RESPONSE TO PUBLIC COMMENTS
Erving POTW #2 Wastewater Treatment Plant Permit
National Pollutant Discharge Elimination System (NPDES), No. MA0101052

The U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) are issuing a final National Pollutant Discharge Elimination System (NPDES) permit for POTW #2 in Erving, Massachusetts. The Final Permit authorizes the Town of Erving to discharge wastewater to the Millers River in accordance with the requirements of the Federal Clean Water Act (CWA), 33 U.S.C. §§ 1251 *et. seq.*, and the Massachusetts Clean Waters Act, M.G.L. Ch. 21, §26-53.

The Draft Permit public comment period began August 12, 2008, and ended on September 10, 2008. The following submitted comments:

- Andrea F. Donlon, River Steward, Connecticut River Watershed Council, September 9, 2008 Letter
- Benjamin J. Thompson, Chief Operator, Erving Center, September 8, 2008 Letter

The comment letters received by EPA are part of the administrative record. To obtain a copy of these comments and/or the Final Permit, please write or call Doug Corb, EPA Massachusetts Municipal NPDES Permits Program (CMP), 1 Congress Street, Suite 1100, Boston, MA 02114-2023; telephone: (617) 918-1565.

This document presents EPA's responses to public comments on the Draft Permit, in accordance with the provisions of 40 C.F.R. 124.17. This document also describes any changes in the Final Permit that have been made as a result of those comments. A summary of the changes made in the Final Permit is listed below.

- BOD and TSS limits shall be average monthly and a maximum daily, rather than average monthly and average weekly as found in the draft permit

- An additional line on the limits page is now properly labeled for reporting of the actual monthly average flow.

- The permit limits for pH now read 6.5 to 8.3 in the final permit, as found in the current permit.

- EPA and MassDEP will add the following language to Section D8 of the final NPDES permit:

> "EPA conducted a pretreatment audit in August 2006 and all deficiencies were identified in a March 2007 letter. However, the POTW has not responded to those comments. Therefore, within 30 days of the effective date of this permit, the POTW must submit a response to EPA's March 2007 Pretreatment Audit Findings letter."

- The final permit reflects the correct monitoring frequency for fecal coliform and E-coli of 2/week

Andrea F. Donlon, M.S., River Steward, Connecticut River Watershed Council (CRWC).

All three facilities discharge to the Millers River, one of the major tributaries to the Connecticut River. CRWC is particularly interested in improving water quality in the Connecticut River watershed so that its rivers can support existing primary and secondary contact uses, even during wet weather. Our comments are below.

Comment #1: The protection of existing uses is required under 40 CFR 131.12(a)(1). Below is our understanding of existing uses on the Millers River in the vicinity of the outfalls.

- Between Erving Center and Millers Falls, the Millers River is occasionally used by skilled whitewater paddlers who are willing to brave rough conditions and the occasional broken dam and scattered mill remnants. In lower flow conditions, this section of river is also used by fly fishermen.

- Downstream, at the confluence of the Millers and Connecticut Rivers, there is a sandy beach that is frequently used for swimming. The Connecticut River at this point is heavily used for boating and paddling.

Response: EPA recognizes that boating and primary contact recreation in and on the water are existing uses for this segment of the Millers River. The final permit has new *E. coli* bacteria limits which EPA has found to be a better indicator of the presence of human disease causing pathogens. The MassDEP has issued a Clean Water Act Section 401 certification that the NPDES permit as written will be protective of all Massachusetts water quality standards for both designated and existing uses.

Comment #2: The proposed maximum daily limit for *E. coli* bacteria in all three permits is 409 cfu/100 ml. This limit is not consistent with the Massachusetts Surface Water Quality Standards, 314 CMR 4.00, which states that no single sample shall exceed 235 colonies/100 mL. Nothing in the Fact Sheets explains the rationale for the maximum of 409 colonies/100mL.

Response: The MassDEP revised its surface water criteria for bacteria in the revisions to the Massachusetts Surface Water Quality Standards

(SWQS) 314 CMR 4.00 (December 29, 2006). EPA approved the changes to the bacteria criteria on September 19, 2007.

For fresh waters, the SWQS criteria were revised from fecal coliform bacteria to either enterococci (for bathing beaches) or *E. coli*. The updated SWQS changes the criteria from the previous standard which was, for Class B waters, a monthly geometric mean for fecal coliform bacteria of 200 cfu/100 ml and no greater than 10% of the samples in a month were to exceed 400 cfu/100 ml. These criteria were based upon qualitative information and best professional judgment (Isaac, 2007).

The new criteria for enterococci are a monthly geometric mean of 33 cfu/100 ml and single sample maximum (SSM) of 61 cfu/100ml. These are designed for bathing beach areas. The new criteria for E. coli (used by MassDEP for non-beach inland waters) are 126 cfu/100 ml geometric mean and a SSM of 235 cfu/100 ml. These criteria are based upon statistical distribution (Isaac, 2007).

The bacteria criteria are based on the EPA criteria originally published in 1986 and more recently included in the EPA bacteria ruling found in the Federal Register (November 16, 2004: "Water Quality Standards for Coastal and Great Lakes Recreation Waters: Final Rule"). The *E. coli* SSM values are based on 4 classes of exposure with the upper 75% confidence level being the most stringent. MassDEP views the use of the 90% upper confidence level (lightly used full body contact recreation) of 409 cfu/100 ml as appropriate for setting effluent bacteria levels in NPDES permits. MassDEP views this as in keeping with how the fecal coliform criteria were used with the 10% exceedance allowance. EPA explained that if NPDES permits limits are set at the 75% upper confidence level for SSM it would, in fact, be more stringent than intended by the criteria and "could impart a level of protection much more stringent than intended by the 1986 bacteria criteria document." (EPA-823-F-06-013, September 2006, Water Quality Standards for Coastal Recreation Waters: Using Single Sample Maximum Values in State Water Quality Standards).

The bacteria limits for this permit are thus set using the water quality standard based geometric mean value in the SWQS and setting the daily maximum at the 90% upper confidence level. The permit is more stringent in that it does not allow 10% of the effluent samples to be above 409 cfu/100 ml which is how the surface water criteria are applied in the water quality standards.

Comment #3: Something seems amiss in the draft permit table. For BOD and TSS, what used to be maximum daily limits are now in a column called average weekly. There are no maximum daily limits for BOD and TSS

in the draft permit. Reading the Fact Sheet on pages 11 and 12 makes it sound like this is a mistake. Please re-instate the maximum daily limits.

Response: This is a typographical error. The fact sheet makes in clear that BOD and TSS limits shall be average monthly and a maximum daily. The fact Sheet explains that because the POTW waste is almost all from the paper mill, the permit limits are similar to those found in a direct discharge paper mill permit. Please see the discussion beginning on page 8 of the Fact Sheet. The error is corrected in the final permit.

Comment #4: The permit table has a blank line under flow with no explanation given. We wonder if EPA intended to require a report of an actual monthly average flow (not a rolling average). CRWC thinks reporting an actual average would be a good idea.

Response: This is a typographical error. Permit footnote number 1 makes in clear that the permittee shall report the annual average, the monthly average, and the maximum daily flow. As the comments suggests, the additional line on the limits page is to allow reporting of the actual monthly average flow. This is consistent with all recently issued Massachusetts POTW permits. The error is corrected in the final permit.

Comment #5: The existing permit for this facility required the permittee to report a maximum daily temperature of effluent discharge from this facility. The draft permit has no such requirement. The Fact Sheet does not explain why the requirement has been dropped. This facility discharges into a section of the Millers River that the Massachusetts Division of Fisheries and Wildlife thinks should be considered a seasonal cold water fishery for salmon outmigration (see Fact Sheet page 6). The sensitivity of these fish to warmer temperatures and to prolonged elevated temperatures is well known. Removing the temperature monitoring requirement is backsliding and the monitoring requirement should remain in the permit.

Response: Backsliding only applies to limits. The current permit has temperature monitoring requirements, and not a limit. Temperature data has been collected for 5 years. EPA and MassDEP feel there is currently ample temperature data prior to any water quality determination that this segment of the Millers River is impaired due to excessive heat from point source discharges. The most recent Massachusetts Integrated List of waters makes no mention of impairment for temperature in the Millers River. If this segment of the Millers River is reclassified as a cold water fishery, EPA and MassDEP will look at the need for effluent temperature limits.

Comment #6: We do not understand the rationale for calculating the dilution factor in this permit. For most permits, the dilution factor is calculated as follows: DF = [(7Q10) + (Plant Q)]/(Plant Q). The draft permit Fact Sheet shows a calculation of DF = [(7Q10) + 1]/(Plant Q). What is the reason for using 1 rather than the Plant Q in the numerator?

Response: The following dilution formula, [(7Q10) + (Plant Q)]/(Plant Q) is used when the river gage is above the treatment plant. The total flow of the river at the point where the POTW discharges will be the (7Q10) + (Plant Q). In this case the river gauge (7Q10) is below the point where the effluent enters the river and thus the effluent volume is already included in the gauged flow. The dilution formula is adjusted accordingly.

Comment #7: Any water withdrawals used by Erving Paper from nearby wells or the Millers River should have been noted in the Fact Sheet and factored into the 7Q10 by subtracting the withdrawal amount from the calculation of [7Q10 + (Plant Q)].

Response: The Athol Water Department, Erving Paper Mills, and the Orange Water Department, collectively withdrew 3.46 mgd in calendar year 2002. All withdrawals were above the river gage and thus are already accounted for in the river gage data.

Comment #8: The permit sets different BOD and TSS limits depending on season, because winter time removal efficiency was found to be much lower in 1979 (see fact sheet, page 9). Has nothing changed in the treatment process since 1979? Interestingly, in looking at the data provided, the plant flow rate shows a slight downward trend, but the BOD and TSS loadings have generally increased. What is the reason for this, and can anything be done? In May 2005 and May 2006 there were BOD violations. TSS violations happened in March 2005 and September 2 005.

Response: BOD and TSS concentrations will fluctuate with mill production and the grade of paper produced. The POTW receives up to one million gallons of septage each month. The quantity of septage received will also have an impact on effluent BOD and TSS loads. EPA and MassDEP regularly monitor the POTW for effluent violations and inspect the facility for proper operation and maintenance. EPA is not aware of any recent significant changes to the facility.

Comment #9: The permit should have concentration limits set for BOD and TSS, in addition to loading limits. Approximately 95% of the flow from this facility comes from the Erving Paper Mill, but yet the facility itself is a POTW.

Response: EPA and MassDEP refer to POTWs which receive the majority of their flow from one industry as "captured POTWs". Erving #2 is an extreme case receiving all but 5% of the influent from the paper mill. The Code of Federal Regulations at 40 CFR §133.103(b), includes a provision for captured POTW NPDES permits that allow them to be written much as though the industry were a direct discharger.

The Effluent Limitation Guidelines that apply to the Erving Paper Mill are written of for BOD and TSS loading, not concentration. The permit is appropriately written the same way.

Comment #10: Part 1A1 of the draft permit (the table) lists the pH limits as 6.5 to 8.3. Part 1A2(b) lists the pH limits as 6.0 to 8.3. The permit should be internally consistent, and we support a limit of 6.5 to 8.3.

Response: There is a typographical error in the draft permit. The permit limits for pH in the final permit are 6.5 to 8.3 as found in the current permit.

Comment #11: There have been numerous total copper violations between 2005 and 2008. According to ECHO, it looks like the last pretreatment audit by EPA was in 2006 and deficiencies were observed. Has anything done about pretreatment deficiencies and/or copper violations?

Response: EPA performed an audit in 2006 and there were deficiencies with respect to the pretreatment program. EPA identified those issues in a report to the POTW, however, the POTW has yet to respond. Therefore, EPA will add the following language to Section D8 of the NPDES permit to address this issue:

> "EPA conducted a pretreatment audit in August 2006 and all deficiencies were identified in a March 2007 letter. However, the POTW has not responded to those comments. Therefore, within 30 days of the effective date of the permit, the POTW must submit a response to EPA's March 2007 Pretreatment Audit Findings letter."

Comment #12: The Fact Sheet should note any in-tact dams downstream from the facility, as this would impact the phosphorus limit rationale.

Response: All the downstream dams on the Millers River were washed out during the flood of 1938. The first intact dam is in Turners Falls on the Connecticut River.

Benjamin J. Thompson, Chief Operator Erving Center WWTP

Comment #1: Mass Limits are listed as average weekly and should be listed as maximum daily.

Response: Please see response to Andrea F. Donlon's Question Number 3.

Comment #2: Fecal coliform and E-coli measurement frequency should be 2/week.

Response: The final permit reflects the correct monitoring frequency of 2/week.

Comment #3: Total copper is a concentration limit for average monthly and maximum daily. Is reporting mass- lbs/day also required?

Response: Reporting of the average monthly and maximum daily total copper in pounds per day is required in both the draft and final permit.

Comment #4: Analysis of total nitrogen, total nitrite+nitrate, TKN, and total ammonia are required to monitor nitrogen discharge at a frequency of 1/month. The plant is nutrient deficient with no significant influent concentration of nitrogen; effluent concentrations are the result of nutrient addition to the secondary system to sustain biological treatment. The nutrient addition-reporting requirement (footnote 7.) combined with 4/year analysis of the effluent should be sufficient.

Response: Monthly monitoring for the nitrogen species accomplishes two things. It aids in revising and updating the Long Island Sound Nitrogen TMDL (the Millers River is tributary to the Connecticut River that drains nitrogen laden waters to the Long Island Sound). The monitoring requirements also help to optimize nitrogen addition to the treatment process. Any excess added nitrogen will be revealed through the monthly monitoring.

Comment #5: Solids, total suspended Mo. Avg. 7/31/2007 was 65,584 lbs. (665,584 lbs. was listed on the fact sheet.)

Response: The error is noted herein. The correct TSS value for 7/31/2007 was 65,584 lbs.

Comment #6: Part F. Special Condition

The inclusion of this Special Condition does not make sense given that this treatment plant is nutrient deficient and nitrogen must be added to the mixed liquor to ensure healthy biomass and effective treatment. The language of the Special Condition seems geared towards a conventional municipal treatment plant, whereas approximately 94% of the flow to Erving POTW #2 is from Erving Paper Mill, a secondary fiber tissue mill. Given the recent spikes in the cost of fertilizer that is used to add nitrogen, there is a strong economic incentive to minimize the use of this input to the process. We suggest that the language in Part F be modified to reflect the nature of the treatment process at this plant and the ongoing need to ADD nitrogen to make the process work.

Response: The following language has been removed from the permit Special Condition Section:

> The methods to be evaluated include, but are not limited to, operational changes designed to enhance nitrification (seasonal and year round), incorporation of anoxic zones, septage receiving policies and procedures, and side stream management.

The above mentioned language applies to conventional POTWs which must treat and reduce a surplus of total nitrogen. EPA and MassDEP agree that controlling the addition of nitrogen (source reduction or optimization), rather than additional treatment is the correct approach to effluent nitrogen reductions.