

## **RESPONSE TO COMMENTS**

### **NPDES PERMIT No. MA0100315 Adams Wastewater Treatment Plant**

On April 6, 2005, the U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (DEP) released for public notice and comment a draft National Pollutant Discharge Elimination System (NPDES) permit developed pursuant to an application from the Town of Adams, Massachusetts for the reissuance of a permit to discharge wastewater to the designated receiving water, the Hoosic River. The public comment period for this draft permit expired on May 6, 2005. Comments were received from Mr. Joseph Fijal, Superintendent, of the Adams WWTP in a letter dated April 22, 2005, and Ms. Cindy Delpapa, Steam Ecologist, of the MA Riverways Program in a letter dated May 4, 2005.

After a review of the comments received, EPA has made a final decision to issue the permit authorizing this discharge. The following are the comments and EPA's response to those comments, including changes that have been made to the final permit from the draft as a result of the comments. The comment letters are part of the administrative record and are paraphrased herein. A copy of the final permit may be obtained by writing or by calling Mark Malone, EPA NPDES Permits Program (CMP), 1 Congress Street, Suite 1100, Boston, MA 02114-2023; telephone: (617) 918-1619.

Comments received from Mr. Joseph Fijal, Superintendent, Adams WWTP:

#### *Comment 1*

*The address of the applicant is incorrect. The correct address is 8 Park Street.*

#### Response 1

The correct address is noted and is part of the administrative record.

#### *Comment 2*

*We request that the aluminum sampling frequency be reduced from twice per month to once per month if alum is not being used during the treatment process. Page 9 of the Fact Sheet indicates twice per month monitoring is required when Phosphorus removal with alum is practiced. The POTW has not added alum in the past and it is possible that other coagulants could be used in lieu of alum for phosphorus removal.*

#### Response 2

We acknowledge that the Adams WWTP is not presently adding alum for phosphorus removal and may have other available alternatives should it become necessary. However,

the Fact Sheet did note that the monthly reporting indicated that the calculated aluminum limit would still have been occasionally exceeded. Consequently, it had been determined that monthly reporting was inadequate to properly assess the presence of aluminum in the discharge of the Adams WWTP during low flow and bimonthly sampling was included during that time in the draft permit. The draft permit required only monthly aluminum sampling for the period of November to May. However, as discussed below in Response 7, the flow limits in this final permit now maintain the same dilution factor all year long. Consequently, the justification for bimonthly aluminum sampling during the low flow period is also applicable to the remainder of the year. Therefore, the aluminum reporting frequency of twice per month is now required all year.

*Comment 3*

*The Town requests that the phosphorus sampling period be reduced to June – October to be consistent with the aluminum and flow limits.*

Response 3

The year-round phosphorus sampling was included in the draft permit based on the potential for winter discharges to accumulate in downstream impoundments and support plant activity during the warmer months. Factors affecting this availability in the receiving water may include impoundments and low stream flows. Considering the characteristics of the Hoosic River and the concern about phosphorus, a limit of 1 mg/l from May through October and reporting phosphorus levels for the remainder of the year are justified.

*Comment 4*

*The Town requests that the tests for Fecal Coliform and Total Residual Chlorine be reduced by two weeks to April through October 15 which reflects the Massachusetts's General Law disinfection/sampling period.*

Response 4

The draft permit incorrectly required year-round fecal coliform sampling. The final permit corrects this and has a seasonal limit for fecal coliform for April 1 – October 31 as in the current permit. The fecal coliform limit is designed to achieve water quality standards for a Class B receiving water and is protective of contact uses through the end of October.

*Comment 5*

*The Town believes that the Infiltration/Inflow control plan requirements of Part 1.D.4 are excessive and unnecessary. The Town has a separate sewer system, no bypass to the Hoosic River, no I/I related violations and the average flows to the WWTP have decreased steadily over the last several years.*

## Response 5

The lack of bypasses and I/I related violations is due more to the available capacity and declining user base than the non-existence of I/I. An examination of the data indicates spikes in the maximum daily flow which may be indicative of some I/I. While the existence of I/I may not be readily apparent, a preventative maintenance program must be developed and implemented and I/I must be controlled to prevent sanitary sewer overflows (SSOs) and permit violations.

The Massachusetts Department of Environmental Protection requires that the operation of a sewer system in conjunction with the wastewater treatment facility be in such a manner that the proper operation of the treatment facility is maintained and that the discharges into the treatment facility and from the facility do not cause violations of the water quality standards of the receiving water. These requirements are based upon the regulations found at 314 CMR 12.00: “*Operation and Maintenance and Pretreatment Standards for Wastewater Treatment Works and Indirect Dischargers*”. The requirement found in Part 1.D.3. “*Infiltration/Inflow Control Plan*” of the NPDES permit is focused upon reducing extraneous flow to the wastewater treatment facility which could result in a failure to meet the limitations and conditions of the permit. The control plan which is being instituted in all municipal POTW NPDES permits in the Commonwealth upon permit reissuance is aimed at building on existing infiltration/inflow control programs and assuring to the maximum extent possible and practicable that the facility is able to meet its NPDES permit requirements and that the proper operation of the wastewater treatment facility is maintained. Consequently, the requirement for the Infiltration/Inflow Control Plan will remain in the Town’s NPDES final permit. The Department will work with the Town to assure that an efficient program is developed and implemented and that it will not be duplicative to work ongoing and will be conducted in a cost-effective manner. In addition, if no significant I/I exists, this permit requirement should not be a burden.

## Comment 6

*Regarding Part 1.E.1. b. on pretreatment, it should be brought to EPA’s attention that a local limits study and report was submitted to EPA in May, 2003 to which EPA has not yet responded. Based on that study 3 technical-based Industrial Pretreatment Discharge permits were issued in September, 2003 and reissued in December, 2004. Since the data in this report is so recent and EPA has not responded to that report, another study and technical evaluation should not be required. No NPDES violations have occurred since July, 2002 when a violation occurred due to a discharge from a company that is now closed and no longer discharges to the WWTP.*

## Response 6

EPA acknowledges the submission of the Town's Local Limit report. Given that, EPA will remove the requirement language under PART 1.E. PRETREATMENT 1.b. and will also be responding to the local limit report under separate cover.

Comments received from Cindy Delpapa, Stream Ecologist, MA Riverways Programs

### *Comment 7*

*The dilution factor calculation used a seasonal low flow of 3.5 mgd. The draft permit used this dilution factor to calculate certain parameter limits that would apply from November to May; a period of time outside the seasonal low flow period. While the rationale that low flows occur during the summer months is understandable, there are exceptions. At the Adams gage in 2001, the November flow was lower than the August and September flows and the May flow was less than the September flow in 2003. This indicates that a 7Q10 low flow could occur outside of the summer season. For this reason a dilution factor of 3.17 based on the 5.1 mgd flow for November through May should be applied to parameters during that period. As an example, the chronic and acute limits for Total Residual Chlorine would be 0.035 mg/l and 0.06 mg/l, respectively. This approach should also be used for the copper and aluminum limits.*

## Response 7

The 7Q10 low flow is a streamflow statistic that is derived from 7-day low flow data for several years of daily streamflow records. For each period of time, the lowest average 7-day low flow for 7 consecutive days is computed. The 7Q10 is the discharge at the 10-year recurrence interval obtained from a curve of these 7-day low flows. Therefore, the 7Q10 is not a function of the variations in the monthly mean flows as those cited by the commenter. However, in order to address the commenter's underlying concern, a 7Q10 low flow was calculated for the period of November through May and adjusted for the point of discharge. That 7Q10 flow (22.4 cfs) and the permitted flow of 5.1 mgd (7.9 cfs) are used to calculate a dilution factor as follows:

$$(22.4 \text{ cfs} + 7.9 \text{ cfs}) / 7.9 \text{ cfs} = 3.84$$

This dilution factor is, in fact, less than the dilution factor (4.18) used for the low flow summer period and would result in more stringent limits by about 10% during the higher stream flow months. This occurs because the increase (46%) in the permitted flow is greater than the increase (31%) in the 7Q10 flow. Rather than providing slightly more stringent limits from November to May for flow-dependent parameters and because it is very unlikely that the Adams WWTP will approach the 5.1 mgd, the flow limit for this period has been reduced to achieve the same dilution as in the summer. That calculation is as follows:

$$(22.4 \text{ cfs} + \text{WWTP flow}) / \text{WWTP flow} = 4.18 \text{ (summer flow dilution factor)}$$
$$22.4 \text{ cfs} + \text{WWTP flow} = 4.18 * \text{WWTP flow}$$
$$22.4 \text{ cfs} = 3.18 \text{ WWTP}$$
$$7.04 \text{ cfs} = \text{WWTP} = 4.6 \text{ mgd}$$

In addition, because of the seasonal flow limits in effect at this facility, the permitted flow limit of 4.6 mgd will be a monthly average and not an annual average limit.

The November through May BOD and TSS mass limits in the draft permit were based upon the 5.1 mgd flow and must be recalculated to reflect the revised 4.6 mgd flow limit.

$$\text{Average Monthly } 4.6 \text{ mgd} * 30 \text{ mg/l} * 8.34 = 1151 \text{ lbs/day}$$
$$\text{Average Weekly } 4.6 \text{ mgd} * 45 \text{ mg/l} * 8.34 = 1726 \text{ lbs/day}$$

#### *Comment 8*

*Taking into account the discussion in Comment 7 above, a seasonal adjustment to the Total Residual Chlorine, Copper, and Aluminum limits would have to be made. For example, a dilution factor of 3.17 ( $17.13 \text{ cfs} + 7.89 \text{ cfs}$ )  $\div$   $7.89 \text{ cfs} = 3.17$ ) based upon the 5.1 mgd flow would yield a TRC chronic limit of 0.035 mg/l and an acute limit of 0.06 mg/l for April and May.*

*Also, the calculation for the acute aluminum permit limit is not shown in the Fact Sheet.*

#### Response 8

As discussed above in Response 7, maintaining the same dilution factor all year long by reducing the permitted flow during the higher flow period alleviates the need for seasonal adjustments to permit limits.

The acute aluminum calculation is  $4.18 * 750 \text{ ug/l} = 3135 \text{ ug/l} = 3.1 \text{ mg/l}$ .

#### *Comment 9*

*The WET testing for Chronic NOEC performed in November, February, and May should have a limit of 32% based upon the inverse of the dilution factor calculated above in Comment 7.*

#### Response 9

As explained in the Response 8 above, maintaining the same dilution factor all year long by reducing the permitted flow during the higher flow period alleviates the need for seasonal adjustments to permit limits.

*Comment 10*

*The calculation in the Fact Sheet for the dilution factor indicates a dilution factor of 4.16 but a dilution factor of 4.18 is used in the remaining calculations for permit limits. A correction to dilution factor should be made for consistency.*

Response 10

Acknowledging that the difference in dilution factors is negligible, the Fact Sheet explains that existing dilution factor of 4.18 is used in the remaining calculations in lieu of the newly calculated dilution factor of 4.16 to provide consistency from permit to permit.

*Comment 11*

*The Fact Sheet indicates the permittee received comments on its revised sewer use ordinance in 1999 but has yet to respond. Some action should be considered by EPA if the permittee remains unresponsive on this matter.*

Response 11

The comment is noted.

*Comment 12*

*The draft permit calls for annual averaging for the period November through May to determine monthly average flows but maintains an actual monthly average for June through October. The annual averaging in this case confounds the idea of a monthly average and the concept of using the monthly average flow limitation in determining the conservative case dilution ratio. With five months of a lower flow limit the monthly averages using 12 months of averages can result in a diminishing of peak flow months. High flows due to I/I which occurs usually in the spring months can be offset by the low flows of the summer months, thereby masking a potential problem. While the I/I requirements in the permit do work to address this issue, there are no specific removals or timetables. The I/I program is not enhanced by the annual averaging of monthly flows.*

Response 12

Because of the seasonal flow limits as discussed above in Response 7, the flow limits in the final permit are monthly average flows and not an annual average limit.

*Comment 13*

*The composite sampling could be improved by requiring hourly sampling to be proportional to flow.*

Response 13

Part II Section E. Other Conditions of the permit defines Composite Sample as a sample “...collected at equal intervals during a 24-hour period...and combined proportional to flow...” This definition addresses that concern.