RESPONSE TO PUBLIC COMMENTS
Northfield Wastewater Treatment Plant
National Pollutant Discharge Elimination System (NPDES), No. MA0100200

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 the Northfield Wastewater Treatment Plant in Northfield, Massachusetts. The Final Permit authorizes the Town of Northfield to discharge wastewater to Connecticut 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, §26-35.

The Draft Permit public comment period began March 25, 2008, and ended on April 23, 2008. The Connecticut River Watershed Council (CRWC) submitted the only comments.

The comment letter received by EPA is 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.

The Connecticut River Watershed Council

The Connecticut River, an American Heritage River, is a regional resource that merits the highest level of protection. The Connecticut River, from the Vermont/New Hampshire state line to the Route 10 Bridge, is listed as an impaired water body due to priority organics, pathogens, flow alterations, and other habitat alterations. CRWC is particularly interested in improving water quality in the Connecticut River so that it 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 Connecticut River in the vicinity of the outfall.

Approximately 1.5 miles upstream of the outfall is the state-owned Pauchaug boat launch. The section gets much motor boat use during the year, despite the problems associated with high water fluctuations at this ramp from the pumped storage facility.

Northfield Mount Hermon School has a boathouse and a dock on the Connecticut River 2-3 miles downstream of outfall 001. The boys and girls crew teams practice and compete on the river in the spring and fall. More information is online at http://www.nmhschool.org/athletics/crew/.

Approximately 3.5 miles downstream of the outfall is the Munns Ferry camping area, owned and operated by FirstLight Power as part of the Northfield Mountain Pumped Storage power license. This camping area is accessible only by boat.

Captain Kidd Island is located approximately 4.5 miles downstream of the outfall. This island is owned by FirstLight Power, but leased to the Franklin County Boat Club for boat launchings and camping. Seven miles downstream of the outfall is FirstLight Power's Riverview Recreation Area, which is where their cruise boat the Quinnetucket operates, and where there is a boat dock and riverside picnicking. Just downstream of this location is a piece of riverfront owned by the Commonwealth of Massachusetts which is a common swimming area.

Farmers in Northfield pump Connecticut River water for irrigation purposes.

Residents who own property along the Connecticut River in this section launch boats and swim in the river from their land.

Response: Clearly, primary contact recreation is both a designated and an existing use in this segment of the Connecticut River. Both the draft and final permit have new *E. coli* bacteria limits which are a better indicator of human disease causing pathogens, than the current fecal coliform bacteria. The new bacteria requirements will be more protective for contact recreation. The MassDEP has certified that the permit is protective all the Massachusetts Water Quality Standards.

Comment #2: This section of the river also contains fish and wildlife habitat. Migratory fish such as Atlantic salmon and American shad move upstream with moderate success beyond the fish ladders at Turners Falls to the fish ladders at the Vernon dam. Several state-endangered dragonfly species are present in the river and on the river's banks in this area. Several islands have bald eagle's nests.

Response: EPA biologists routinely hold coordination meetings with the US Fish and Wildlife Service and NOAA Fisheries. EPA has invited comments from NOAA Fisheries concerning the Atlantic salmon essential fish habitat (EFH). The permit is written to be protective of the most sensitive species including dragon fly nymphs and shad. The Bald Eagle was delisted as a threatened species on June 28, 2007, and thrives in the Connecticut River Valley.

The critical low flow dilution factor is calculated to be 2721 to 1. The discharge is treated residential sanitary wastewater with no known industrial component. The extremely high dilution factor provides a good margin of safety against any effects from the discharge.

Comment #3: The Fact Sheet failed to include any discharge data for the site, and failed to include a locus map of the outfall. Including these details is customary in EPA's NPDES permit Fact Sheets, and they are very helpful for the reviewing public to see (especially when EPA is making a claim that the facility does not contribute to water quality impairments in this section of the river due to pathogens). I requested a copy of the data, and you sent me only one year's worth of data; Fact Sheets typically include two years of data. This information was never posted online for other reviewers to see.

Response: CRWC is correct in pointing out that discharge monitoring report (DMR) data and locus maps are regular attachments to fact sheets. EPA erred in not posting the attachments with the fact sheet on our website. The locus map and DMR data (1 year) were sent to CRWC while EPA sought to locate the missing attachments. EPA is converting from the Permit Compliance System (PCS) to the Integrated Compliance Information System (ICIS) data base. Soon DMR and other NPDES related data will be more readily available to the public.

Comment #4: The Fact Sheet on page 10 notes that the pH limits are carried forward from the current permit, and that they are in line with Massachusetts Water Quality Standards. The current permit requires the effluent to fall within a range of 6.5 and 8.3. The draft permit, however, does not carry forward the pH limits from the current permit -- the pH is lowered to 6.0. We recommend that the permit be changed to comply with state water quality standards. pH is not a permit parameter that is based on a dilution ratio (as chlorine is), so the high dilution factor of the river is not a good enough justification.

With a river like the Connecticut, just about every pollutant could be added and diluted away. pH is a log-based number, so a small change in number can make a big impact in a water body. Changing the pH limits is not consistent with anti-backsliding provisions in the Clean Water Act.

Response: The change in the effluent pH limits allows for the reduction in the use and storage of the caustic chemical sodium carbonate (also known as soda ash), Na_2CO_3 by the permittee. Soda ash is added to the effluent to raise the pH. The pH standard is for the receiving water and not necessarily the effluent, however, standard practice for POTW permits has been to require that the pH match the receiving water classification. In some instances, EPA has allowed a pH range of 6.0-8.3 SU where there is sufficient dilution, which is commensurate with the EPA secondary treatment requirement range for pH, 6.0 - 9.0 SU. See 40 C.F.R. §133.102.

Comment #5: The current permit requires Whole Effluent Toxicity (WET) testing twice yearly. The draft permit requires WET testing only once per year. CRWC opposes this change. A look at the Envirofacts database indicates the facility had a WET test of 37 in May 2004. In August 2004, the facility failed to submit WET test results. This facility has therefore had problems with compliance within the last 3-4 years. The WET test is kind of a "catch-all" for making sure surface waters are free from pollutants in concentrations or combinations that are toxic to humans, aquatic life, or wildlife. This NPDES permit requires testing for only a handful of parameters, and the single test that makes up for that is the WET test. In order to have a better sense of ecological impacts of permitted discharges, WET testing must happen more than once a year.

Response: Footnote 7 of the May 13, 2002 permit states that: *After submitting **one year** and a **minimum** of two consecutive sets of WET test results, all of which demonstrate compliance with the WET permit limits, the permittee may request a reduction in the WET testing requirements…* During the current reissuance process, the permittee did request such a reduction.

The most recent 6 WET reports all have LC_{50} values of ≥ 100%.

Month of WET Test	**LC_{50}**
August 2005	100%
May 2006	100%
August 2006	100%
May 2007	100%
August 2007	100%
May 2008	100%

As stated previously (response #3), the extremely high dilution factor provides a good margin of safety against any effects from the discharge. Low frequency WET testing (1 or 2 per year) is looking primarily for ongoing toxicity, rather than brief episodic toxicity which is generally found through high frequency testing. The reduction from 2 WET tests per 365 days to 1 WET test per 365 days will not significantly reduce the statistical likelihood of capturing either long term or episodic toxicity.

Comment #6: The Fact Sheet lacks an Endangered Species Section. A federally endangered mussel, the dwarf wedge mussel, is present in the Ashuelot River, a tributary that runs into the Connecticut River approximately 6 miles upstream of the outfall. There may have been mussels in other small tributaries in the Northfield area, but only remnant populations remain because of main stem degradation. Rehabilitating this species should consider making sure the main stem of the river is conducive to expanding into other nearby tributaries. Also, there are several bald eagle nests in this stretch of the Connecticut River. At the very least, EPA should have recognized these species and consulted with the appropriate resource agencies.

Response: EPA maintains an ongoing dialogue with both the US Fish and Wildlife Service and the National Marine Fisheries Service. The omission of the Endangered Species Section of the fact sheet does not indicate a lack of concern for all species in the Connecticut River and its tributaries. EPA is currently reissuing NPDES permits throughout this watershed. EPA biologists have gathered the best information available for species of concern in the watershed and their sensitivities. Far from acting in a vacuum, EPA embraces the concerns of the CRWC, NMFS, and the USF&W, and has written a permit protective of the most sensitive species.

Comment #7: We are glad that EPA and MassDEP are giving advance warning to this wastewater treatment facility that they will need to think of ways to reduce nitrogen. We are supportive of nitrogen sampling requirements in this draft permit, as this appears to be a new requirement.

Response: Nitrogen reaching Long Island Sound is promoting excess benthic algal growth which in turn has led to low dissolved oxygen (hypoxia) in portions of the Sound. New York and the New England States are committed to producing a total maximum daily load (TMDL) model leading to appropriate measures that will reverse the hypoxia in the Sound. This is a dynamic process that will affect all discharges to the Connecticut River and its tributaries.