

**EXHIBIT Q**

AUTHORIZATION TO DISCHARGE UNDER THE  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Clean Water Act, as amended, (33 U.S.C. §1251 *et seq.*; the "CWA"),

The Town of Farmington, New Hampshire

is authorized to discharge from the facility located at

14 Baldwin Way  
Farmington, NH 03835

to receiving waters named

Cochecho River (Hydrologic Basin Code 0106003)

in accordance with the effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on July 1, 2007.

This permit and the authorization to discharge expires June 30, 2012.

This permit supersedes the permit issued on December 5, 2000.

This permit consists of 11 pages in Part I including effluent limitation and monitoring requirements, Attachment A (Freshwater Chronic Toxicity Test Procedure and Protocol), EPA-Region I NPDES Permit Sludge Compliance Guidance (November 4, 1999), and Part II (dated January, 2007) including General Conditions and Definitions.

Signed this 17<sup>th</sup> day of APRIL, 2007

  
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Stephen S. Perkins, Director  
Office of Ecosystem Protection  
U.S. Environmental Protection Agency (EPA)  
Region I  
Boston, Massachusetts

**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

1. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge from Outfall Serial Number 001 treated wastewater effluent to the Cocheco River. Such discharges shall be limited and monitored by the permittee as specified below. Samples taken in compliance with the monitoring requirements specified below shall be taken at the end of all processes, including disinfection, or at an alternative representative location as approved by the EPA and NHDES.

Effluent Parameter	Effluent Limit		Monitoring Requirement		
	Average Monthly	Average Weekly	Maximum Daily	Frequency	Sample type
Flow; mgd	0.35	---	Report	Continuous	Recorder <sup>1</sup>
BOD <sub>5</sub> ; mg/l (lbs/day)	30 (88)	45 (131)	50 (146)	2/week <sup>2</sup>	24 Hour Composite
TSS; mg/l (lbs/day)	30 (88)	45 (131)	50 (146)	2/week <sup>2</sup>	24 Hour Composite
pH <sup>3</sup> ; Standard Units	See Section I.D.1.a.				Grab
Escherichia Coli <sup>3,4</sup> , colonies/100 ml	126	---	406	3/Week	Grab
Dissolved Oxygen, mg/l	Not less than 5.0. Applicable from June 1 through October 1 of each year.				Grab
Total Residual Chlorine <sup>5,6</sup> , mg/l	0.056	---	0.10	1/Day	Grab
Total Recoverable Copper <sup>7,8</sup> , mg/l	0.014	---	0.019	2/Month	Grab
Total Recoverable Lead <sup>9</sup> , mg/l	0.0028	---	Report	2/Month	24 Hour Composite
Ammonia Nitrogen as N, mg/l (November 1 through April 30)	30.1	---	Report	2/Week	24 Hour Composite
Ammonia Nitrogen as N, mg/l (May 1 through October 31)	15.3	---	Report	2/Week	24 Hour Composite
Total Nitrogen <sup>10</sup> , mg/l	Report	---	Report	2/Month	24 Hour Composite

- EFFLUENT LIMITATION CONTINUED ON PAGE 3 -

Effluent Parameter	Effluent Limit		Monitoring Requirement	
	Average Monthly	Average Weekly	Maximum Daily	Frequency
Total Phosphorus, mg/l (April 1 through October 31)	0.5	---	---	1/Week 24 Hour Composite
Total Phosphorus, mg/l (November 1 through March 31)	1.0	---	---	1/Week 24 Hour Composite
Orthophosphorus, mg/l (November 1 through March 31)	Report	---	---	1/Week 24 Hour Composite
<b>Whole Effluent Toxicity Testing</b>				
LC50 <sup>11,13,15</sup>	100% Effluent			1/Year 24 Hour Composite
C-NOEC <sup>12,13,15</sup>	Greater than or equal to 19.6% effluent			1/Year 24 Hour Composite
Hardness <sup>14</sup> , mg/l	---	---	Report	1/Year 24 Hour Composite
Ammonia Nitrogen as N <sup>14</sup> , mg/l	---	---	Report	1/Year 24 Hour Composite
Total Recoverable Aluminum <sup>14</sup> , mg/l	---	---	Report	1/Year 24 Hour Composite
Total Recoverable Cadmium <sup>14</sup> , mg/l	---	---	Report	1/Year 24 Hour Composite
Total Recoverable Chromium <sup>14</sup> , mg/l	---	---	Report	1/Year 24 Hour Composite
Total Recoverable Copper <sup>14</sup> , mg/l	---	---	Report	1/Year 24 Hour Composite
Total Recoverable Nickel <sup>14</sup> , mg/l	---	---	Report	1/Year 24 Hour Composite
Total Recoverable Lead <sup>14</sup> , mg/l	---	---	Report	1/Year 24 Hour Composite
Total Recoverable Zinc <sup>14</sup> , mg/l	---	---	Report	1/Year 24 Hour Composite

- SEE PAGE 4 FOR FOOTNOTES -

**EXPLANATION OF FOOTNOTES TO PART I.A.1 ON PAGE 2:**

- (1) The effluent flow shall be continuously measured and recorded using a flow meter and totalizer.
- (2) Influent concentrations of both BOD<sub>5</sub> and TSS shall be monitored by 24 hour composite samples 2 days per month and reported as average monthly values.
- (3) Required for State of New Hampshire certification.
- (4) The average monthly value for Escherichia coli shall be determined by calculating the geometric mean. Escherichia coli shall be tested using an approved method as specified in 40 C.F.R. Part 136, List of Approved Biological Methods for Wastewater and Sewage Sludge.
- (5) Total residual chlorine shall be measured using any one of the following three methods listed in a. through c. below:
  - a. DPD spectrophotometric (colorimetric): EPA No. 330.5 or Standard Methods [18th or subsequent edition(s) as approved in 40 C.F.R. Part 136], No. 4500-C1 G.
  - b. DPD titrimetric (ferrous titrimetric): EPA No. 330.4 or Standard Methods [18th or subsequent edition(s) as approved in 40 C.F.R. Part 136], No. 4500-C1 F.
  - c. Amperometric titration: EPA No. 330.1 or Standard Methods [18th or subsequent edition(s) as approved in 40 C.F.R. Part 136], No. 4500-C1 D or ASTM No. D1253-86(92).
- (6) The limit at which compliance/noncompliance determinations for total residual chlorine (TRC) will be based is the Minimum Level (ML) which is defined as 0.050 mg/l for TRC. Any value below 0.050 mg/l shall be reported as non-detect.
- (7) The sampling collection method for total copper shall be performed in accordance with the "clean techniques" approach in EPA Method 1669: Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels EPA821-R-954-034, April 1995 or as amended.
- (8) Total recoverable copper shall be tested using EPA Method 200.8 in Methods for the Determination of Metals in Environmental Samples, Supplement I, EMSL-CI, EPA/600/R-94/111, May 1994; and in Methods for the Determination of Inorganic Substances in Environmental Samples, EMSL-CI, EPA/600/R-93/100, August 1993. For the purposes of reporting, the permittee shall use the Minimum Level (ML) of detection which is defined as 0.002 mg/l for this permit. Analytical values below 0.002 mg/l shall be reported as non-detect. This ML value may be reduced using a minor permit modification as more sensitive test methods are approved by EPA and the State of New Hampshire.

- (9) Total recoverable lead shall be tested using EPA Method 200.8.
- (10) Total nitrogen shall be calculated by adding the total kjeldahl nitrogen to total nitrate and nitrite.
- (11) LC50 is defined as the percent of effluent (treated wastewater) that causes mortality to 50 percent of the test organisms. The "100 percent" limit is defined as a sample which is composed of 100 percent effluent (See Part I.A.1 on page 2 and Attachment A of Part I). The limit is considered to be a maximum daily limit.
- (12) C-NOEC is defined as the Chronic No Observed Effect Concentration which is the highest concentration of effluent to which organisms are exposed in a life cycle test which causes no adverse effects on growth, survival, or reproduction. (See Part I.A.1 on page 2 and Attachment A of Part I). The "19.6 percent or greater" limit is defined as a sample which is composed of 19.6 percent effluent, the remainder being dilution water. The limit is considered to be a maximum daily limit. If the test results do not exhibit a linear dose-response relationship, report the lowest concentration where there is no observable effect.
- (13) The permittee shall conduct chronic (and modified acute) toxicity tests on two species, Daphnid (Ceriodaphnia dubia) and the Fathead Minnow (Pimephales promelas), following the specifications in Attachment A (Chronic Toxicity Test Procedure and Protocol dated December 1995 which includes a modified acute procedure). Toxicity test samples shall be collected and tests completed during the calendar quarter ending September 30<sup>th</sup> and the test results are to be submitted by the 15<sup>th</sup> day of the month following the end of the quarter sampled.
- (14) For each whole effluent toxicity test the permittee shall report on the appropriate DMR, the concentrations of hardness, ammonia nitrogen as N, total recoverable aluminum, total recoverable cadmium, total recoverable chromium, total recoverable copper, total recoverable nickel, total recoverable lead, and total recoverable zinc. Each of these parameters shall be determined to at least the minimum quantification level shown in Attachment A on page A-7, or as amended.
- (15) This permit shall be modified, or alternatively, revoked and reissued to incorporate additional toxicity testing requirements, including chemical specific limits, if the results of the toxicity tests indicate the discharge causes an exceedance of any State water quality criterion. Results from these toxicity tests are considered "New Information" and the permit may be modified as provided in 40 C.F.R §122.62(a)(2).

#### A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

2. The discharge shall not cause a violation of the water quality standards of the receiving water.
3. The discharge shall be adequately treated to ensure that the surface water remains free from pollutants in concentrations or combinations that settle to form harmful deposits, float as foam, debris, scum, or other visible pollutants. It shall be adequately treated to ensure that the surface waters remain free from pollutants which produce odor, color, taste, or turbidity in the receiving waters which is not naturally occurring and would render it unsuitable for its designated uses.

4. The permittee's treatment facility shall maintain a minimum of 85 percent removal of both five (5) day biochemical oxygen demand (BOD<sub>5</sub>) and total suspended solids (TSS). The percent removal shall be based on a comparison of average monthly influent versus effluent concentrations.

5. When the effluent discharged for a period of 3 consecutive months exceeds 80 percent of the design flow (0.28 mgd) the permittee shall submit to the permitting authorities, within 90 days following the occurrence of this period (3 consecutive months), a projection of loadings up to the time when the design capacity of the treatment facility will be reached, and a program for maintaining satisfactory treatment levels consistent with approved water quality management plans. Before the design flow will be reached, or whenever treatment necessary to achieve permit limits cannot be assured, the permittee may be required to submit plans for facility improvements.

6. A User may not introduce into a Publicly Owned Treatment Works (POTW) any pollutant(s) which causes Pass Through or Interference. The terms User, Pass Through, and Interference are defined in 40 C.F.R. § 403.3.

7. All POTWs must provide adequate notice to both EPA and the New Hampshire Department of Environmental Services, Water Division (NHDES - WD) of the following:

a. Any new introduction of pollutants into the POTW from an indirect discharger in a primary industrial category ( see 40 C.F.R. § 122 Appendix A as amended) discharging process water; and

b. Any substantial change in the volume or character of pollutants being introduced into the POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.

c. For purposes of this paragraph, adequate notice shall include information on:

(1) The quantity and quality of the effluent introduced into the POTW; and

(2) Any anticipated impact of the change on the quantity or quality of the effluent to be discharged from the POTW.

8. The permittee shall submit to EPA and NHDES-WD the name of any Industrial User (IU) subject to Categorical Pretreatment Standards under 40 C.F.R. § 403.6 and Chapter I, Subchapter N **who commences discharge to the POTW after the effective date of this permit.** This reporting requirement also applies to any other IU that discharges an average of 25,000 gallons per day or more of process wastewater into the POTW (excluding sanitary, noncontact cooling, and boiler blowdown wastewater) or contributes a process wastewater which makes up five (5) percent or more of the average dry weather hydraulic or organic capacity of the POTW or is designated as such by the Control Authority as defined in 40 C.F.R. § 403.12(a) on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's operation or for violating and pretreatment standard or requirement (in accordance with 40 C.F.R. § 403.8(f)(6).

9. In the event that the permittee receives reports (baseline monitoring reports, 90 day compliance reports, periodic reports on continued compliance, etc.) from Users subject to Categorical Pretreatment Standards under 40 C.F.R. § 403.6 and 40 C.F.R. Chapter I, Subchapter N, the permittee shall forward all copies of these reports within ninety (90) days of their receipt to EPA and NHDES-WD.

10. The Permittee shall not discharge into the receiving water any pollutant or combination of pollutants in toxic amounts.

## **B. SLUDGE CONDITIONS**

1. The Permittee shall comply with all existing federal and State laws and regulations that apply to sewage sludge use and disposal practices and with the Clean Water Act Section 405(d) technical standards.

2. The Permittee shall comply with the more stringent of either State (Env-Ws 800) or Federal (40 C.F.R. Part 503) requirements.

3. The technical standards (Part 503 regulations) apply to facilities which perform one or more of the following use or disposal practices.

a. Land Application - The use of sewage sludge to condition or fertilize soil.

b. Surface Disposal - The placement of sewage sludge in a sludge only landfill.

c. Fired in a sewage sludge incinerator.

4. The 40 C.F.R. Part 503 conditions do not apply to facilities that place sludge within a municipal solid waste landfill (MSWLF). Part 503 relies on 40 C.F.R. Part 258 criteria, which regulates landfill disposal, for sewage sludge disposed in a MSWLF. These conditions also do not apply to facilities which do not dispose of sewage sludge during the life of the permit, but rather treat the sludge or are otherwise excluded under 40 C.F.R. Part 503.6.

5. The Permittee shall use and comply with the attached Sludge Compliance Guidance document to determine appropriate conditions. Appropriate conditions contain the following elements:

a. General requirements

b. Pollutant limitations

c. Operational standards (pathogen and vector attraction reduction requirements)

d. Management practices

e. Record keeping

f. Monitoring

g. Reporting

Depending upon the quality of material produced by a facility all conditions may not apply to the facility.

6. If the sludge disposal method requires monitoring, the Permittee shall monitor the pollutant concentrations, pathogen reduction and vector attraction reduction at the following frequency. This frequency is based upon the volume of sewage sludge generated at the facility in dry metric tons per year.

- a. Less than 290.....1/Year
- b. 290 to less than 1,500.....1/Quarter
- c. 1,500 to less than 15,000.....6/Year
- d. 15,000 plus.....1/Month

7. The permittee shall perform all required sewage sludge sampling using the procedures detailed in 40 C.F.R. Part 503(h).

8. When the permittee is responsible for an annual report containing the information specified in the regulations, the report shall be submitted by February 19<sup>th</sup> of each year. Reports shall be submitted to the address contained in the reporting section of the permit.

9. Sludge monitoring is not required by the permittee when the permittee is not responsible for the ultimate sludge use or disposal or when sludge is disposed of in a MSWLF. The permittee must be assured that any third party contractor is in compliance with appropriate regulatory requirements. In such cases, the permittee is required only to submit an annual report by February 19<sup>th</sup> of each year containing the following information:

- a. Name and address of the contractor responsible for sludge use and disposal.
- b. Quantity of sludge in dry metric tons removed from the facility.

Reports shall be submitted to the address contained in the reporting section of the permit.

### C. MONITORING AND REPORTING

Monitoring results shall be summarized for each calendar month and reported on separate Discharge Monitoring Report Form(s) (DMRs) postmarked no later than the 15<sup>th</sup> day of the month following the completed reporting period.

Signed and dated original DMRs and all other reports or notifications required herein or in Part II shall be submitted to the Director at the following address:

U.S. Environmental Protection Agency  
Water Technical Unit (SEW)  
P.O. Box 8127  
Boston, Massachusetts 02114-8127

Duplicate signed copies (original signature) of all DMRs and all other reports or notifications required herein or in Part II shall be submitted to the State of New Hampshire at:

New Hampshire Department of Environmental Services  
Water Division  
Wastewater Engineering Bureau  
29 Hazen Drive, P.O. Box 95  
Concord, New Hampshire 03302-0095

All verbal reports or notifications shall be made to both EPA and NHDES-WD.

#### **D. STATE PERMIT CONDITIONS**

1. The permittee shall comply with the following conditions which are included as State Certification Requirements.

a. The pH range of 6.5-8.0 Standard Units (S.U.) must be achieved in the final effluent unless the Permittee can demonstrate to NHDES-WD: (1) that the range should be widened due to naturally occurring conditions in the receiving water; or (2) that the naturally occurring receiving water pH is not significantly altered by the Permittee's discharge. The scope of any demonstration project must receive prior approval from NHDES-WD. In no case, shall the above procedure result in pH limits outside the range of 6.0-9.0 S.U., which is the federal effluent limitation guideline regulation for pH for secondary treatment and is found in 40 C.F.R. § 133.102(c).

b. Pursuant to State Law NH RSA 485-A:13 and the New Hampshire Code of Administrative Rules, Env-Ws 706.08(b) and Env-Ws 904.08 the following submissions shall be made to the NHDES-WD by a municipality proposing to accept into its POTW (including sewers and interceptors):

(1) A "Sewer Connection Permit" request form for:

- (a) Any proposed sewerage, whether public or private;
- (b) Any proposed wastewater connection or other discharge in excess of 5,000 gallons per day;
- (c) Any proposed wastewater connection or other discharge to a wastewater treatment facility operating in excess of 80% design flow capacity; and
- (d) Any proposed connection or other discharge of industrial wastewater, regardless of quality or quantity.

(2) An "Industrial Wastewater Discharge Request Application" for new or increased loadings of industrial waste, in accordance with Env-Ws 904.10.

c. The permittee shall not at any time, either alone or in conjunction with any person or persons, cause directly or indirectly the discharge of waste into the said receiving water

unless it has been treated in such a manner as will not lower the legislated water quality classification or interfere with the uses assigned to said water by the New Hampshire Legislature (RSA 485-A:12).

d. Any modifications of the Permittee's Sewer Use Ordinance, including local limitations on pollutant concentrations, shall be submitted to the NHDES-WD for approval prior to adoption by the permittee.

e. Within 90 days of the effective date of this permit, the permittee shall submit to NHDES-WD a copy of its current sewer use ordinance if it has been revised since any previously approved submittal.

f. Within 120 days of the effective date of this permit, the permittee shall submit to NHDES-WD a current list of all industries discharging industrial waste to the municipal wastewater treatment plant. As a minimum, the list shall indicate the name and address of each industry, along with the following information: telephone number, contact person, products manufactured, industrial processes used, existing level of pretreatment, and list of existing industrial discharge permits with effective dates.

g. Within 270 days of the effective date of this permit, the Permittee shall submit to NHDES-WD a copy of discharge permit(s) issued to each industry discharging industrial waste to the municipal wastewater treatment plant. At a minimum, each permit shall contain the following: effective dates; flow and applicable pollutant limits; self-monitoring, reporting, compliance monitoring and inspection provisions; and enforcement criteria. If industrial permitting authority does not exist as of the effective date of this permit, the Permittee is requested to submit to the NHDES-WD a proposed plan and implementation schedule for adopting such authority and implementing an industrial permitting system.

2. This NPDES Discharge Permit is issued by the EPA under Federal and State Law. Upon final issuance by the EPA, the NHDES-WD may adopt this permit, including all terms and conditions, as a State permit pursuant to RSA 485-A:13.

Each Agency shall have the independent right to enforce the terms and conditions of this permit. Any modification, suspension or revocation of the Permit shall be effective only with respect to the Agency taking such action, and shall not affect the validity or status of the Permit as issued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation.

## **E. SPECIAL CONDITIONS**

### **1. pH Limit Adjustment**

The Permittee may submit a written request to the EPA requesting a change in the permitted pH limit range to be not less restrictive than 6.0 to 9.0 Standard Units found in the applicable National Effluent Limitation Guideline (Secondary Treatment Regulations in 40 C.F.R. Part 133)

for this facility. The Permittee's written request must include the State's letter containing an original signature (no copies). The State's approval letter shall state that the Permittee has demonstrated to the State's satisfaction that as long as discharges to the receiving water from a specific outfall are within a specific numeric pH range, the naturally occurring receiving water pH will be unaltered. The letter must specify for each outfall the associated numeric pH limit range. Until written notice is received by certified mail from the EPA indicating the pH limit range has been changed, the Permittee is required to meet the permitted pH limit range in the respective permit.

#### **F. REOPENER CLAUSE**

This permit may be modified, or alternatively revoked and reissued, if a future analysis of a Total Maximum Daily Load (TMDL) or any other water quality based study of the Cocheco River performed by EPA-New England and/or NHDES-WD demonstrates the need for more stringent permit pollutant limits. Results from these studies will serve as the basis for additional permit limits. Any of these additional limits could be expressed in terms of concentration and/or mass where appropriate. Furthermore, should any of these studies result in a revision of the available dilution, current limits based on dilution could be revised. Results from a TMDL or any other water quality study not available at permit reissuance are considered "New Information". Modification of a permit based on New Information is provided in 40 C.F.R. §122.62(a)(2).