RESPONSE TO PUBLIC COMMENTS

On January 30, 2009, the United States Environmental Protection Agency - Region 1 (Region) public noticed a draft permit modification of the National Pollutant Discharge Elimination System (NPDES) permit issued to the Upper Blackstone Water Pollution Abatement District (UBWPAD) on August 22, 2008 (final permit). The draft permit modification proposes to add a numeric effluent limitation and associated monitoring for aluminum to the conditions included in the final permit. The comment period ended on February 28th, 2009, and comments were received from the law firm of Bowditch & Dewey on behalf of the UBWPAD as well as from the National Oceanic and Atmospheric Administration, National Marine Fisheries Service (see Attachment A (comment letters) for the full text of the comments). Following a review of the comments received, EPA has made a final decision to issue the permit modification authorizing this discharge. In accordance with the provisions of 40 CFR § 124.17, this document briefly describes and responds to the comments received on the draft permit modification. By letter to the Massachusetts Department of Environmental Protection (MassDEP) dated January 28, 2009, the Region requested MassDEP's certification for the proposed permit modification pursuant to Section 401(a) of the Clean Water Act (CWA) and 40 CFR § 124.53. By letter dated April 13, 2009, MassDEP waived state certification on the modification pursuant Section 401(a)(1) of the CWA and 40 CFR § 124.53(a).

A copy of the final permit modification may be obtained by calling or writing either David Pincumbe or Meridith Timony, United States Environmental Protection Agency, One Congress Street, Suite 1100 (CMP), Boston, Massachusetts 02114-2023; Telephone: (617) 918-1533. Copies of the final permit modification and the response to comments may also be obtained from the EPA Region I website at http://www.epa.gov/region1/npdes/index.html.

The following is the Region's response to the comments received on the draft permit modification:

A. Comments received from Robert D. Cox, Jr., Bowditch & Dewey, LLP, Legal Counsel, Upper Blackstone Water Pollution Abatement District, dated February 27, 2009.

Comment #1. The Region uses incomplete and incorrect data, and reaches incorrect conclusions.

Response #1. The commenter states that EPA should have used all available whole effluent toxicity ("WET") data from the years 2004 to 2008 in its analysis. In the statement of basis accompanying the draft permit modification, the Region fully described its rationale for including or excluding data. Because Massachusetts water quality standards require water quality criteria to be met even during severe hydrological

conditions, *i.e.*, periods of critical low flow when the volume of the receiving water is able to provide relatively little dilution, we focused on that WET data that was collected during low flow conditions. In Massachusetts, NPDES permit limits for discharges to rivers and streams must be calculated based on the "7Q10," or "the lowest mean flow for seven consecutive days to be expected once in ten years." *See* 314 C.M.R.§ 4.03(3). When analyzing the reasonable potential to exceed an ambient criterion value under 7Q10 flow conditions, 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 conditions. This approach excluded the use of the October 2008 data, as they were not collected during low flow conditions. Additionally, as we mentioned in the statement of basis, the July 2006 data were not available to EPA. Furthermore, we did not use the 2004 data because we determined that evaluating four years of data (2005 through 2008) was sufficient for establishing that there is a reasonable potential that the chronic criterion could be exceeded, and for setting the aluminum limit.

The commenter also questions EPA's assumption of a value equal to the detection limit for two WET results that were below the detection limit (i.e., reported as non-detect). We adopted a reasonably conservative approach given our mandate to ensure that discharges meet state water quality standards. However, even if we had excluded the results that were below the detection limit from our data base or assumed half the detection limit (as the commenter suggests), our conclusions would have been the same. Specifically, the upstream receiving water average concentration calculated in the statement of basis was 114 µg/l. The upstream receiving water average concentration when non-detects are excluded is 120 µg/l, and if non-detects were included with a value of one half the detection limit, the average value would be 100 µg/l. Similarly, the average concentration of aluminum detected in the wastewater treatment plant's effluent that was used in the calculations presented in the Fact Sheet is 127 µg/l. If non-detects are excluded, the average concentration is 124 µg/l, and if the non-detects are included and assigned a value equal to one half of the detection limit, the average value is 103 µg/l. Since the upstream concentration and the effluent concentration both exceed the applicable chronic criterion (87 µg/l) under any of these averaging methods, there is clearly reasonable potential for the discharge to cause or contribute to a violation of water quality standards.

Furthermore, even if we had used <u>all</u> of the available data between 2004 and 2008 (including data collected during high flow events, as the commenter suggests), average aluminum concentrations in both the receiving water and the effluent still exceed the chronic criterion. *See* Comments at Table 1. Accordingly, even undertaking the analysis as the commenter requests, we would have concluded that there is a reasonable potential for effluent discharges of aluminum to cause or contribute to an exceedance of the applicable water quality criterion.

The commenter next suggests that there is a "direct correlation" between elevated ambient aluminum levels and UBWPAD's effluent values for aluminum and then offers a

theory as to why the ambient conditions are high and why they should be considered naturally occurring. The commenter suggests that effluent levels are a function of ambient levels without explanation beyond the presentation of a graph showing treatment plant and receiving water aluminum data. *See* Comments at Figure 1. As a preliminary matter, the graph does not demonstrate a ***direct*** correlation between elevated ambient aluminum levels and the District's effluent values for aluminum. Moreover, we also do not see any demonstration in the graph (or elsewhere in the comments) that the aluminum levels are naturally occurring. The presentation does not factor in, or even acknowledge the multitude of industrial and commercial indirect dischargers to the wastewater system and the addition of aluminum by the City of Worcester, UBWPAD's largest member community, as part of its drinking water treatment process. Similarly, given the highly urbanized nature of the watershed above the discharge, including numerous industrial and commercial sites with storm water runoff and some with direct wastewater discharges to the river, including the City of Worcester discharging aluminum to the receiving water as part of the water supply treatment process, the commenter has not made a sufficient case that the ambient levels are naturally occurring.

Comment #2. The EPA National Recommended Water Quality Criteria for aluminum may not be appropriate to apply to the District's discharge.

Response #2. The commenter references alternative approaches for establishing an effluent limitation (such as the development of site specific criteria discussed in EPA's National Recommended Water Quality Criteria at footnote L or the adoption of revisions to state standards for aluminum as occurred in West Virginia), as well as studies of aluminum salts in water (Canada Gazette), to support its argument that application of the national chronic criterion is too stringent in setting the aluminum effluent limitation in this permit modification. However, in the absence of site-specific criteria for the Blackstone River or the development and adoption of statewide criteria that are different from the national criteria, we are compelled to establish limits that ensure compliance with all existing applicable criteria.

Even if there is a clear correlation between elevated ambient aluminum levels and aluminum levels in UBWPAD's effluent, it is not clear how this would allow us to justify the lack of a water quality based limit when there is reasonable potential for the discharge to cause or contribute to a violation of existing water quality criterion. The aluminum limit was set specifically to meet the requirement in the Massachusetts water quality standards that "[a]ll surface waters shall be free from pollutants in concentrations or combinations that are toxic to humans, aquatic life or wildlife." 314 C.M.R. § 4.05(e). Massachusetts implements that requirement by specifying that, "[f]or pollutants not otherwise listed in 314 CMR § 4.00, the *National Recommended Water Quality Criteria: 2002, EPA 822R-02-047, November 2002* published by EPA pursuant to Section 304(a) of the Federal Water Pollution Control Act, are the allowable receiving water concentrations for the affected waters, unless the Department ...establishes a site specific criterion[.]" *Id.* In those cases where the state does develop site-specific criteria, Massachusetts regulations require that such an effort be documented and subject to full

inter-governmental coordination and public participation. *See* 314 C.M.R. § 4.05(5)(e)(4). In addition, federal law requires EPA's review and approval of Massachusetts' development and adoption of site-specific criteria. *See* 40 C.F.R. § 131.11(b)(1)(ii) and 40 C.F.R.§ 131.21. Aluminum has not been "otherwise listed" in 314 CMR 4.00 and no site-specific criteria for the Blackstone River have been developed for this pollutant. In the absence of site-specific criteria, the Region appropriately based the aluminum limit on the relevant criterion in the *National Recommended Water Quality Criteria*. If UBWPAD wants to pursue a water effects ratio as suggested in the criteria document (*see* footnote L), or to encourage Massachusetts to develop new statewide aluminum criteria, then we suggest that the District begin a dialogue with the Massachusetts Department of Environmental Protection on this issue. We are happy to provide any guidance and assistance that we can if the Commonwealth determines it appropriate to pursue either of these approaches.

However, we cannot wait for such process to commence to set an effluent limitation for aluminum in light of our obligation under the CWA to ensure attainment of state water quality standards. The Region's decision to move forward with an effluent limit for aluminum at this time is consistent with the CWA and EPA's regulations, which provide for the reissuance of permits on a regular basis so that permit terms are revisited and reviewed rather than left unexamined and unchanged for long periods of time. *See* 33 USC §§ 1342(a)(3) and (b)(1)(B), and 40 C.F.R. § 122.46(a). This regular and periodic review supports the CWA's goal of restoring and maintaining the chemical, physical and biological integrity of the Nation's waters.

On August 22, 2008, EPA reissued the District's NPDES permit with monitoring requirements, but no effluent limitation, for aluminum. In its petition for review of the final permit, Trout Unlimited asserted that an effluent limitation for aluminum should have been established in the final permit due to the existence of effluent data which suggest that the concentrations of aluminum in the effluent are at levels known to be detrimental to the fish populations in the Blackstone River. As stated in the statement of basis accompanying the draft permit modification, we reevaluated the available effluent data and other pertinent information in light of the petition filed by Trout Unlimited, from which we concluded that there is reasonable potential for the District's discharge to cause or contribute to an excursion above the applicable state water quality standards, and that the incorporation of a numeric effluent limitation for aluminum in the permit is warranted.

Comment #3. The Region's approach to effluent limits is counterproductive.

Response #3. While we concur with the importance of good communication between the Region, states, permittees and other parties interested in the NPDES permitting process, we do not anticipate that the recent discussions between EPA and the Massachusetts Coalition for Water Resources Stewardship are going to lead to any near term regulatory revisions that would support the calculation of less stringent aluminum limits. Furthermore, the commenter does not explain how general discussions about increased

communication between EPA, permittees, and other stakeholders would allow EPA to deviate from our statutory and regulatory authority. Consequently, since we are required to reissue permits that incorporate limits consistent with the Clean Water Act and its implementing regulations in their current form, the final permit modification retains the aluminum limit proposed in the draft.

Discussions between EPA and dischargers related to the development of the general permit for filter backwash discharges from drinking water treatment facilities are focused on how to ensure compliance with the criteria and not on modifying the criteria. These facilities typically involve intermittent discharges (as opposed to UBWPAD's continuous discharge) and often involve discharges to reservoirs where determining mixing zones and associated dilution levels are significantly more complex than discharges to a riverine system.

B. Comment received from Mary A. Colligan, Assistant Regional Administrator for Protected Resources, National Oceanic and Atmospheric Administration, National Marine Fisheries Service Northeast Region, dated January 30, 2009.

Comment #1. This is in response to Public Notice MA-012-09 dated January 30, 2009 regarding a proposed National Pollutant Discharge Elimination System (NPDES) permit modification for the Upper Blackstone Water Pollution Abatement District located in Millbury, Massachusetts. The receiving water for the discharge is the Blackstone River. These comments are offered by the Protected Resources Division of NOAA's National Marine Fisheries Service (NMFS).

While several species of listed whales and sea turtles occur seasonally in waters off the Massachusetts coast and populations of the federally endangered shortnose sturgeon occur in the Connecticut and Merrimack Rivers, no listed species are known to occur in the Blackstone River. As such, no further coordination with NMFS PRD is necessary.

Response #1. EPA acknowledges the comment.

Attachment A

Comments Submitted on the Draft Permit Modification of the Upper Blackstone Water Pollution Abatement District's NPDES Permit (NPDES Permit No. MA0102369)