

**RESPONSE TO COMMENTS - DATED JANUARY 12, 2005**  
**REISSUANCE OF NPDES PERMIT NO. NH0100901**  
**CONCORD HALL STREET WASTEWATER TREATMENT FACILITY**  
**CONCORD, NEW HAMPSHIRE**

The U.S. Environmental Protection Agency (EPA-New England) and the New Hampshire Department of Environmental Services, Water Division (NHDES-WD) solicited public comments from October 22 through November 20, 2004, on the draft National Pollutant Discharge Elimination System (NPDES) permit to be reissued to the City of Concord for its waste water treatment facility located at 125 Hall Street, Concord, New Hampshire. This permit is for one outfall that discharges treated domestic and industrial wastewater into the Merrimack River.

EPA-New England received one set of written comments during the public-notice (comment) period. The comments were from Technical Assistance for Pollution Prevention, Inc., dated November 19, 2004. Below is a list of the comments received and EPA-New England's responses to those comments, including any corrections made to the public-noticed permit as a result of those comments.

These six pages of responses and associated comments are complementary to the Fact Sheet and Draft Permit. For the reader to fully understand them, he or she should be familiar with the draft permit, the associated Fact Sheet, applicable federal National Pollutant Discharge Elimination System (NPDES) permit regulations and the State of New Hampshire's Water Quality Statutes, Administrative Rules and Surface Water Quality Regulations.

The effective date of this permit has been set at April 1, 2005, which is a little over 60 days from the anticipated date of issuance. The Agency's general rule for NPDES Permits with comments is to make them effective 60 days following the permit's effective date.

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**COMMENT NO. 1.**

Add total recoverable arsenic and mercury to the required metals listed under Whole Effluent Toxicity in Part 1, A, Effluent Limitations and Monitoring Requirement.

**RESPONSE NO. 1:**

As discussed in the Fact Sheet, EPA requires "whole effluent" toxicity testing for the effluent. Whole effluent toxicity is a useful parameter for assessing and protecting against impacts upon water quality and designated uses caused by the aggregate toxic effect of the discharge of all the pollutants. As apposed to pollutant specific approaches, whole effluent toxicity (WET) approaches evaluate interactions between pollutants, thus rendering an "overall" or "aggregate" toxicity assessment of the effluent. EPA-New England established WET testing protocols for acute and chronic testing in fresh and marine waters. The protocols require concurrent testing for a standardized set of 9 metals

which EPA-New England believes could help diagnose any WET test failures that may occur. Therefore, the request to add arsenic and mercury to the WET test protocol is denied.

However, it should be noted that EPA requires expanded effluent testing of individual pollutants for treatment works with a design flow over one million gallons per day. This testing is required as part of the permit application and the maximum daily and average daily concentrations of over 100 different pollutants, including arsenic and mercury, must be submitted to EPA. As indicated in Section IV-C of the Fact Sheet, EPA New England compares the measured concentrations to the Water Quality Criteria for Toxic Substances listed in New Hampshire's Surface Water Quality Regulations. In making this comparison for the concentrations measured at Concord's Hall Street waste water treatment plant, there were no pollutants showing reasonable potential for concern. Therefore, no additional pollutant specific water quality permit limits were established.

In the case of arsenic and mercury, for example, the maximum daily discharge measured at the Concord Hall Street outfall was 0.001 mg/l and <0.0001 mg/l, respectively. These levels are lower than New Hampshire's Water Quality Criteria for Toxic Substances which lists the fresh water chronic criteria for arsenic and mercury at 0.150 mg/l and 0.00077 mg/l, respectively. If EPA were to establish water quality based standards for arsenic and mercury, we would follow the methodology outlined in Attachment C to the permit to account for the dilution water available in the receiving water. Following this methodology, with the dilution factor of 37, the water quality chronic aquatic-life criterion based limits would be 5.55 mg/l for arsenic and 0.028 mg/l for mercury. Since the actual maximum values measured at the plants outfall are much less than the calculated water quality criterion based limits (i.e., 0.001 mg/l << 5.55 mg/l for arsenic and 0.0001 mg/l << 0.028 mg/l for mercury), there is no reasonable potential for concern and, therefore, EPA is not establishing such limits in the permit.

#### **COMMENT NO. 2.**

Move Attachment A to the immediate rear of the NPDES permit, from present position at rear of the accompanying Fact Sheet.

#### **RESPONSE NO. 2:**

There are attachments for both the NPDES Permit and the Fact Sheet. For clarification, all attachments to the NPDES permit are listed on the front page of the permit. Attachment A to the NPDES permit is titled "Freshwater Acute Toxicity Test Procedure and Protocol" and is included immediately following the permit.

**COMMENT NO. 3.**

Attachment A, VI, page A-7, Chemical Analysis, Total Metals: add As, Hg, and Mo to Total Metals to be measured.

**RESPONSE NO. 3:**

The request to add arsenic, mercury and molybdenum to the WET test protocol is denied. See response to Comment No.1 regarding the WET test protocol and requirements for expanded effluent testing.

**COMMENT NO. 4.**

Fact Sheet, I , 2nd paragraph, page 2, add to read: The Hall St. WWTF accepts thickened liquids sludge from the Sunapee, NH and Warner NH, wastewater treatment facilities as well as leachates from the Bethlehem, NH and Coventry VT landfills.

**RESPONSE NO. 4:**

The paragraph referred to in the Fact Sheet states that the facility receives industrial waste water from 25 industries. In fact, according to the WWTF Supt., the leachate from the Bethlehem and Coventry landfills are considered industrial wastes and are permitted through the industrial pretreatment program. In addition, the sludge entering the facility from Sunapee and Warner is discussed in Section E of the Fact Sheet pertaining to sludge and sludge treatment. Accordingly, the agency believes no revisions and/or clarifications are warranted.

**COMMENT NO. 5.**

Fact Sheet II, Page 2, Description of Discharge: Attachment B contains a quantitative description of effluent parameters based on discharge monitoring data for a two year period. None of the measured heavy metals data is shown. To monitor the health of the Merrimack River and efficacy of the Hall St. WWTF treatment process, data for aluminum, cadmium, chromium, copper, nickel, lead and zinc should be shown. Future descriptions should include the values for the recommended “add” heavy metals arsenic, mercury and molybdenum.

**RESPONSE NO. 5:**

Attachment B to the Fact Sheet is intended to demonstrate the facilities compliance with permit limits and selected monitoring requirements. A review of the WET data and the three sets of additional metals data supplied with the application, indicate a lack of reasonable potential for monitoring or limiting these parameters.

**COMMENT NO. 6:**

Fact Sheet, IV, D, Paragraph 10, Page 8 states: “EPA-New England does not consider these reporting requirements an unnecessary burden as reporting these constituents is already required with the submission of each toxicity testing report.” This discussion relates to the testing requirements for aluminum, cadmium, chromium, copper, lead, nickel and zinc inter alia. By the same token the previously recommended testing for arsenic, mercury and molybdenum is not an “unnecessary burden.”

**RESPONSE NO. 6:**

As noted in the response to Comment No. 1, as part of the permit application process for facilities discharging more than a million gallons per day, EPA already requires testing for over 100 specific pollutants, including arsenic and mercury.

**COMMENT NO.7:**

Fact Sheet IV, I, Page 10, Essential Fish Habitat: The New Hampshire Fish and Game Department touts the stretch of the Merrimack River from Franklin, NH to Hooksett, NH, as “prime” Atlantic Salmon habitat. There is no mention of NHF&GD being asked to provide an opinion on what is the effect on the habitat and resident and spawning salmon (and other fish) of the discharge of pollutants from the Hall St. WWTF (as well as the Penacook WWTF and the Winnepesaukee WWTF). Such a request should be made. Remember, Hall St., WWTF has recorded, inter alia, the daily discharge to the Merrimack River of 0.042 lbs of arsenic, 0.004 lbs of mercury and 1.249 lbs of lead.

**RESPONSE NO. 7:**

Comment noted. The EPA-New England considers the conditions in this draft permit to be sufficient to protect the EFH species of concern, namely Atlantic salmon. As noted in the Fact Sheet, the permit limitations and requirements specified in the draft permit are designed to protect all aquatic species and, therefore, its unlikely the discharge will adversely affect the federally managed species (Atlantic Salmon), their forage or their habitat in the receiving water. If adverse effects do occur in the receiving water as a result of this permit action, or if new information becomes available that changes the basis for this conclusion, then NMFS will be notified and consultation will be promptly initiated.

**COMMENT NO. 8:**

Fact Sheet, Attachment C, page 15, Calculation of Mass-Based Limits: No 7Q10 low-flow value is shown for Merrimack River at Garvin Falls, NH.

**RESPONSE NO. 8:**

The 7Q10 low-flow value for Merrimack River just above the plant's outfall was estimated by summing the 7Q10 for the Merrimack River at the Franklin Junction gaging station and the estimated 7Q10 flow from the intervening drainage area. The 7Q10 from the intervening drainage area was estimated using a unitized 7Q10 flow (7Q10 flow per drainage area) for the Merrimack River between Franklin Junction and Goffs Falls. Therefore, as indicated in Attachment C to the Fact Sheet, the 7Q10 low-flow value at Garvin Falls is not needed for the calculation; only the drainage area data for Garvin Falls is needed for the calculation and is provided in the attachment.

**COMMENT NO. 9:**

EPA recommends that a POTW's NPDES permit contain receiving stream ambient background pollution concentrations data to permit accurate determination of Allowable Headworks Loadings (see Ref A, EPA 833-R-04-002A, July 2004, Local Limits Development Guidance).

**RESPONSE NO. 9:**

EPA's Local Limits Development Guidance provides guidance to municipalities on the development and implementation of local controls for discharges of industrial wastes to the waste water treatment facility (whereas the NPDES permit sets limits on discharges from the wastewater treatment facility to the receiving water). The guidance does not directly apply to the development of NPDES permit limits, but rather to the development of industrial discharge permit limits. Local pretreatment standards are developed by the operators to control pollutants from the industrial users which may pass through or interfere with POTW treatment processes or which may contaminate sewage sludge. Accordingly, the commenter's request is denied.

**COMMENT NO. 10:**

Ref. A recommends that each POTW, as a minimum, screen for the 15 POCs (pollutants of concern) - arsenic, cadmium, chromium, copper, cyanide, lead, mercury, nickel, silver, zinc, molybdenum, selenium, 5 day BOD, TSS and ammonia. With increasing population growth in New Hampshire and attendant POTW-use demands isn't it time for EPA-New England and NHDES to begin requiring monitoring of the 15 POCs? I would think that our health and environment demands it!!!

**RESPONSE NO. 10:**

Please see Response No. 9 regarding the Local Limits Development Guidance (Ref. A). The NPDES permit for Concord's Hall Street POTW requires the permittee to develop local limits for industrial users and to implement an industrial pretreatment program. The industrial pretreatment program requires, at a minimum, annual sampling and analysis of pollutants of concern. In addition, these results are published in Concord's annual pretreatment report (see Attachment B of the permit).

**COMMENT NO. 11:**

In Ref. A, EPA states "...any pollutant limited by an applicable sludge disposal standard should be considered a POC and evaluated." Accordingly, the pollutants described and monitored in Env-Ws 800, Sludge Management, (which includes arsenic and molybdenum), should be addressed in the subject NPDES.

**RESPONSE NO. 11:**

Please see Response No. 9 and 10 regarding the Local Limits Development Guidance (Ref. A). The NPDES permit for Concord's Hall Street POTW requires the permittee to develop local limits for industrial users and to implement an industrial pretreatment program. The local limits for industrial users must be developed and enforced to ensure continued compliance with the POTW's NPDES sludge use/disposal practices.