

## **RESPONSE TO PUBLIC COMMENTS**

From October 30, 2006 to November 28, 2006, the United States Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) solicited Public Comments on a draft NPDES permit, developed pursuant to an application from the Town of Great Barrington, Massachusetts for the reissuance of its permit to discharge treated sanitary wastewater from the Great Barrington Wastewater Treatment Facility to the designated receiving water, the Housatonic River.

After a review of the comments received, EPA has made the final decision to issue the final permit authorizing the discharge. The following response to comments describes any changes that have been made to the permit from the draft and describes and responds to the comments received on the draft permit. A copy of the final permit may be obtained by calling or writing Meridith Decelle, United States Environmental Protection Agency, One Congress St., Suite 1100 (CMP), Boston, Massachusetts, 02114-2023; Telephone: (617) 918-1533.

### **A. Comments received from Nathaniel W. Karns, Executive Director, Berkshire Regional Planning Commission, dated November 28, 2006**

#### **Comment A.1.**

*Berkshire Regional Planning Commission (BRPC) supports the additional requirements in the draft permit that extend the period of time for the phosphorus effluent limit and phosphorus monitoring program from seasonal to year-round. We believe this extension is prudent, and we encourage year-round phosphorus effluent limits and monitoring in future permits throughout Berkshire County.*

#### **Response A.1.**

EPA acknowledges the comment.

### **B. Comments received from Cindy Delpapa, Stream Ecologist, Commonwealth of Massachusetts Riverways Program, dated November 28, 2006.**

#### **Comment B.1.**

*The draft permit has an adjusted dilution factor based on a recalculation of the 7Q10 for this river reach. This is an important adjustment to be made especially for a river whose flow is manipulated regularly for hydropower and recreation. This flow alteration*

*associated with upstream hydro facilities and recreational impoundments on the main stem and tributaries can lead to more frequent low flows than anticipated if this were a free-flowing river and potentially increase the incidents of extremely low flows where the slightly more conservative limitations will help protect water quality.*

**Response B.1.**

EPA acknowledges the comment.

**Comment B.2.**

*The draft permit has added testing requirements for Escherichia coli bacteria. Given the migration of the State's water quality standards toward using E. coli for a fresh water indicator bacteria, this reporting requirement will provide valuable information for future permit reviews.*

**Response B.2.**

EPA acknowledges the comment.

**Comment B.3.**

*The fact sheet accompanying the draft permit and the PCS online database provide insight into the efficiency and potential issues for this facility. The addition of infiltration and inflow remediation requirements in the draft permit appears appropriate for this system. The average monthly flow data for the past several years displays patterns suggesting I/I is a factor for this plant, (e.g. significantly higher spring influent flows) and work to remove extraneous flows will improve efficiencies at the facility and reduce the number and magnitude of elevated flows.*

**Response B.3.**

EPA acknowledges the comment.

**Comment B.4.**

*Information available in the fact sheet and online provides disquieting information concerning the whole effluent toxicity testing performed on the effluent. The two failures to meet acute toxicity-LC<sub>50</sub> test requirements in 2004 amounts to a 50% failure rate for that year. The chronic toxicity results reached 100% only once in the past two years, (it has been our observation that domestic treatment facilities frequently achieve 100 % C-NOEC regardless of their permit limitation) though fortunately the plant has had only one recent chronic toxicity test below 8.5%. The facility appears to be struggling with a toxicity issue and this is a concern.*

**Response B.4.**

Results from WET tests conducted between January 2000 and December 2004 that were submitted by the permittee with their NPDES permit application, as well as WET test data available on the PCS online database (from March 2005 to December 2006) show four violations of the acute limits out of 27 tests (see Appendix A). Chronic toxicity test results from the same reporting period show two violations of the chronic limit out of 27 tests. The Town should investigate the cause of the apparent toxicity. A review of test results indicating any future violations may lead to an enforcement action requiring a toxic identification evaluation/toxicity reduction evaluation (TIE/TRE).

**Comment B.5.**

*The WET testing is currently performed on only one species. It is not clear if daphnia has been selected as the test species because it has been shown to be the most sensitive species based on prior WET testing or if it has been assumed to be the most sensitive. Has any testing been undertaken on alternative species to verify Ceriodaphnia dubia is the most sensitive test species especially in a situation where about half of the flow is from an industrial source? Given the occasional toxicity issues experienced at the facility, has any toxic identification been undertaken? Is the testing performed on the industrial influent frequent enough to determine if this entity might be a major contributor or unlikely to be impacting the toxicity of the effluent? It may be prudent, should the facility continue to have toxicity issues, to undertake additional toxicity tests whenever there is a failure of one or both of the WET tests and any additional appropriate follow up such as toxicity identification and reduction.*

**Response B.5.**

Prior to the reissuance of the Great Barrington WWTP's current NPDES permit, MassDEP recommended that the number of test organisms used in WET tests be reduced to only *C. dubia* (1998 Housatonic River Basin Water Quality Assessment Report, MassDEP). The final decision to reduce the number of species used in WET testing from two (*Pimephales promelas* and *Ceriodaphnia dubia*) to one (*C. dubia*) was made after a review of WET test results revealed that *C. dubia* was in fact the more sensitive species.

As a condition of their NPDES permit, the Great Barrington POTW is required to implement an industrial pretreatment program (IPP) and to develop and enforce specific effluent limits (local limits) for the industrial user that discharges to the POTW (Fox River Paper Company). The pretreatment program allows the POTW to identify and evaluate the pollutant contributions to the POTW from the significant industrial user (SIU), and if necessary, develop and enforce specific limits (local limits) for the industrial user to ensure that they (the POTW) can continuously comply with the effluent limits set in their NPDES permit. In addition, the permittee is required to annually submit a report to the EPA detailing all pretreatment-related activities (inspections, monitoring, initiation of enforcement actions, etc.) conducted during the past year. This

allows EPA to gauge the effectiveness of the POTW's pretreatment program, providing an additional layer of protection to ensure that the industrial user does not contribute pollutant loadings to the POTW which would interfere with the operation of the works and/or cause them to be out of compliance with the terms and conditions of their NPDES permit.

Please see Response B.4. regarding effluent toxicity.

**Comment B.6.**

*The draft permit is placing a year round limit on phosphorus of 1.0 mg/l. The year round limitation is an important component of protecting the receiving water and downstream resources and we are pleased to see this included in the draft permit. Further protection could be gained by instituting the recognized technically achievable concentration of 0.2 mg/l as at least the summer limitation. The fact sheet provides calculations to show the 1.0 mg/l limitation, at the current dilution factor, should produce in stream concentrations below the Gold Book criteria but not the Ecoregional criteria. The estimate of in stream concentration for a 1.0 mg/l effluent concentration is predicated on a background concentration of zero. This is unlikely, given the land use and discharges-both point and non-point sources into the Housatonic River, that the background concentration in the receiving water is close to zero thus the 1.0 mg/l limitation may well fail to produce in stream concentrations matching the Gold Book recommendations since background receiving water concentration of just 0.016 mg/l would result in instream levels above 0.1 mg/l.*

**Response B.6.**

The Housatonic River is not listed as being impaired for nutrients, and the 1997/1998 MassDEP water quality assessment report does not note any nutrient-related impacts in the receiving water segment. The calculations provided in the fact sheet show that the 1.0 mg/l phosphorus limit proposed in the draft permit will ensure that the discharge from the treatment plant will not cause or contribute to an exceedance of the Gold Book-recommended water quality criteria of 0.1 mg/l. The proposed year-round 1.0 mg/l phosphorus limit was developed primarily to protect downstream impoundments (specifically Lake Lillinoah, located approximately 45 miles south of the MA/CT border) from further phosphorus loadings. This limit will support Connecticut's eutrophication abatement strategy for the Housatonic River impoundments.

If new water quality information should show the need for a more stringent effluent limitation, the permit could be reopened and modified to include such a limit.

**Comment B.7.**

*The draft permit contains no limitations on the ammonia level in the effluent. It appears there have been incidences of ammonia over 10 mg/l with several instances of 18 mg/l. Since the dilution factor for this facility's discharge is less than 12, there may be some potential for depressed dissolved oxygen levels in the receiving water associated with ammonia conversion. There have been several recent permits where facilities with comparable dilution factors have had ammonia limitations, (seasonal 1.0 mg/l monthly average) imposed. Is there potential for an exceedance of the chronic or acute criteria given the past ammonia levels in the effluent? Might monitoring ammonia more frequently than once per month provide more insight into the range of ammonia concentrations being discharged and the potential for receiving water impacts? Was the ammonia concentration of the WET test water recorded to see if elevated ammonia concentrations correlated with poor toxicity test results?*

**Response B. 7.**

The ammonia concentrations in the effluent of the Great Barrington WWTP are typical of POTWs that do not nitrify and do not signify a potential issue with low dissolved oxygen in the receiving water. The concentrations would also not cause or contribute to violations of ammonia toxicity criteria.

The ammonia data collected as part of WET tests conducted between January 2000 and December 2004 that was submitted with the POTW's NPDES permit application do not indicate any direct correlation between ammonia concentration and acute and/or chronic toxicity (see Appendix A). However, we have increased the monitoring frequency for ammonia to once per week in the final permit, which will serve to better characterize the variability of ammonia in the effluent.

**Comment B.8.**

*The fact sheet explained aspects of the history of this facility and mentioned previous concerns with color problems associated with this discharge. The draft permit prohibits the discharge of objectionable levels of discolored water but there is no mechanism for monitoring and reporting visual impacts. We would like to advocate for some level of instream observations to verify the aesthetics of the receiving water.*

**Response B.8.**

As mentioned in the fact sheet, the language regarding the presence of color in the WWTP was incorporated into the current permit to ensure compliance with the water quality standard for color. At the time the 2000 permit was issued, the WWTP was under an Administrative Order from MassDEP to address a color problem in the effluent caused by the discharge from the Fox River Paper Company (formerly Rising Paper Company).

The following information was obtained during a recent conversation between MassDEP and the Great Barrington WWTP:

- The origin of the color was determined to be from paper manufacturing and dieing at the Fox River Paper Company.
- The company has since installed a dissolved air flotation (DAF) unit and adds sodium hypochlorite followed by sodium bisulfite to control color.
- Incorporation of this treatment system has significantly reduced the color problem to the point where any occasional issues with color that arise are the result of an operational problem with the DAF unit at the paper company. Further, staff of the Great Barrington WWTP conducts visual inspections of the effluent plume to determine if there is any in-stream coloration. MassDEP has informed the WWTP that if the color is “non-detectable” at the bend in the river approximately 500 ft. downstream of the discharge, then they are in compliance with the color condition in their NPDES permit. No problems have been noted by the staff of the WWTP.
- The Administrative Consent Order has been closed.

#### **Additional Changes Made to the Final Permit**

- A sentence has been added to Footnote 6, requiring monthly *E. coli* samples to be collected concurrently with one of the fecal coliform samples. The *E. coli* sampling has been reduced from two per week in the draft permit to one per month in the final permit to be consistent with other municipal NPDES permits recently issued.
- Footnote 14, which stated that “consistent with Section B.1. of Part II of the Permit, the permittee shall properly operate and maintain phosphorus removal facilities in order to obtain the lowest attainable discharge of phosphorus”, has been removed from the final permit since proper operation is already required by section B.1. of Part II of the Permit.
- Part I.A.1.i. has been added to the final permit to include the following requirement: “If the average annual flow in any calendar year exceeds 80 percent of the facility’s design flow, the permittee shall submit a report to MassDEP by March 31<sup>st</sup> of the following calendar year describing their plans for further flow increases and describing how they will maintain compliance with the flow limit and all other effluent limitations and conditions.”
- The following language has been added to Part I.B. of the final permit:

“Notification of SSOs to Mass DEP shall be made on its SSO Reporting Form (which includes MassDEP Regional Office telephone numbers). The reporting form and instructions for its completion may be found on-line at:

<http://www.mass.gov/dep/water/approvals/surffms.htm#sso>

**Note:**

A section describing the requirements of the Endangered Species Act (ESA) and how these requirements are being met through the NPDES permit (if applicable) should have been included in the fact sheet. Because fact sheets are not modified once the draft permit has gone to public notice, corrections to the fact sheet are noted in the Response to Comments document which becomes part of the administrative record. An Endangered Species Act section should have been included in the fact sheet to read as follows:

“Under the Endangered Species Act (ESA), federal agencies are required to ensure that actions they conduct, authorize, or fund are not likely to jeopardize the continued existence of any federally-listed threatened or endangered species or result in the adverse modification of designated critical habitat. EPA has determined that no endangered or threatened species or critical habitat are in proximity to the point where the authorized discharge reaches the receiving water and that consultation with the United States Fish and Wildlife Service (USFWS) is not required.”

**Appendix A**

**WET Test Results From January 2000-March 2006 (Including the Ammonia Concentration of the Effluent for Tests Conducted Between January 2000 and December-2004))**

<b>Date</b>	<b>LC50</b>	<b>C-NOEC</b>	<b>Ammonia (mg/l)</b>
1/00	>100%	>100%	3.93
3/00	>100%	100%	1.75
6/00	>100%	100%	0.92
9/00	>100%	100%	11.00
12/00	>100%	100%	4.40
3/01	>100%	100%	1.10
6/01	>100%	100%	3.40
9/01	>100%	100%	0.48
12/01	8.8%	6.25%	6.60
3/02	100%	100%	7.2
6/02	100%	100%	4.2
9/02	100%	25%	2.8
12/02	>100%	100%	0.72
3/03	>100%	50%	5.9
6/03	>100%	100%	0.17
9/03	>100%	12.5%	10
10/03	35%	N/A	----

**Appendix A**

**WET Test Results From January 2000-March 2006 (Including Ammonia Concentration of the Effluent for Tests Conducted Between January 2000 and December 2004)**

<b>Date</b>	<b>LC50</b>	<b>C-NOEC</b>	<b>Ammonia (mg/l)</b>
12/03	>100%	80%	0.93
3/04	89%	25%	8.7
6/04	72%	25%	0.18
9/04	>100%	50%	0.65
12/04	>100%	100%	0.88
3/05	>100%	<6.25%	----
6/05	>100%	50%	----
9/05	>100%	12.5%	----
12/05	>100%	25%	----
3/06	>100%	25%	----

Highlighted fields indicate violation of limit

Note: Jan. 2000-Dec. 2004 data submitted by the permittee with their NPDES permit application. March 2005-March 2006 data extracted from the PCS online database.