Att. 80 - List of New Claims Raised in RTC and Conclusory Statements Unsupported by Analysis in the Record (Including Obviously Incorrect "Technical" Statements)

- SMAST data were sufficient to allow EPA to choose a sentinel site and determine a relationship between DO, chl-a and TN but not sufficient to allow for regression or other standard data analysis methodologies to be used to test those relationships. (("Data collection effort not designed for the type of stressor-response analysis performed by the commenter"- RTC at 90) (RTC at 90-91 – analysis of data "is not expected to produce statistically significant results"; data not collected under "critical near dawn conditions" – RTC 91)). – **New and Conclusory**
- EPA's new regressions have indicated that the Taunton Estuary DO is more sensitive to algal growth than Mount Hope Bay: "Taunton River Estuary mean chlorophyll-a are less variable than in Mount Hope Bay stations …it appears that DO may be impacted at lower chlorophyll-a concentrations in the Taunton River than in Mount Hope Bay proper…" (EPA Resp. - 23; RTC at 95) **New**
- "EPA's approach is not inconsistent with nutrient criteria guidance…The guidance regarding stressor–response analyses is not applicable to the completely different approach used by EPA." (RTC at 51); see also, "EPA's NPDES regulations do not require cause and effect proof between a pollutant discharge and an existing water quality impairment" (RTC at 71). But see… contrary EPA RTC statement "The permit analysis is response based…" (RTC at 45). **New and Conclusory and Contradictory**
- EPA is not required to address the other well-known factors that could be responsible for low DO in the system prior to concluding that low DO is caused by the algae present in the system. ("EPA is not required to show that there are no other factors influencing DO in the Taunton River Estuary…" (RTC at 47); "Nor do EPA's regulations require that EPA analyze with precision each step in a chain of impacts on water quality... That is not the type of analysis that EPA needs to perform to determine reasonable potential to cause or contribute to an impairment…" (RTC at 81). **New and Conclusory**
- Even though EPA agrees that the sentinel site (versus the Taunton Estuary) is subject to different physical/hydrodynamic conditions and the Upper Taunton Estuary is subject to higher organic loadings that will depress DO levels, EPA also believes it is proper to presume that the sentinel site accurately predicts water quality responses in the Upper Taunton Estuary. (*See* "[These sites are]…characterized by different levels of mixing…minor difference in depth range…and different depths…" (RTC at 48); "EPA agrees that there are differences between the Taunton River and Mount Hope Bay in these relationships; the differences appear to be related to other water quality conditions that differ in the two locations" (RTC at 92); "… in this area of Mount Hope Bay there may be variability in conditions due to the proximity to the Fall River discharge and to the Sakonnet River, which is known to create unusual flow patterns and reversals under some tidal conditions" (RTC at 110). **New, Conclusory and Plainly in Error (Kirby Aff. Att. 82)**

- "The hypothesis that low DO is driven by waters entering from the Bay is contradicted by the fact that DO is consistently lower in the Taunton River than in Mount Hope Bay." (RTC at 75). **New and Conclusory**
- "EPA's approach is not inconsistent with nutrient criteria guidance…The guidance regarding stressor–response analyses is not applicable to the completely different approach used by EPA." (RTC at 51) but *see* "…the type of reference approach applied by EPA here is specifically designed to identify the threshold concentration associated with a transition from impaired to unimpaired conditions." (RTC at 77). **New and Conclusory**
- "…the approach taken by EPA is a form of referenced-based approach that is consistent with the approach used in multiple TMDLs developed through MEP…." (RTC at 55) **New and Conclusory**
- "…the datasonde data for 2011 show the same pattern of supersaturated daytime surface DO during algal blooms, accompanied by DO deficits in bottom waters – the same pattern EPA noted in the Fact Sheet for 2010 data." (RTC at 56). **New, Conclusory, Contradictory and Plainly Incorrect (Kirby Aff. Att. 82)**
- **"**For 2013 [data show]… among the highest chlorophyll concentrations on record" (RTC at 58) but compare "the 2010 chlorophyll-a average concentration of 8 ug/l, while lower than those seen in 2004-05…2013 average chlorophyll-a was 10.53 ug/l…" (RTC 112-113) (2004-05 chlorophyll-a average at sentinel site - 10.4 ug/l and central MHB – 11.5 ug/l). **New and Conclusory and Plainly Contradictory**
- EPA's Fact Sheet analyses "did not "exclude consideration of current information" as claimed in [Taunton's] comment." (RTC at 61). **New and Conclusory and Demonstrably False Based on the RTC**
- "…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" because "Mount Hope Bay is a net transporter of nitrogen to Narragansett Bay proper..." (RTC at 61, FN 23). **New and Conclusory**
- "EPA agrees that the total reduction in WWTP loads has been approximately 25% [...] These reductions would not be predicted to be sufficient to achieve […] water quality standards […]" (RTC at 63). **New and Conclusory**
- "…the type of reference waters approach applied by EPA here is specifically designed to identify the threshold concentration associated with a transition from impaired to unimpaired conditions. This approach is…consistent with numerous TMDLs and related studies in Massachusetts and with approved referenced-based approaches to numeric nutrient criteria guidance." (RTC at 77-78). **New and Conclusory**
- "[d]ocumented DO impacts are consistent with the algae enrichment that has also been documented in this system, and where data concerning the diel pattern of DO is available (continuous datasonde monitoring in Mount Hope Bay)" (RTC at 73). **New and Conclusory**

- Even though the sentinel site conditions are considered sufficient to address DO impacts from algae/nutrients, it is proper to ignore that the upper Taunton estuary already exhibits algal levels *less than* those found at the sentinel site in deciding additional reductions are required to meet DO objectives at that location. ("[c]ultural eutrophication present in the Taunton River consistent with the conceptual model including elevated chlorophyll-a concentrations (well above levels identified as acceptable for SB waters)…" (RTC at 79); EPA used indicators that have been accepted by the state for determining cultural eutrophication…but the "state has not required "demonstration that a specific reduction in algal level is needed..." EPA claims it identified "the transition point from impaired to unimpaired conditions" in MHB (RTC at 67-69). "The contention that algal levels are higher at MHB 16 is based on 2006 monitoring results." (RTC at 81)). **New and Conclusory and Plainly in Error** (Kirby Aff. Att. 82); FS at 23)
- "Indeed, minimum DO concentrations of less than 5.0 mg/l were encountered at all but one site (MHB16) during the three year monitoring program. *Id.* at 29." (RTC at 100). "Comparison to other tidal rivers would not lead to a different threshold." (RTC at 79). **New Conclusory and Plainly Incorrect** (Kirby Aff. Att. 82) (FS at 23); *see* SMAST data for Kickamut River (MHB10) confirming algal level of 8.5-14.6 ug/L and TN averaging 0.48-0.57 mg/L achieved DO criteria for all years like data from MHB16.
- *(Comment: Selected TN criteria cannot meet DO objective)* "EPA disagrees with the comments contention that the proposed TN endpoint is insufficient. EPA's analysis was based on a 2-year average concentration…The use of a 2-year averaging period…is protective under all conditions." (RTC at 102). **New, Conclusory and Plainly Incorrect** Based on System Data (Kirby Aff. Att. 82)
- EPA's permit dilution calculation presumed complete mixing with the freshwater flow 24.1 CFS – (RTC at 21) but the discharge cannot be presumed completely mixed with the additional tidal dilution of 6 CFS occurring at this same location (RTC at 117-118). **New, Conclusory**
- Available information confirm that water quality conditions (TN and algal growth) improved in MHB since 2004/5 but the Taunton Estuary should still be presumed impaired thought there has been no algal data or DO data collected since 2005. (Agree chl-a concentration 2010-2012 "somewhat lower … than in the prior four years….they [algal levels] were still above the levels indicative of eutrophication impacts…" and "[i]mprovements implemented by Brayton Point and City of Fall River would not be expected to have substantial impact on eutrophication…" (RTC at 3). **New and Conclusory**
- EPA included stations MHB1 and MHB2 at Fall River as part of EPA regression analyses (*See*, RTC at 91-95, 99) but excluded all effects of Fall River (CSO/nutrient load) because those areas "are located more than 6 miles downstream of the station used as the locus for the loading analyses" (RTC 64). **New and Inconsistent**

- "CSO reductions did not eliminate organic and nutrient loadings from these flows" (RTC at 64). **New and Conclusory**
- "…thermal loads have been dramatically reduced since 2011…Brayton Point thermal discharges may also have contributed incrementally to dissolved oxygen depletion in Mount Hope Bay…the influence of the thermal plume in the Taunton River Estuary portion is negligible." (RTC at 64-65); but EPA includes stations 1 and 2 at mouth of Taunton Estuary, across from Brayton Point in its new regression analyses directly affected by thermal plume and relied on MHB data (all affected by plume) to claim ongoing impairment. **New and Conclusory and Clearly Inconsistent**
- "[t]he theory that reduction in thermal loads from Brayton Point have resolved the DO issue in the upper Taunton Estuary is unsupported by any evidence at all" (RTC at 65). Only true if one excludes consideration of the evidence that was submitted – *see* Att. 43 report of Dr. Swanson identifying degree of DO improvement due to Brayton Pt. closure which was never assessed by EPA. **New, Conclusory and Plainly Incorrect**
- "EPA's [permit limit approach was] … based on an analysis of impairment thresholds using indicators that have been accepted by the state for determining cultural eutrophication." (RTC at 68). **New Conclusory and Demonstrably False –** EPA did not dispute that MassDEP has never used 3-5 ug/l chlorophyll a as the threshold for cultural eutrophication (RTC at 5).
- "…the causal relationship among nitrogen, chlorophyll-a and dissolved oxygen is in fact well understood and is supported by data in this system." (RTC at 72); "The documented DO impacts are consistent with the algae enrichment that has also been documented for this system, and where data concerning the diel pattern of DO is available." (RTC at 73). **New and Conclusory and a Complete Fabrication –** *see* Kirby Aff. Att. 82)
- Data from MHB21 should not be considered because "EPA determined not to use [it] in its analysis because it appears that station may not be nitrogen-limited." *See* RTC at 99. **New.**
- "While EPA agrees that stratification and SOD are also factors influencing DO in estuarine waters, the commenter's hypothesis that stratification is "the primary factor triggering low DO" is unsupported by any evidence […]" (RTC at 87). "While stratification may well be a factor in intensifying DO depletions at this site [MHB Moor] the primary control appears to be algae" (RTC at 88). **New, Conclusory and Demonstrably False** (Kirby Aff. Att. 82)
- "[t]he contentions set forth in the comments are based on a selective use of the available data and are not supported by a more thorough statistical analysis. … [t]he chart excludes data from Stations MHB1 and MHB2 that are located lower down on the Taunton River." (RTC at 90); but *see,* RTC at 64 which notes that area by MHB1 and MHB2 "are located 6 miles downstream of the station used as the locus for the loading analyses" (RTC at 64). **New, Conclusory and Inconsistent (**Kirby Aff. Att. 82)

- "EPA's own analysis of the available data does not indicate a "flat" response in the Taunton River" (RTC at 91). Referencing new Fig. R4 which, for the first time, assesses daily rather than growing season data for assessing the system response. **New and Demonstrably Incorrect as noted in Kirby Aff. Att. 82.**
- "[T]he Taunton River appears to be more sensitive to oxygen depletion than Mount Hope Bay, likely due to the presence of other oxygen demands in the Taunton River" (RTC at 92). But then on 93 concluding (in comparison to MHB) "These results do indicate… a somewhat subdued response in terms of algal growth but an offsetting greater sensitivity of DO to algal growth." **New and Inconsistent**
- "[…] EPA applied the reference location approach in the context of examining the range of applicable concentrations, comparison to other estuaries, and EPA guidance." (RTC at 96). **New and Conclusory**
- "[T]he SMAST data collection efforts were not designed for stressor-response analysis and are not sufficient to produce statistically significant results." (RTC at 98). "EPA's opinion is that the available data is not sufficient to establish statistically significant stressor-response relationships…because of…no continuous monitoring … and not designed to measure critical DO conditions." (RTC at 100). **New and Conclusory.**
- Virtually all EPA graphs have major errors in their development and are not based on the SMAST datasets that were claimed to be used. Kirby Aff. Att. 82.
- Although EPA originally stated in the FS that consideration of the 2006 SMAST data were improper because 2006 was a 1 in a 100 wet year, it was proper for EPA to use the 2006 data in its regression analyses. *See* RTC at 90, 93, 95 versus RTC statements that use of 2006 data were improper: "The analysis presented is fundamentally flawed in its calculation…2006 was an extraordinarily wet year with the highest average annual streamflow ever recorded at the Taunton River USGS gage at Bridgewater …839 cfs in June to August 2006, compared to a long term (1930-2012) May to October average of 288 cfs. EPA rejects the contention that it was required to include an extreme wet weather period in its analysis if the resulting permit limits would be insufficiently protective in most years" (RTC at 16). **New and Inconsistent**