Attachment 84 - EPA's Inaccurate Claims of Waiver

The following identifies all EPA waiver defenses specified in the Agency's Response (*in red*) and provides the location in the comments submitted that demonstrate the issue was timely raised.

* * *

3. EPA Section: EPA's Use of a 3-5 ug/l Chlorophyll-a Criterion Range Was Appropriate

"Petitioner also makes a derivative claim of error based on this same false premise. Petitioner alleges that EPA 'created a different procedure that has not been accepted by MassDEP (use of a 3-5 ug/l chlorophyll-a criteria based on the SMAST Critical Indicators Report)[.]' Pet. at 20. As a threshold matter, Petitioner did not raise this allegation in comments below. It is at any rate untrue and does not present any basis for review." EPA Resp., at 24.

Issue of Appropriate Chlorophyll 'a' Endpoint Identified in Prior Comment Submission

Taunton June 18, 2013 Comments Attachment 1 at 1

"EPA has relied on interim, un-adopted numeric criteria serving as a translator of the narrative criteria established in State's Surface Water Quality Standards. The numeric criteria used were presented in an interim report (Massachusetts Estuaries Project – Site Specific Nitrogen Thresholds for Southeastern Massachusetts Embayments: Critical Indicators) prepared by the School for Marine Science and Technology at the University of Massachusetts Dartmouth. However these numeric thresholds, which were developed for three Cape Cod embayments in the Town of Falmouth, MA, were never subject to public comment and may not be applicable to the Taunton River, Mount Hope Bay and Narragansett Bay. Relying on data from dissimilar water bodies brings a high level of uncertainty with respect to the numeric criteria needed to protect the Taunton River, Mount Hope Bay and Narragansett Bay."

Taunton June 18, 2013 Comments Attachment 2 at 24

a. Algal Growth *Not* Demonstrated Excessive

The primary effect of nutrient over enrichment is excessive algal growth. If algal growth is not excessive the secondary symptoms, particularly low D.O., do not occur due to nutrient enrichment. Consequently, EPA must show that nutrients are stimulating algal growth (measured as chlorophyll-a), the levels of chlorophyll-a in the water column are excessive, and that the excessive levels of algae are, in fact, causing the observed low D.O. In making this demonstration, EPA needs to identify a level of chlorophyll-a that is excessive and it must also include an evaluation showing that the nutrient reduction target selected will reduce algal growth to non-excessive levels that will raise D.O. levels to comply with the MassDEP water quality

standards. The analysis presented in the Fact Sheet establishing the TN endpoint did not address any of these considerations. Rather, EPA identified a sentinel station that meets the D.O. standard and presumed that the annual average TN concentration at this station was the reason such compliance occurred. However, the chlorophyll-a level found at this station (i.e., the factor EPA presumes controls the occurrence of low D.O.) is 10.3 – 14.1 µg/L. (See, Table 5; Fact Sheet at 23). This algal level is higher than that present in the Taunton River at MHB19, which ranges from 5.5 – 10.5 µg/L. Therefore, based on the response to algal growth at MHB16, it is apparent that excessive algal growth is (1) not occurring in the Taunton River Estuary and (2) some other factor must be causing the D.O. to drop below 5.0 mg/L in that area.

Taunton June 18, 2013 Comments Attachment 2 at 2

"The 'sentinel station' approach is not a rational or scientifically defensible basis for establishing a water quality standard […]"…"Rather, MassDEP uses a number of indicators to interpret its narrative nutrient standard. EPA asserts that MassDEP developed the Critical Indicators Interim Report for this purpose. However, the Critical Indicators Interim Report notes that the recommended ranges of appropriate TN thresholds must be further refined based on the specific physical, chemical, and biological characteristics of the system being evaluated."

"These and other critical characteristics that dramatically affect how TN could possibly contribute to low DO via excessive algal growth were not considered in EPA's highly simplistic analysis. Thus, EPA's approach is not consistent with the methods described in the Critical Indicators Interim Report or with EPA's own guidance. No such consideration was made for the Taunton River Estuary. Instead, EPA identified a threshold TN concentration for a site in Mt. Hope Bay furthest from the Taunton River Estuary and assumed that this threshold concentration was appropriate in the Taunton River Estuary without any demonstration that the two locations behave in the same manner. In fact, the physical, chemical, and biological characteristics of the two areas are dramatically different. Station MHB16 is one of the deepest stations in the bay and is closest to the Ocean and Narragansett Bay while the Estuary consists of a very narrow channel of variable depth. These and other critical characteristics that dramatically affect how TN could possibly contribute to low D.O. via excessive algal growth were not considered in EPA's simple analysis. Thus, EPA approach is not consistent with the methods described in the Critical Indicators Report or with EPA's own guidance. "

Taunton June 18, 2013 Comments Attachment 2 at 4

It is improper for EPA, after approving the MA § 303(d) list to later, in a draft NPDES permit, attempt to change an impairment listing by creating a water quality criterion for nutrients when the waters are impaired for organic enrichment/low dissolved oxygen. Likewise, if EPA disagreed with the MassDEP approach to narrative criteria implementation with respect to nutrients, EPA should have raised that objection pursuant to procedures under CWA Section 303(c). The report cited by EPA as a basis to indicate the water quality that would constitute nutrient impairment, (Critical Indicators Interim report) is not even referenced in the MassDEP 303(d) procedures for rendering nutrient impairment determinations

* * *

7. EPA Section: The CWA Authorizes EPA to Implement Narrative WQS Using a Reference-based Method

"The argument that EPA's approach to selecting a reference location was inconsistent with the MEP process was not presented anywhere below, and is accordingly waived. Petitioner's allegation that EPA waited until issuance of the Final Permit to indicate that its threshold nitrogen concentration determination was modeled on the MEP procedure, and that therefore it was justified in waiting until after Final Permit issuance to raise an issue with EPA's consistency with the MEP procedures, is false." EPA Resp., at 28.

Comments Addressed Claim of Consistency with MEP or Reference Waters Procedures

Taunton June 18, 2013 Comments Attachment 1 at 1

EPA has relied on interim, un-adopted numeric criteria serving as a translator of the narrative criteria established in State's Surface Water Quality Standards. The numeric criteria used were presented in an interim report (Massachusetts Estuaries Project – Site Specific Nitrogen Thresholds for Southeastern Massachusetts Embayments: Critical Indicators) prepared by the School for Marine Science and Technology at the University of Massachusetts Dartmouth. However these numeric thresholds, which were developed for three Cape Cod embayments in the Town of Falmouth, MA, were never subject to public comment and may not be applicable to the Taunton River, Mount Hope Bay and Narragansett Bay. Relying on data from dissimilar water bodies brings a high level of uncertainty with respect to the numeric criteria needed to protect the Taunton River, Mount Hope Bay and Narragansett Bay.

The report states: "it is not possible at this time to put quantitative nitrogen levels on each Water Quality Class. In fact, initial results of the Massachusetts Estuary Project (Chatham Embayment Report 2003) indicate that the total nitrogen level associated with a particular ecological response can vary by over 1.4 fold". The report goes on to conclude that "before final criteria are established, several habitat quality classification issues need to be resolved, including, but not limited to: variation in multiple indicators, embayments versus salt marsh habitat, upper versus lower embayment thresholds, and stable versus transitional habitat quality".

Taunton June 18, 2013 Comments Attachment 2 at 24

In developing the proposed TN endpoint, EPA noted that Massachusetts has not adopted numeric criterion for TN. (Fact Sheet at 17) Rather, MassDEP uses a number of indicators to interpret its narrative nutrient standard. EPA asserts that MassDEP developed the Critical Indicators Report[1] for this purpose. However, the Critical Indicators Report notes that the recommended ranges of

[1] Site-Specific Nitrogen Thresholds for Southeastern Massachusetts Embayments: Critical Indicators – Interim Report.

appropriate TN thresholds must be further refined based on the specific physical, chemical, and biological characteristics of the system being evaluated. (See, Critical Indicators Report at 20). No such consideration was made for the Taunton River Estuary. Instead, EPA identified a threshold TN concentration for a site in Mt. Hope Bay furthest from the Taunton River Estuary and assumed that this threshold concentration was appropriate in the Taunton River Estuary without any demonstration that the two locations behave in the same manner. In fact, the physical, chemical, and biological characteristics of the two areas are dramatically different. Station MHB16 is one of the deepest stations in the bay and is closest to the Ocean and Narragansett Bay while the Estuary consists of a very narrow channel of variable depth. These and other critical characteristics that dramatically affect how TN could possibly contribute to low D.O. via excessive algal growth were not considered in EPA's simple analysis. Thus, EPA approach is not consistent with the methods described in the Critical Indicators Report or with EPA's own guidance.

Taunton June 18, 2013 Comments Attachment 2 at 29

c. EPA ignored the influence of stratification.

All of EPA's guidance and SAB-issued commentary, as well as MassDEP guidance, states that the physical conditions of the receiving water must be evaluated to determine whether or how nutrients may cause adverse impacts. Stratification is particularly important with regard to the development of minimum DO conditions in the Estuary and Bay.

Taunton June 18, 2013 Comments Attachment 2 at 4

It is improper for EPA, after approving the MA § 303(d) list to later, in a draft NPDES permit, attempt to change an impairment listing by creating a water quality criterion for nutrients when the waters are impaired for organic enrichment/low dissolved oxygen. Likewise, if EPA disagreed with the MassDEP approach to narrative criteria implementation with respect to nutrients, EPA should have raised that objection pursuant to procedures under CWA Section 303(c). The report cited by EPA as a basis to indicate the water quality that would constitute nutrient impairment, (Critical Indicators Interim report) is not even referenced in the MassDEP 303(d) procedures for rendering nutrient impairment determinations.

* * *

b. EPA Section: Algal Growth in TE

"*Petitioner for the first time on appeal claims that this 10 ug/l algal level would meet a 5 mg/l DO standard, relying on a University of Rhode Island Powerpoint presentation. Petr. Att. 16. Petitioner failed to preserve the arguments it now makes on its Attachment 16 (a full copy of that document as included as Ex.K). On the merits, Taunton's interpretation of the chart from that document is incorrect.*" EPA Resp., at 30.

Taunton Comments Regarding 10 ug/l algal level.

EPA is correct that Taunton's Brief contained this precise statement for the first time since it was based on information in EPA's possession but withheld from Taunton until the issuance of the final permit. However, the prior comments did assert that a higher algal level (10-14 ug/l) was protective.

Taunton June 18, 2013 Comments Attachment 2 at 24

a. Algal Growth Not Demonstrated Excessive

The primary effect of nutrient over enrichment is excessive algal growth. If algal growth is not excessive the secondary symptoms, particularly low D.O., do not occur due to nutrient enrichment. Consequently, EPA must show that nutrients are stimulating algal growth (measured as chlorophyll-a), the levels of chlorophyll-a in the water column are excessive, and that the excessive levels of algae are, in fact, causing the observed low D.O. In making this demonstration, EPA needs to identify a level of chlorophyll-a that is excessive and it must also include an evaluation showing that the nutrient reduction target selected will reduce algal growth to non-excessive levels that will raise D.O. levels to comply with the MassDEP water quality standards. The analysis presented in the Fact Sheet establishing the TN endpoint did not address any of these considerations. Rather, EPA identified a sentinel station that meets the D.O. standard and presumed that the annual average TN concentration at this station was the reason such compliance occurred. However, the chlorophyll-a level found at this station (i.e., the factor EPA presumes controls the occurrence of low D.O.) is 10.3 – 14.1 µg/L. (See, Table 5; Fact Sheet at 23). This algal level is higher than that present in the Taunton River at MHB19, which ranges from 5.5 – 10.5 µg/L. Therefore, based on the response to algal growth at MHB16, it is apparent that excessive algal growth is (1) not occurring in the Taunton River Estuary and (2) some other factor must be causing the D.O. to drop below 5.0 mg/L in that area.

* * *

c. Hydrodynamics of Narragansett Bay Loads

"Petitioner's arguments that EPA's loading analysis was incorrect in failing to account for the hydrodynamics of loading from Narragansett Bay proper is both waived and factually incorrect." EPA Resp., at 31.

Taunton June 18, 2013 Comments Attachment 2 at 6

EPA's Fact Sheet (at 26), simply concludes that excessive nutrients are the cause of DO impairments in the Taunton River. The entire analysis is nothing more than a series of unsupported assumptions that nowhere demonstrates that (1) the nutrients are causing excessive plant growth in the Taunton River or (2) that periodic low DO occurring in the Taunton Estuary is significantly related to algal growth and not some other factor unrelated to algal growth (*e.g.*, organic loadings from wastewater or CSO discharges known to exist in the system, periodic system stratification, natural deposition of organic materials from the watershed, or low DO entering the estuary from Mount Hope Bay). Without consideration of these conditions, it is simply impossible to determine whether or how nutrients could possibly be responsible for any low DO conditions.

Taunton June 18, 2013 Comments Attachment 2 at 12, 13,14

Nowhere in EPA's analysis has the agency accounted for the extensive changes in facility operations that have reduced nutrients and CSO discharges impacting this estuary as well as Mount Hope Bay. Thus, EPA's proposed permit asserting a need for stringent TN limitations at the Taunton facility is plainly in violation of federal law because it is not based on the latest available scientific information or even remotely current water quality information for either Mount Hope Bay or the Taunton River.[2] …

In this case, EPA relied upon data from 2004/5 to conclude that major nutrient reductions were required to address DO concerns in both the Taunton River and, indirectly Mount Hope Bay. (Fact Sheet, at 29-30). Since 2004/5 there has been dramatic reductions in organic and nutrient loadings to these waters, therefore, the readings from 2004/5 cannot possibly reflect current conditions.[3]

The reports entitled *Spatial and Temporal Patterns in Nutrient Standing Stock and Mass-Balance in Response to Load Reductions in a Temperate Estuary* (Attachment C)[4] and *Draft Nutrient Conditions in Narragansett Bay & Numeric Nutrient Criteria Development Strategies for Rhode*

[2] As the preamble to § 122.44(d) states, when developing a defensible water quality based limitation the "permitting authority should use all available scientific information on the effect of a pollutant on human health and aquatic life." 54 Fed. Reg. 23,868, 23,876 (June 2, 1989). EPA Region 1 has admitted that NPDES permits must be based on "all available scientific information." *See* EPA Response to Newmarket EAB NPDES Appeal 12-05, at 47. If the information used is not based on current conditions and fails to reflect known improvements in water quality occurring in the past 8 years, the analysis is neither "reliable" nor "scientific".

[3] After the 2003 fish kill in the Providence River, the Rhode Island legislature directed facilities to achieve a 50% reduction in nitrogen discharges. Tom Uva of the Narragansett Bay Commission indicated that the present TN discharges from Rhode Island have decreased by 48% and that ambient TN levels are the lowest measured to date. (Personal communication with John C. Hall on June 11, 2013).

[4] Jason Seth Krumholz, *Spatial and Temporal Patterns in Nutrient Standing Stock and Mass-Balance in Response to Load Reductions in a Temperate Estuary*, (2012).

Island Estuarine Waters (Attachment D)[5], discuss the extent of nutrient reduction measures implemented by both Rhode Island and Massachusetts. From October 2003 to June 2008, at least eight Rhode Island wastewater treatment facilities, including the bay's second largest, upgraded to tertiary sewage treatment to remove excess nitrogen.[6] The largest, Field's Point WWTF, plans to complete its tertiary treatment system by December 2013 which will further reduce the bay's nitrogen levels.[7] In fact, it is expected that once the Field's Point WWTF upgrades are complete, the bay will meet the nitrogen target goal set by Rhode Island General Law § 46-12-3(25).[8]

Between the years 2000 and 2010, both the Taunton River and Narragansett Bay experienced significant reductions in TN loads. In the Taunton River, the average annual load of TN dropped from 1.64×10^6 kg to 5.28×10^5 kg from the periods 2003-2004 to 2008-2010. Adjusting for the difference in average annual flow, this represents a TN concentration reduction of 48%.[9] These reductions have greatly decreased total nitrogen levels in Mount Hope Bay and such levels are now well below the level EPA has indicated would be protective for Mount Hope Bay – 0.45 mg/L. *Infra* at 37-40.

* * *

h. Petitioner Failed to Preserve Arguments Concerning Brayton Point Thermal Load Reductions

"Petitioner claims that EPA misevaluated thermal reductions from the Brayton Point Power Plant, underestimating both the extent and duration of resultant DO improvements, a claim addressed supra at Sections II.A.4.a.2 and III.B.2" EPA Resp., at 36.

Taunton June 18, 2013 Comments Attachment 2 at 16

"Finally, the Brayton Point generating facility (at the mouth of the estuary) has implemented two new cooling towers that will lower temperatures in the Bay and Taunton River. (See Attachment E- Brayton Point Station Fact Sheet). The lower temperature will have a direct impact on promoting higher DO by (1) increasing DO saturation and (2) reducing the organic deoxygenation rates of the system. EPA‟s failure to account for the impact of these changes in treatment affecting algal growth and the DO regime is contrary to the requirements of 40 C.F.R. § 122.44(d).21." …"The effect of these measures since 2004/5 on DO in the Taunton River

[5] Christopher Deacutis and Donald Pryer, *Draft Nutrient Conditions in Narragansett Bay & Numeric Nutrient Criteria Development Strategies for Rhode Island Estuarine Waters* (June 2011).

[6] *Id.* at 2, 28.

[7] Krumholz, *supra* note 15, at 286.

[8] *Id.* at 97.

[9] *Id.* at 167.

would be profound, assuming EPA‟s position regarding the factors controlling low DO is correct."

* * *

E. Wastewater Effluent Flow Limit

"Petitioner objects to the Permit's effluent flow limitation of 8.4 MGD in its Permit, arguing that 'flow' is not a pollutant, and that EPA lacks the authority to regulate it under the Act. Pet. at 42. This issue has been waived." EPA Resp., at 40.

Taunton June 18, 2013 Comments Attachment 1 Issue 3.

"The proposed mass limit for total nitrogen effectively caps future plant flow rates to the current permitted flow of 8.4 mgd. Since the permit, as written, sets the total nitrogen concentration in the effluent at the limit of treatment technology, no further reduction in total nitrogen is possible and therefore no increase in flow is possible to prevent the mass limit from being exceeded. Given the lack of current data or analyses (see Attachment 2 for further information), it is nor reasonable or appropriate to impose the equivalent of a growth moratorium on the City." Comments Submitted by the City of Taunton at 3….

Septic systems in general contribute a significant nitrogen load to the Taunton River watershed. By expanding the wastewater collection system to encompass the sewer needs areas, this will transfer treatment of wastewater to the WWTF and reduce the non-point nitrogen load to the River.

Establishing a mass total nitrogen limit in the discharge would effectively prohibit expansion of the wastewater collection and treatment system beyond its present design capacity. Anti-degradation provisions in the clean water act could restrict future expansion of the wastewater treatment facility. Therefore, the mass limit should be removed from the permit.

Taunton June 18, 2013 Comments Attachment 1 Issue 11.

11. Wet Weather Limits

Taunton is requesting that consideration be given to providing a higher concentration limit during wet weather events. Maximizing wet weather flow treatment and simultaneously minimizing effluent nitrogen loads can be competing goals and provisions should be made in the permit to acknowledge different limits during wet weather events. Although the final plan to reduce the frequency and volume discharged from the West Water Street CSO, it is likely that more wastewater/stormwater will be directed to the WWTF during significant wet weather events. USEPA Region I has acknowledged this issue and issued "two tiered" permit limits to account for wet weather events in many locations including, New Haven, CT, Bangor ME, and Boston MA. New York City, in Region II, has similar accommodations for wet weather in their permits, as does Ohio, in Region V.

Note: The "flow is not a pollutant" argument was raised after EPA claimed that the City needed to meet antidegradation requirements to allow for any change in the flow limitation. This did not arise until the parties discussed plant expansion further in January 2015. EPA's identification of this issue need and how the flow limit would be enforced triggered the need for the comment which was not addressed anywhere in the Fact Sheet.

* * *

I. Co-Permittee Requirements

"Finally, Taunton asserts that, "under the language of the permit, it could be held jointly and severally liable for the actions of [the co-permittees, the Towns of] Raynham and Dighton," and that it was clear error for EPA not to amend the Final Permit in response to comments by Taunton. Pet. at 43. Taunton's specific objection to the language in the Permit was not brought to the Region's attention during the public comment period and is not preserved." EPA Resp., at 45.

Taunton June 18, 2013 Comments Attachment 1 Issue 10.

"The permit identifies the towns of Dighton and Raynham as co-permittees "for specific activities required in Sections I.B – Unauthorized Discharges and I.C – Operations and Maintenance of the Sewer System, which include conditions regarding the operation and maintenance of the collection system owned and operated by the Towns". Comments on the draft permit submitted on April 18, 2013 by the Upper Blackstone Water Pollution Abatement District (UBWPAD) specifically question the legal basis through which the EPA has authority to regulate Towns as co-permittees."…

In addition, Section I.B of the permit states that "Discharges of wastewater from any other point source, including sanitary sewer overflows (SSOs), are not authorized by this permit and must be reported to EPA and MassDEP 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". The City of Taunton, who is designated as the permittee, in no way has control over the operation of wastewater collection systems in satellite communities and is not responsible for its functionality. Accordingly, the permittee (City of Taunton) will not be responsible for reporting SSOs that occur outside its municipal boundary and legal jurisdiction.