

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

In the Matter of:)

Upper Blackstone Water)
Pollution Abatement District)

NPDES Permit No. MA 0102369)
_____)

NPDES Appeal No. 09-06

RESPONDENT REGION 1'S SUR-REPLY

The U.S. Environmental Protection Agency, Region 1 (“Region”) submits this Sur-Reply to the Reply brief filed by the Upper Blackstone Water Pollution Abatement District (“the District”). The Region corrects mischaracterizations and misleading statements set forth by the District in its Reply. Since the District has not demonstrated any basis for review of the Region’s development of the aluminum effluent limitation in the District’s National Pollutant Discharge Elimination System (“NPDES”) Permit Modification, the Environmental Appeals Board should deny review of the District’s Petition.

A. The Region Established the Chronic Aluminum Effluent Limitation in the Permit Modification Necessary to Achieve State Water Quality Standards

1. The Region Appropriately Used Data Collected During Typical Low Flow Periods in Developing the Aluminum Effluent Limitation

The District enjoys no support in the record for its argument that the Region “skewed” the result of its calculations by choosing data points solely based on whether they were under or over the criterion (i.e., 87 ug/l). *See Dist. Reply* at 2. As explained in

the Statement of Basis accompanying the draft permit modification, the Region focused on data collected during typical low flow months (i.e., June through October) from 2005 through 2008 to develop the aluminum effluent limitation. *See Statement of Basis* (“SOB”) at 6. *See also Region’s Opposition* at 9-11, 13-15. These data constitute valid, relevant information for the Region to consider in evaluating the District’s reasonable potential to cause or contribute to an exceedance of water quality standards. Not only was the Region’s approach reasonable, but numerous other scenarios, including the use of *all* the aluminum effluent data collected under any flow conditions (as expressly requested by the District in its comments on the draft permit modification), support an aluminum effluent limitation of 87 ug/l to ensure that the District will not cause or contribute to an exceedance of water quality standards. *See Response to Comments* at 2; *Region’s Opposition* at 13-16, Ex. 6.

In fact, the Region’s approach of averaging aluminum effluent concentrations collected during typical low flow months afforded the District the benefit of incorporating lower effluent aluminum values into the analysis. The Region could have simply focused on the single maximum value collected during typical low flow months. *See NPDES Permit Writers’ Manual* at Chapter 6.3.2 (recommending that the permit writer focus on the maximum value or a statistically derived “worst-case” value in the development of limits).¹ The District has failed to demonstrate any clear error or abuse of discretion in the Region’s approach warranting review.

¹ The District claims that it would have been improper for EPA to use the maximum aluminum concentration or a statistically projected worst-case value, as recommended by the *Permit Writers’ Manual*, since this would involve a comparison of the results from a single day with the chronic water quality criterion, which is a four-day average criterion. *See Dist. Reply* at 6, n. 5. However, the *Permit Writers’ Manual* states that, in conducting a reasonable potential analysis, the permit writer should compare the maximum effluent concentration or worst-case value “to the applicable water quality criteria to determine whether a water quality-based effluent limit is needed.” *See Permit Writers’ Manual* at Chapter 6.3.2

2. The Region Appropriately Used the July 2007 WET Data in its Development of the Aluminum Effluent Limitation

The District failed to preserve its claim that the July 2007 WET data (with an aluminum effluent value of 344 ug/l) should have been excluded from calculations used to develop the aluminum effluent limitation. *See Dist. Reply* at 3-6. On the merits, the District fails to demonstrate that the Region's use of this data point constituted clear error or abuse of discretion warranting review.

The District never asked the Region to exclude the 344 ug/l data point in its comments on the draft permit modification. To the contrary, the District asserted that the Region should have used all data points in its calculations, including the 344 ug/l value. *See Dist. Comments* at 2-3, Ex. B. The District incorrectly asserts in its Reply that it could not have known that the Region used the 344 ug/l value until the final Permit Modification and Response to Comments issued. *See Dist. Reply* at 4. The claim is belied by the fact that the Region explicitly stated in the Statement of Basis that it used this value in developing the aluminum limitation. *See SOB* at 7, 10. The District also failed to adequately preserve its challenge to the use of the 344 ug/l value through its general assertion in comments on the draft permit modification that the Region used "incomplete and incorrect data." *See Dist. Reply* at 4. Considering that the District specifically requested in its comments that the Region use all data points collected between 2004 and 2008 (including the 344 ug/l value), *see Dist. Comments* at 2-3, Ex. B., the District cannot reasonably argue that the Region should have understood the District

(emphasis added). Water quality criteria for aquatic life protection typically include both a chronic criterion (expressed as a four-day average) and an acute criterion (expressed as a one-hour average). Contrary to the District's argument, the *Permit Writers' Manual* does not specify that the maximum effluent concentration should only be compared against the acute criterion.

to have meant the opposite. Accordingly, the District's challenge to the use of the 344 ug/l data point was not preserved and review should be denied on this basis alone.

The District's argument that the 344 ug/l value is not a representative sample of its aluminum effluent concentration also fails on the merits. *See Dist. Reply* at 3-6. The District, even in its second attempt at this argument in its Reply, has yet to provide justification for this claim. In its Petition, the District offered no explanation for the cause of the 344 ug/l value other than its vague assertion that it resulted from a plant "upset."² An exhibit appended to the Petition (the 2007 cover letter transmitting the data to the Region) offers only that "changing weather conditions" caused an aberrational discharge of total suspended solids ("TSS") from its facility. *See Dist. Pet.* at 6, Ex. C. As the Region noted in its Opposition, none of the materials submitted by the District in its Petition demonstrate any unusual weather conditions that would have led to abnormal aluminum levels in the District's discharge. *See Region's Opposition* at 19-20. Furthermore, weather changes frequently in Massachusetts, making it difficult to understand how an effluent value that allegedly stems from changing weather conditions is anomalous.

Without confronting the Region's responses, the District now tries to make its case by showing a correlation among the results of analyses for TSS and other metals on

² In its Reply, the District chides the Region for characterizing this event as an "upset" and referencing the definition of an "upset" at 40 CFR § 122.41(n). *See Dist. Reply* at 4-5. It was the District, however, not the Region, who first introduced the word "upset," which is a term of art under EPA's regulations. *See Dist. Pet.* at 6 (arguing that the 344 ug/l value "was taken during a plant upset" and, therefore, "is not representative of the normal discharge variability.") While the Region agrees that 40 CFR § 122.41(n) does not apply to water quality-based effluent limits, the District's obvious point was to draw an analogy to the "upset" provision at 40 CFR § 122.41(n), which provides an affirmative defense to excursions above technology-based effluent limitations where the permittee demonstrates the event was "an exceptional incident in which there is unintentional and temporary noncompliance ... because of factors beyond the reasonable control of the permittee." Unable to point to any "exceptional" cause of the 344 ug/l value, the District apparently now seeks to distance itself from the term.

the date the 344 ug/l aluminum sample was collected.³ Under this theory, because the effluent concentrations of TSS and various metals were elevated to varying degrees on this day, the District contends that the Region should have known that the source of these pollutants (including the 344 ug/l aluminum value) was “bulking solids in the mixed liquor” at the treatment facility. *See Dist. Reply* at 5. As a preliminary matter, if such a conclusion were so readily apparent from a review of the District’s effluent data, it is baffling why the District itself failed to timely raise this theory during the public comment period. In any event, the District again misses the mark: even if there is some correlation between TSS and metal concentrations in the District’s discharge, this does not demonstrate that the aluminum value of 344 ug/l was the result of some aberrational occurrence that rendered the data unrepresentative of the discharge. Indeed, the District nowhere explains what happened at the plant that day to trigger any problems in the mixed liquor or resultant discharge. The District simply leaves the Board to speculate as to possible causes and whether such causes could recur.

At best, the District’s argument is that the 344 ug/l value should be excluded simply because it is the highest value. Such an approach, however, runs counter to EPA guidance, which, as noted above, recommends that the permit writer use the maximum pollutant concentration or a statistically projected “worst-case” value in the development of effluent limitations. *See Permit Writers’ Manual* at Chapter 6.3.2. Indeed, had the Region focused only on the maximum pollutant concentration in its development of the

³ In an apparent effort to bolster its claim that the 344 ug/l aluminum value is an “outlier,” the District states that the TSS value collected on July 9, 2007 represents one of only two TSS violations of the maximum daily limit during the period from 2004 to 2008. *See Dist. Reply* at 5. In fact, the data show that the District violated its TSS limits at least 13 times from 2004 to 2008, though the Region acknowledges that the July 9, 2007 TSS value was the second highest value reported during this time period. *See Dist. Discharge Monitoring Reports, Monthly Reports for Wastewater Treatment Operations, 2004 – 2008*. The District’s TSS violations occurred on 10/6/07, 7/9/07, 9/19/06, 6/10/06, 6/7/06, 6/3/06, 9/16/05, 9/15/05, 9/14/05, 7/8/05, 6/17/05, 6/13/05, and 11/4/04. *See Id.*

aluminum limit (in lieu of using the average aluminum concentration in the District's effluent), the resultant aluminum limit would have been 87 ug/l regardless of whether the 344 ug/l value was included or excluded from the calculations. This is because the District's aluminum effluent concentrations exceeded 87 ug/l on more than one occasion, including during the typical period of low flow months. *See SOB* at 10; *Dist. Pet.* at Ex.

B. In the absence of significant dilution under critical stream conditions, these values alone suggest reasonable potential for the discharge to cause or contribute to an exceedance of the chronic water quality criterion for aluminum in the receiving water.

The District has failed to offer any support for its theory as to why the 344 ug/l value was not representative and should therefore have been excluded from the Region's analysis in developing the limit. Given the Region's mandate to ensure compliance with water quality standards, coupled with the District's failure to substantiate its claim that the 344 ug/l value was caused by exceptional circumstances unlikely to ever recur, the Region reasonably and appropriately used this data point in its development of the aluminum limit in the Permit Modification.

B. The Region Appropriately Applied the National Recommended Chronic Water Quality Criterion for Aluminum in the Permit Modification, Given the Absence of Any Determination that Naturally Occurring Background Concentrations of Aluminum Exceed the Criterion

1. The District Has Failed to Demonstrate that Background Aluminum Concentrations are "Naturally Occurring"

The only theory the District offered in its Petition to support that background aluminum concentrations are "naturally occurring" is that the aluminum in the Blackstone River results from acid rain coming into contact with soils. In response to the

Region's point that acid rain is caused almost entirely by human activity, the District offers this perplexing statement:

[I]f 'acid rain is caused almost entirely by human activity' as the Region states ... the chain of events or mechanisms causing acid rain and release of naturally occurring aluminum to water may or may not be due to inefficiently regulated emissions to the environment giving rise to acid rain conditions.

Dist. Reply at 7-8. To the extent the District now argues that insufficient regulation of emissions to the air from industries and other sources is the culprit, it is bewildering how such processes could be other than anthropogenic. The District has not offered a plausible theory supporting its claim that the background aluminum concentrations are naturally occurring. Review should be denied on this basis alone.

2. Arguments Based on the Kendall and Tributary Data Were not Preserved for Review and, on the Merits, Fail to Support the District's Claims

The District has provided no justification for the Board to consider the belatedly submitted Kendall Transfer Station and tributary sampling data. The District simply asserts that the data should be included in the record since "[t]he District had no prior opportunity to respond to and question the Region's positions, new materials and information raised for the first time in the Region's Response to Comments." *Dist. Reply* at 6. The District nowhere explains, however, exactly what new "positions, materials or information" the Region purportedly introduced into the record. Moreover, the Kendall data were clearly available to the District during the comment period.⁴ *See Region's Opposition* at 23. The District has failed to preserve any arguments related to these data.

⁴ As the Region noted in its Opposition, the tributary sampling data were not even generated until after the Region issued the Permit Modification. *See Region's Opposition* at 23. The District has not provided any basis for introducing this post-decisional information now.

On the merits, the data do not support the District's theory. The District nowhere confronts the Region's point that comparison of the data collected in the upper watershed with data collected at the ambient monitoring location near the District's discharge show that there must be additional sources of aluminum to the Blackstone River in the seven miles between these sampling locations. *See Region's Opposition* at 25 (noting that the average ambient aluminum concentration at the Kendall Transfer Station is 56 ug/l during typical low flow months compared with the average concentration of 99 ug/l immediately upstream from the District's discharge). The District dismisses as "immaterial" the Region's further point that the sources of aluminum in this seven-mile area are most assuredly anthropogenic (such as stormwater runoff from the highly urbanized area between the sampling locations and discharges associated with the use of aluminum in the local drinking water treatment plant). *See Dist. Reply* at 8.

Rather than confronting the Region's arguments, the District instead accuses the Region of exaggerating the distance between the sampling locations in the upper watershed and those closer to the District's facility. *See Dist. Reply* at 8 (claiming the Region inaccurately described the sampling locations as being in different watersheds). To the contrary, the Region has consistently and appropriately described the Kendall sampling location as being in the "upper watershed." *See Region's Opposition* at 22-25. The tributary sampling locations range from about 0.3 to 1.2 miles upstream from the Kendall sampling location which, in turn, is about seven miles above the District's discharge. *See Region's Opposition* at Ex. 7 (*EPA GIS Map*).

The District's reliance on the Kendall and tributary sampling data is not only untimely, but also fails to demonstrate any error in the Region's determinations warranting the Board's review.

3. As Massachusetts Has Not Made a Determination that Aluminum Concentrations are Naturally Occurring, EPA's National Recommended Criteria Apply

The District cavalierly dismisses the Region's point that Massachusetts has not made a determination that aluminum levels in the Blackstone River are naturally occurring. *See Dist. Reply* at 7 (arguing that the Region should simply make such a determination itself and direct Massachusetts to make any necessary adjustments to its standards). Such an approach would circumvent the process established under the CWA for states to make these determinations in the first instance.

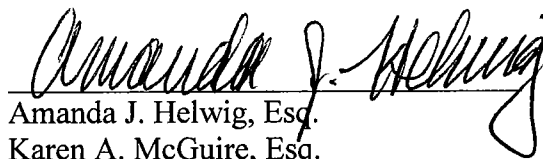
Through their water quality standards, states determine the level of protection needed to protect the designated uses of their waters. *See* 33 U.S.C. §§ 1313(a)-(c). Under the Massachusetts standards applicable here, EPA's *National Recommended Water Quality Criteria* for aluminum are the allowable receiving water concentrations for affected waters unless the Massachusetts Department of Environmental Protection ("MassDEP") determines that naturally occurring background concentrations of aluminum in the Blackstone River are higher than the national recommended criteria. 314 CMR § 4.05(5)(e). The District has not requested that MassDEP make this determination, nor has it even approached MassDEP about conducting the type of studies and analyses that would be necessary to demonstrate that background concentrations of aluminum in the Blackstone River are "naturally occurring" and exceed the national criteria. Rather, based on limited data and its theories about acid rain, the District asks

EPA to sidestep this process by simply establishing a new criterion for aluminum in the context of this permitting proceeding. The Region was fully justified in declining the District's invitation.

C. Conclusion

The District has not raised any issues in Reply warranting review. The Board should deny its Petition.

Respectfully submitted,



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