. The City cites just one case in support of its argument – *In re Lorazepam & Clorazepate Antitrust Litig. v. Mylan Labs., Inc*., 631 F.3d 537 (D.C. Cir. 2011). That case concerned a challenge to a federal court's subject matter jurisdiction in a state antitrust suit and has no bearing on the scope of, or limits on, the Board's review of permit appeals under 40 C.F.R. § 124.19. *See* 631 F.3d at 540-41. Instead, in connection with review by the Board, issues of statutory authority can indeed be waived. *See, e.g.*, *In re Town of Concord*, 16 E.A.D. 514, 538 (EAB 2014) (denying review of petitioner's challenge to EPA's legal authority to impose a flow limit because petitioner did not identify any specific references to this argument in its previously submitted comments).

The City did submit a letter eighteen months after the comment period had closed contesting the Region's legal authority to impose a flow limit. The Region, however, appropriately rejected the letter as untimely in both a memorandum to the file and in its Response to Comments document. *See* Memorandum to File from Susan Murphy, Permit Writer, EPA Region 1, *Re: February 17, 2015 "Supplemental Comments" Submitted by John Hall* (Mar. 11, 2015) (A.R. O.27); Response to Comments at 1 n.2; *see also supra* Part IV.A.1 (discussing late-submitted comments). While the Region also addressed the substance of this issue in its memorandum to the file, the Region's doing so does not put this issue in contention before the Board. *See supra* Part IV.A.1*; see also In re Weber #4-8*, 11 E.A.D. 241, 243 n.2 (EAB 2003) (explaining that the Region's decision to respond to late-filed comments after it had issued the permit did not reopen the comment period or make those comments timely).[77]

[77] The City seeks to supplement the Administrative Record with a January 2016 FOIA request and the Agency's February 2016 response. City's February 2016 Motion to Supplement at 2, 4-5. The FOIA request sought records that "authorize the imposition of flow controls in [NPDES] permits issued by EPA Region I, and supported by EPA Headquarters." The City also seeks to supplement the Administrative Record with a draft modification to an NPDES permit for Nashua, New Hampshire, that the Region opened for public comment on March 26, 2016. City's April 2016 Motion to Supplement at 1. The

I. *The City Failed to Identify, in the Petition for Review, Any Permit Condition Relating to Blending*

In addition to challenging specific permit conditions, the City challenges what it calls EPA's "illegal bypass rule interpretation." Petition at 42. In further explaining this issue, the City states that it has "repeatedly indicated its intent to 'blend' peak wet weather flows," and that "this blending approach was unambiguously approved" by the U.S. Court of Appeals for the Eighth Circuit in a March 2013 decision in *Iowa League of Cities v. EPA*, 711 F.3d 844 (8th Cir. 2013). Petition at 42-43.

EPA has described "blending" as the practice of combining peak wet weather flows with treated wastewater. 70 Fed. Reg. 76,013, 76,015 (Dec. 22, 2005); *see also* 68 Fed. Reg. 63,042 (Nov. 7, 2003). "Many municipalities currently have situations in which high peak influent flows during significant wet weather events exceed the treatment capacity of existing secondary treatment units." 70 Fed. Reg. at 76,015. In such situations, wet weather flows are sometimes diverted around secondary treatment units and then combined with flows from secondary treatment units. This practice raises a question regarding whether blending conflicts with the bypass criteria in 40 C.F.R. § 122.41(m), which prohibit the "intentional diversion of waste streams from any portion of a treatment facility," unless "no feasible alternatives" exist.

As a threshold matter, the City does not identify any permit condition that it seeks to challenge with respect to this issue. The failure to identify a contested permit condition, and to set forth (with legal and factual support) the reasons why that permit condition should be reviewed, constitutes grounds for denial of review.[78] *See In re Envotech, LP*, 6 E.A.D. 260, 268-69 (EAB 1996) (dismissing a

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City seeks to add these documents in support of its challenge to the Region's authority to regulate flow in the Permit. Having determined that the issue was not properly preserved, the Board is not reaching the merits of the City's argument and, thus, these documents are not relevant to this appeal. The Board therefore denies the City's February and April 2016 Motions to Supplement the Administrative Record with these documents.

[78] The regulation setting forth threshold content requirements for a petition also allows a petitioner to identify a "specific challenge to the permit," in lieu of a specific permit condition. *See* 40 C.F.R. § 124.19(a)(4)(i). EPA added this clause to the regulation in 2013 to incorporate the Board's existing precedent allowing petitioners to challenge a permitting decision in its entirety, whether based on alleged substantive or procedural defects. 78 Fed. Reg. 5281, 5284 (Jan. 25, 2013). For example, a permittee could argue

petition that raised the issue of strict liability but did not explain what permit condition was implicated by the doctrine of strict liability or how the doctrine of strict liability established that the permitting authority erred in granting the permit); *see also, e.g., In re Peabody W. Coal Co.*, 15 E.A.D. 406, 429-30 n.36 (EAB 2011) (dismissing several issues as ''vague'' and ''unsubstantiated'' where it was unclear how the issues raised related to any conditions of the permit that petitioner was attempting to challenge). Accordingly, the Board denies review of this issue based on the City's failure to meet its threshold obligation to identify any contested Permit provision.

Notwithstanding the City's failure to identify any contested Permit provision, and in the interest of a thorough review, the Board has endeavored to determine whether the City raised any issue during the public comment period concerning its intent to blend wet weather flows and the permissibility of that practice under the Permit. As explained further below, the Board concludes that this issue could have been but was not raised. Thus, even if the City had properly identified in the Petition any Permit language to which it objects, the issue was not properly preserved.

In its Petition, the City concedes that it did not raise concerns regarding the permissibility of blending in its comments on the Draft Permit. Petition at 43. To justify raising this issue for the first time on appeal, the City contends that EPA only recently announced that blending of peak wet weather flows was prohibited, notwithstanding the Eighth Circuit decision in *Iowa League of Cities*. In support of that contention, the City points to a March 2015 document issued by the New Jersey Department of Environmental Protection ("DEP") responding to public comments on a New Jersey NPDES permit. In that document, the New Jersey DEP describes a letter written by EPA Region 2 purportedly confirming that blending of primary and secondary treated flows to meet existing effluent limitations is subject to the bypass criteria in 40 C.F.R. § 122.41(m). The New Jersey NPDES permit document, however, is in no way relevant to this permit decision. Additionally, the Region did not consider or rely on any purported policy regarding blending in

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that the permit decision is procedurally flawed because the Agency failed to hold a public hearing, or is substantively flawed because the Agency is regulating discharges to waters that are beyond its CWA jurisdiction. The clause, however, does not allow a petitioner to make a generalized argument without specifically identifying how that argument relates to the permit decision so as to provide a basis for review. Here, the City fails to tie its blending argument to the Permit decision in any way.

issuing the Permit that could be controverted by the New Jersey NPDES permit document. Thus, there is no basis for the Board to consider the document here.[79]

More importantly, the blending issue raised by the City does not involve a new provision or policy of which the City was previously unaware. Specifically, the City's counsel in this matter was also counsel in the *Iowa League of Cities* matter and thus was well aware of any issue regarding EPA's interpretation of the bypass criteria at 40 C.F.R. § 122.41(m), including the March 2013 decision in that case. *See In re Christian County Generation LLC*, 13 E.A.D. 449, 458 (EAB 2008) (explaining that because the petitioner was a party to a case pending before the Supreme Court, the petitioner could not argue that the issues raised in that proceeding were not reasonably ascertainable or reasonably available within the public comment period); *see also Old Ben Coal Co. v. Dir., Office of Workers' Comp. Programs*, 62 F.3d 1003, 1007 (7th Cir. 1995) ("Of course, a litigant cannot simply sit back, fail to make good faith arguments and then, because of developments in the law, raise a completely new challenge."). In fact, the City cited the *Iowa League of Cities* decision in its June 2013 comments, albeit for a different proposition. *See* Response to Comments at 41.[80]

The City's reference to an EPA statement in a motion to dismiss filed in a case pending before the U.S. Court of Appeals for the District of Columbia Circuit – *Center for Regulatory Reasonableness v. EPA*, No. 14-1150 (D.C. Cir.) – is similarly unavailing. City's Reply at 22. The City argues that the blending issue is "ripe for review" here based on EPA's statement in that case that "[i]n the context of a particular permit proceeding, a party to that proceeding is free to make any

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[79] Although the Board has under some circumstances considered extra-record materials for the purposes of appeal, the City has not identified any such circumstance here. *See, e.g. In re Deseret Power Elec. Coop.*, 14 E.A.D. 212, 225 (EAB 2008) (Board allows supplementation of the permitting authority's rationale on appeal where the missing explanation is fairly deducible from the record); *In re Dominion Energy Brayton Point, LLC*, 13 E.A.D. 407, 418-20 (EAB 2007) (describing circumstances where the Board both considered and rejected materials submitted for the purpose of appeal). Additionally, because the Region did not rely on this document in issuing the Permit, the document is not properly part of the Administrative Record. Thus, the Board also denies the City's July 2015 Motion to Supplement the Administrative Record with the New Jersey NPDES permit document. *See* 40 C.F.R. § 124.18; *see also Dominion Energy*, 13 E.A.D. at 417.

[80] The City cited *Iowa League of Cities* in support of its comments on the nitrogen limit and its assertion that the Region's approach to setting that limit is inconsistent with state procedures and, thus, allegedly impermissible.

arguments it wishes as to the extent to which *Iowa League of Cities* should or should not be followed, and the Agency's decision on that issue would then be subject to judicial review on a specific and more fully developed record." EPA's Motion to Dismiss Petition at 16, *Ctr. for Regulatory Reasonableness v. EPA*, No. 14-1150 (D.C. Cir. Oct. 2, 2014). That statement, however, does not obviate the need to comply with 40 C.F.R. §§ 124.13, .19(a)(4)(ii) in order to preserve these issues for Board review by properly raising them in comments on a draft permit, as EPA's Merits Brief in that case makes clear. Brief for Respondent at 36, *Ctr. for Regulatory Reasonableness v. EPA*, No. 14-1150 (D.C. Cir. Feb. 3, 2016) (noting that in reviewing a permit decision, "the record would presumably include comments from a permit applicant urging EPA to apply *Iowa League* or *not* to rely on the Agency's statements concerning blending * * * set forth in the letters vacated in *Iowa League*").

Finally, the City could have identified and contested the Permit's standard condition on bypass, and the City's anticipated application of that provision to prohibit blending, during the public comment period. Incorporating verbatim the bypass criteria at 40 C.F.R. § 122.41(m), this standard permit condition prohibits the "intentional diversion of waste streams from any portion of a treatment facility," unless the bypass is "unavoidable to prevent loss of life, personal injury, or severe property damage," "no feasible alternatives" exist, and proper notice is given. *See* Permit pt. II.B.4, at 4-5. This standard condition is in the City's 2001 Permit, was included in the Draft Permit noticed for comment in March 2013, and remained unchanged in the Final Permit issued in April 2015. If the City planned to bypass any portion of the treatment facility to manage wet weather flows, the City needed to object to this provision in its June 2013 comments and argue then that the provision exceeded EPA's CWA authority.[81] Additionally, if the City planned to argue that the March 2013 *Iowa League of Cities* decision was controlling nationwide, and therefore controlling in the Region's application of the bypass criteria to this Permit, it needed to raise that point in its comments. Instead, the

[81] The City claims without citation to any document that it repeatedly indicated its intent to blend wet weather flows. Petition at 42 (referring to Petition at 6-7). Even if the City did indicate that intent in its comments – and the City has provided no proof of such indication – the City bears the burden not just to state its intent to blend wet weather flows, but to expressly state its objection to any aspect of the Draft Permit that would potentially limit blending those flows. *See, e.g., In re New Eng. Plating Co.*, 9 E.A.D. 726, 732-35 (EAB 2001) (holding that petitioners must raise issues with a reasonable degree of clarity and specificity during the comment period for an issue to be considered by the Board on appeal).

City remained silent in its comments on both the standard bypass permit condition and the *Iowa League of Cities* decision's potential applicability to that provision. Having failed to raise any issue in its comments with respect to blending or the bypass provision, the City is foreclosed from raising the issue here. *See* 40 C.F.R. § 124.19(a)(4); *see also In re City of Attleboro*, 14 E.A.D. 398, 405-06, 444 (EAB 2009); *In re New Eng. Plating Co.*, 9 E.A.D. 726, 732-35 (EAB 2001).

J. *The City Failed to Identify, in the Petition for Review, Any Permit Provision That Would Render It Potentially Liable for the Actions of Its Co-Permittees*

In one paragraph in the Petition, the City argues that the Region should have amended language in the Permit to make explicit that the City could not be held liable for the actions of its co-permittees. Petition at 43. The City, however, nowhere identifies the specific language in the Permit to which it objects, as required by 40 C.F.R. § 124.19(a)(4)(i). As previously explained, the failure to identify the contested permit condition and to set forth clearly, with legal and factual support, the reasons why the permit decision should be reviewed constitutes grounds for denial of review.[82] *See Envotech*, 6 E.A.D. at 269; *see also, e.g.*, *Peabody W. Coal*, 15 E.A.D. at 430 n.36. Accordingly, the Board denies review of this issue based on the City's failure to meet its threshold obligation.

Notwithstanding the City's failure to identify any contested permit provision, and in the interest of a thorough review, the Board has endeavored to determine whether the City raised any issue during the public comment period concerning permit language that could render the City liable for the actions of its co-permittees. Based on the Board's review of the City's comments, it appears the City objected to the language of Parts I.B and I.C in the Permit. *See* Response to Comments at 29-30. As explained below, however, the issue the City raised in comments is not the issue it attempts to raise in the Petition. *See Attleboro*, 14 E.A.D. at 405-06, 444; *New England Plating*, 9 E.A.D. at 732-35 (explaining that petitioners must raise issues with a reasonable degree of clarity and specificity during the comment period for an issue to be considered by the Board on appeal).

[82] Again, as noted above, although the regulation setting forth threshold content requirements for a petition allows a petitioner to identify "the specific challenge to the permit," in lieu of a specific permit condition, this clause does not apply to the City's argument here, as it has failed to tie its argument to the Permit decision in any way. *See* 40 C.F.R. § 124.19(a)(4)(i); *see also* 78 Fed. Reg. 5281, 5284 (Jan. 25, 2013).

Thus, even if the City had properly identified the specific Permit language to which it objects in the Petition, the issue was not properly preserved.

In both the Draft Permit and Final Permit, the Region included as co-permittees the Town of Raynham and the Town of Dighton Sewer Departments for Part 1.B (Unauthorized Discharges) and Part 1.C (Operation and Maintenance of the Sewer System):

> The Towns of Raynham and Dighton are co-permittees for PART 1.B * * * and PART 1.C * * *, which include conditions regarding the operation and maintenance of the collection systems owned and operated by the Towns. The responsible Town authorities are [the Town of Raynham and Town of Dighton Sewer Departments.]

Permit at 1.

The language of Parts 1.B and 1.C, as proposed and then included in the Final Permit, provides as follows:

> B. UNAUTHORIZED DISCHARGES
>
> * * * Discharges of wastewater from any other point sources, including sanitary sewer overflows (SSOs), are not authorized by this permit and must be reported to EPA and [Massachusetts DEP] orally within 24 hours of the time the permittee becomes aware of the circumstances and a written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances (Paragraph D.1.e of Part II of this permit). * * *
>
> * * *
>
> C. OPERATION AND MAINTENANCE OF THE SEWER SYSTEM
>
> Operation and maintenance of the sewer system shall be in compliance with the General Requirements of Part II and the following terms and conditions. The permittee is required to complete the following activities for the collection system which it owns[.]

Id. pts. *I.B-.C*, at 8-9.

In its comments on the Draft Permit, the City did not request that the Region amend any language in the Draft Permit or argue that the Draft Permit could be read to hold the City liable for the actions of co-permittees. Rather, in the context of commenting that the co-permittee obligations in Parts I.B and I.C should be removed altogether, the City affirmatively stated that it read Part I.B as *not* holding it responsible for reporting unauthorized discharges by the co-permittees, and made no argument with respect to the language of Part I.C.[83] Response to Comments at 29-30; *see also id.* at 139-40. In response to the City's comments, the Region declined to remove the co-permittees, left unaltered the language in Parts I.B and I.C in the Final Permit, and confirmed the City's reading that it would not be held liable for failures of the co-permittees to report any unauthorized discharges:

> EPA agrees that under the Permit language it is the satellite collection system operator that it [sic] responsible for reporting of [sanitary sewer overflows] from the satellite collection system. The City of Taunton is responsible only for reporting [sanitary sewer overflows] that occur within its jurisdiction and/or from its system (although this would include interceptors owned by the City that extend into other communities, if any.)

Id. at 31. Having failed to request any amendments to the language of the Draft Permit, and indeed reading the language of Part I.B as not holding the City liable for actions of the co-permittees, the City failed to preserve the issue raised on appeal for Board review. *See* 40 C.F.R. § 124.19(a)(4); see also *Attleboro*, 14 E.A.D. at 405-06, 444; *New England Plating*, 9 E.A.D. at 732-35.

Even if the Board were to reach the merits of this issue, it would conclude that the language of the Permit is "clear on its face," just as it did in *In re Charles River Pollution Control District*, 16 E.A.D. 623, 639-40 (EAD 2015). In *Charles River*, the co-permittees challenged language in their permit that is virtually

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[83] In an apparent effort to tie this issue to a comment raised during the public comment period, the City cites the Region's discussion of to the Response to Comments document at pages 139-40, which discusses comments submitted by the Upper Blackstone Water Pollution Abatement District ("District") that the City incorporated by reference (Response to Comments at 30). Petition at 43 (*citing* Response to Comments at 139-40). While the District similarly challenged the Region's legal authority to include the Towns as co-permittees, the District raised no concerns that the language in the Draft Permit made the City liable for the actions of the co-permittees. *See generally* Response to Comments at 138-39.

identical to the language in Parts I.B and I.C of the City's Permit.[84] In that case, the Board rejected the co-permittees' argument that their responsibility was unclear under Parts I.B and I.C and concluded that the permit's language did not subject them to liability for noncompliance in areas over which they lacked ownership and control. *Id.* at 23. The City does not address the Board's decision in *Charles River*, and does not otherwise provide any basis to distinguish the language in Parts I.B and I.C here from the nearly identical language in that case. And to the extent there is any question about the meaning of the Permit's language, the Region's statement in the record confirming that the City is not liable for the actions of co-permittees serves as "an authoritative reading of the permit that is binding on the Agency." *Id.* (quotation omitted).

V. *CONCLUSION AND ORDER*

In considering the City's Permit, the Region articulated with reasonable clarity the reasons supporting its determinations and the significance of the crucial facts it relied upon when reaching its conclusions. As a whole, the record demonstrates that the Region duly considered the issues raised in the comments and ultimately adopted an approach that is rational in light of all information in the record. Having fully considered the City's Petition, the Administrative Record of this permitting decision, and the applicable regulatory provisions, the Board finds no clear error or abuse of discretion with respect to any of the issues that the City has properly raised. As such, and for all of the reasons articulated above, the Petition for Review is denied.

So ordered.

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[84] Part I.B of the NPDES permit at issue in *Charles River* reads in pertinent part: "Discharges of wastewater from any other point sources, including sanitary sewer overflows (SSOs) are not authorized by this permit and shall be reported in accordance with section D.1.e.(1) of the General Requirements of this permit (24-Hour Reporting)." Part I.C reads in pertinent part: "The permittee and each co-permittee are required to complete the following activities for the collection system which it owns[.]"