ATTACHMENT 1

PROPOSED REPLY TO REGION 1's MEMORANDUM IN OPPOSITION TO PETITION FOR REVIEW

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

In re:	)	
	)	
UPPER BLACKSTONE WATER POLLUTION ABATEMENT DISTRICT, MILLBURY, MASSACHUSETTS	)	NPDES Appeal Nos. 09-06
	)	
NPDES Permit No. MA0102369	)	

THE PERMITTEE'S PROPOSED REPLY TO REGION 1'S MEMORANDUM IN OPPOSITION TO PETITION FOR REVIEW

Upper Blackstone Water Pollution Abatement District (the "Permittee" or "District"), requests leave to reply, and provides below its proposed reply, to the U.S. Environmental Protection Agency Region 1's ("Region") Memorandum in Opposition to Petition for Review ("Opposition") of the NPDES Permit Modification regarding numeric aluminum effluent limitation and associated monitoring requirements issued to the Permittee. As set forth in its Motion for Leave to Reply, the Permittee believes a brief reply will facilitate the EPA Environmental Appeals Board's ("Board") deliberation. As a result, the Permittee requests that the Board consider the following reply:

A. The Region's acknowledged errors in its response to comments were not harmless, but instead reflect its effort to select and use only data supporting its conclusion that an aluminum effluent limit of 87 ug/L must be set.

1. Background.

In its comments on the proposed permit modification ("Modification"), the District informed the Region that its proposed chronic aluminum effluent limitation was based on incomplete and incorrect data. The District also informed the Region that ambient aluminum

levels in the river routinely exceed the EPA's current National Recommended Water Quality Criteria for aluminum that were the basis of the proposed aluminum limit. Instead of further examining the issues raised by the District - to look critically at the data used to support the draft permit and statement of basis - the Region proceeded to issue the Modification as originally proposed in its draft permit and justify its use of data values and conclusions in its response to comments ("Response to Comments" or "RTC"). The Region explained in response to the District's comments on the Region's error in use of selected data, as follows:

> . . . we targeted the data collected during the typical low flow period of June through October. We then checked the actual flow for the dates on which the WET tests were conducted during this period and used only the data collected during actual low flow of conditions. This approach excluded the use of October 2008 data, as they were not collected during low flow conditions.

RTC, p. 2.

To the contrary, the Region did not use "only the data collected during actual low flow conditions." Opposition, pp. 13-15 and n. 5. Disregarding flow, the Region chose to use data when aluminum values exceeded 87 ug/L[1], and exclude data where aluminum values were well below 87 ug/L.[2] As a result, the average values used by the Region were unnecessarily skewed. Further compounding this error, the Region used outlier data and applied inappropriate values to non-detect readings. In sum, the Region chose not to reexamine all of the data values it used as it claims.[3] Rather it ignored the District's comments and sought to justify the selective use of data, not on any scientific or rational ground, but on the ground that any errors were harmless;

---

[1] WET test date, October 31, 2005: plant effluent aluminum value: 90 ug/L; flow on day of sample: 2,110 cfs. District's Petition, Exhibit B, Table 1.

[2] WET test date, October 14, 2008: plant effluent aluminum value: 26 ug/L; flow on day of sample: 508 cfs. District's Petition, Exhibit B, Table 1.

[3] The Region summarily rejected any notion that its inclusion and exclusion of data might be flawed. In its Response to Comments, the Region states: "In the statement of basis accompanying the draft permit modification, the Region fully described its rational for including or excluding data." Response to Comments, p. 1

that regardless of the data values chosen, the resulting analysis showed discharged levels above 87 ug/L and therefore justifies the permit Modification.

In its Petition for Review of the Modification ("Petition"), the District again noted that the Region's repeated practice of selecting data values to obtain an outcome results in an error that, if corrected, shows that the District's effluent will dilute ambient river aluminum levels, rather than cause or contribute to a violation of water quality standards.

Now, for the first time in its Opposition, the Region acknowledges these errors. The Region acknowledges that it did not cross-check Whole Effluent Toxicity ("WET") data from the typical flow period with actual flows in the receiving waters on the dates the tests were conducted. Opposition, p. 15. In admitting its error, however, the Region does not revisit, as the District raised the need throughout, *all* of its data values to assure that it used valid, relevant information. Rather, the Region seeks to justify its analysis by claiming harmless error. As set out below, it is not harmless error.

2. The Region has erred by using an outlier data value.

The Region provides the Board with five different data value scenarios to suggest that its analysis was thorough and contained only harmless error. Opposition, Table 1, Ex. 6. Not surprisingly, each of the five scenarios selected by the Region provides an average effluent value above 87 ug/L based on an outlier data value from a July 9, 2007 sampling event showing a single high value of 344 ug/L total aluminum. As explained below, this outlier data is an anomaly and should have been excluded.

Table 1, attached, shows the five different scenarios presented by the Region, and the results that would have been obtained had the Region appropriately excluded the single high

value of 344 ug/L for total aluminum. As Table 1 demonstrates, when the 344 ug/L total aluminum data point is eliminated, none of the 5 scenarios exceed the criterion of 87 ug/L.

Nevertheless, the Region provides no information, argument, or additional scenario in which the 344 ug/L total aluminum is excluded from its analysis. Instead, the Region seeks to defend the use of this data value on superficial grounds. First, the Region says the Board cannot consider rejecting the 344 ug/L value because the District did not raise this argument during the comment period on the original NPDES permit. The District, however, commented that the Region's use of incomplete and incorrect data resulted in erroneous conclusions, which should have caused the Region to look critically at all its data points. Petitioner's February 27, 2009 Comment letter, page 2. While the District provided some examples of the Region's errors in its comments, it could not anticipate that the Region would ignore its comment altogether and issue the Modification without critical review of all data values used. Moreover, the District had no opportunity to see the Region's specific misuse of the 344 ug/l high data value until the Modification and Response to Comments issued.[4]

Second, the Region says that the District has not demonstrated how the single high value of 344 ug/L for total aluminum, which the Region calls an "upset," qualifies as an "exceptional incident" under the definition of an "upset" in 40 CFR §122.41(n). Opposition, p. 19. That provision, however, has no bearing here as it applies only to technology-based limits. None of the District's limits are technology-based; they are all water quality-based. Moreover, the

[4] In addition, the Board has recognized that issues closely related to comments made by a petitioner may be raised on appeal, even if not specifically raised in the comments. *In Re: EcoElectrica, L.P.*, 7 E.A.D. 56, 64 n.9 (EAB 1997). Such issues may be considered as long as the permit issuer has had an opportunity to address the concerns in its response to comments. *Id.* Here, the District specifically challenged in comments that Region's data was incomplete and erroneous, which is closely related to the incomplete and erroneous 344 ug/L value that the District raises in this petition. Also, the Region responded to the District's comment on data completeness and accuracy with explanations addressing other values that factored into the average effluent calculation. Thus, the Region cannot now claim that the District's comment did not include issues related to the data used for average effluent calculations, when it responded on those grounds to the District's comment.

Region's description of this high value as an "upset" mischaracterizes the District's use of the term in its Petition. The District was simply attempting to bring to the Board's attention that conditions associated with plant operations on the day of the sample resulted in abnormal effluent quality, and therefore the Region's inclusion of the value in its analysis of *average concentrations* was inappropriate.

Third, the Region contends that the District has failed to provide an explanation for why there was an increased aluminum level in the District's discharge on July 9, 2007. A careful review of plant operating data by the Region would have shown that operations on that day were abnormal. For example, the Region's own Integrated Compliance Information System ("ICIS") database shows that the District's effluent total suspended solids ("TSS") on that day (52 mg/l) was the second highest daily value reported during the entire period of 2004 through 2008. Also, the July 9, 2007 TSS level constitutes one of only two violations of the maximum daily TSS limit in that entire five-year period. The Region well knows that mixed liquor contains elevated TSS and contains concentrated metals. Any ICIS examination by the Region would have noted that the bulking mixed liquor solids in final settling tanks on July 9, 2007 resulted in elevated effluent TSS, which therefore resulted in elevated metals, including aluminum. Indeed, copper and zinc concentrations in the plant effluent on July 9, 2007 (31 ug/L and 63 ug/L, respectively) exceeded the maximum monthly values shown in ICIS (19 ug/L and 59 ug/L, respectively) in the same manner as TSS and aluminum. Thus, an explanation for the single high aluminum concentration was available to the Region in its own records showing the anomalous nature of the 344 ug/L data point which the Region chose to ignore.

In short, the Region was informed by the District's comments and knew, or should have known by information available in its own records, that the 344 ug/L aluminum high value was

an anomaly that was not representative of the District's average conditions. The data point should have been excluded from the Region's data averages for aluminum effluent.[5] Upon excluding this data point, and making proper adjustments for non-detects, none of the District's average aluminum values exceeded 87 ug/L. *See* Table 1 attached.

The Region's inappropriate selection of data values is not harmless error. The Region disregarded information demonstrating that a data point is not representative, which led to significantly skewed averages. As a result, the Board should grant the District's Petition for review and establish a briefing schedule.

B. The data on ambient levels of naturally occurring aluminum in the river should not be ignored.

To support its position that upstream ambient aluminum levels are naturally occurring, the District provided with its Petition data collected from upstream and nearby locations. Petition, pp. 11 - 13. The Region inappropriately seeks to have the Board disregard this data on the grounds that it was not included with the District's comments. The Region's position must be rejected. As noted in its Petition, the District provided this information to respond to the Region's Response to Comments. The 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. Under such circumstances, it is appropriate for the Board to consider this information. *See In re: Dominion Energy Brayton Point, L.L.C.,* NPDES Appeal No. 07-01, at 15-17 (EAB Sept. 27, 2007) (Order Denying Review). *Accord In re: Metcalf*

---

[5] The Region characterizes its approach to use on average data as "providing the District with the benefit of incorporating lower aluminum effluent levels" in its analysis, noting that the *U.S. EPA NPDES Permit Writers' Manual* recommends that the permit writer use the maximum concentration of a pollutant to determine if a discharge has "reasonable potential" to exceed a water quality criterion. Opposition, p. 10 n. 3. The Region's position, however, ignores that as a chronic water quality criteria, it is a **four-day average** that is not to exceed 87 ug/l, not a single day sampling event. Thus, it is inappropriate to take analytical results from single day samples and compare those values to a four day average criterion. In contrast, there is little doubt that the District's effluent – even including the 344 ug/l value – has no potential to exceed the acute water quality criterion for aluminum, which is 750 ug/l. Ambient Water Quality Criteria for Aluminum, 1988, EPA 440/5-86-008, p. 10.

Energy Ctr., PSD Appeal Nos. 01-07 & 01-08, at 22 n. 13 (EAB Aug. 10, 2001) (Order Denying Review). As a result, the Board should consider this information.

Upon considering this information, and following grant of review, the Board may remand the Modification to the Region to consider whether ambient levels of aluminum are indeed naturally incurring such that EPA's *National Recommended Water Quality Criteria* for aluminum would not apply. While the Region notes that the Massachusetts Department of Environmental Protection ("MassDEP") has not made a similar determination, this gives no reason for the Region to ignore data and information demonstrating that the affected waters are impacted by naturally occurring aluminum. If upon review the Region confirms the presence of natural occurring aluminum in the river, the Region should so inform the MassDEP so that it may make a determination and apply the state standard in an appropriate fashion.

The Region further contends that the District's Petition should be rejected on the grounds that there are potential anthropogenic sources of aluminum in the river. The Region first contends that any aluminum in the river resulting from acid rain contact with soils or rock is not "naturally occurring." However, the Region does not dispute that aluminum is "naturally occurring" in soil and rock. Rainfall, absent anthropogenic effects, is naturally acidic. *(See* http://www.epa.gov/acidrain/measure/index.html). Because the local geology of the region lacks the cations necessary to neutralize naturally acidic rainfall (District's Petition, p. 11 n. 5, citing Monette and McCormick), natural runoff in the region is acidic which, apart from human influenced acid rain, serves to leach aluminum out of native rocks and soils. Moreover, if "acid rain is caused almost entirely by human activity" as the Region states (Opposition, p. 22), the chain of events or mechanisms causing acid rain and the release of naturally occurring aluminum to waters may or may not be due to inefficiently regulated emissions to the environment giving

rise to acid rain conditions. These releases are not anthropogenic, therefore, the Region's argument must be rejected.

The Region also suggests that the observed values for elevated aluminum are not within the same watershed as the District's discharge. Opposition, p. 22. This is incorrect. The Region's own GIS map (Exhibit 7, Certified Administrative Record) shows samples taken from the Kendall Transfer Station are within the Blackstone River Watershed. While for other sample locations this may be true, but the distance from the Kendall tributary sample locations to the Blackstone River Watershed is quite small – ranging from about 0.3 miles to 1.2 miles – and the information from the USGS studies and the information presented in the Trout Unlimited submittals show that both watersheds are in the same geologic region with respect to aluminum.

The Region next contends that several likely anthropogenic sources of aluminum intervene between the natural upstream aluminum levels and point of the District's discharge. This is not material to the District's position; if there are naturally occurring levels of aluminum in excess of the criteria, then the naturally occurring levels become the criteria.

In light of the above, properly evaluated aluminum levels in the District's average dry weather effluent demonstrate that aluminum effluent on average is below the national criteria level of 87 ug/L , and below normally occurring levels in the Blackstone river; it therefore dilutes river aluminum levels and tends to alleviate contamination rather than causing or contributing to it.

For these reasons, and those set forth in the District's Petition, the Board should grant the District's Petition.

Respectfully submitted,
UPPER BLACKSTONE WATER
POLLUTION ABATEMENT DISTRICT
By its attorneys,

BOWDITCH & DEWEY, LLP
Robert D. Cox, Jr., Esquire
Norman E. Bartlett, II, Esquire
311 Main Street
P.O. Box 15156
Worcester, MA 01615-0156
(508) 926-3409
(508) 929-3012 Fax

BARNES & THORNBURG LLP
Fredric P. Andes, Esq.
Erika K. Powers, Esq.
Suite 4400
One N. Wacker Drive
Chicago, Illinois 60606-2809
(312) 214-8310
(312) 759-5646 Fax

BARNES & THORNBURG LLP
Nathan A. Stokes, Esq.
750 17th St. NW, Suite 900
Washington, DC 20006-4675
(202) 371-6376
(202) 289-1330 Fax

Dated: July 24, 2009

TABLE 1
The District's Average Effluent Aluminum Values under Various Calculation Scenarios (ug/l)

Value Assigned to Non Detects	A		B		C		D		E	
	Including 344	Excluding 344	Including 344	Excluding 344	Including 344	Excluding 344	Including 344	Excluding 344	Including 344	Excluding 344
100	117	80	113	87	111	72	104	74	96	85
50	103	63	98	70	90	47	87	55	90	79
Blank	124	70	118	81	120	45	106	58	95	83

Scenarios A through E are the scenarios as presented by The Region in their opposition, Exhibit 6, Table 1