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"),

City of Manchester, New Hampshire

is authorized to discharge from the Wastewater Treatment Plant located at

300 Winston Street
Manchester, New Hampshire 03103-6826
and
from 13 Combined Sewer Overflows (CSOs)

to receiving waters named:

Merrimack River - Outfall 001 (Wastewater Treatment Plant) and CSO Outfall Nos. 011, 018, 031, 043, 044, 045, 046, 047, 050, 052, 053; (Hydrologic Basin Code 01070002)

Piscataquog River - CS0s 039 and 051; (Hydrologic Basin Code 01070002)

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

The Town of Goffstown, the Town of Bedford and the Town of Londonderry are co-permittees for Part I.D.2. Unauthorized Discharges, Part I.F. Operation and Maintenance of the Sewer System and Part I.G. Alternate Power Source which include conditions regarding the operation and maintenance of the collection systems owned and operated by the Towns. The responsible Town Departments are,

Town of Goffstown, Chairman	**Town of Bedford**	**Town of Londonderry**
Goffstown Sewer Commission	**Town Manager**	**Town Manager**
16 Main Street	**24 North Amherst Road**	**268 B Mammoth Road**
Goffstown, NH 03045	**Bedford, NH 03110**	**Londonderry, NH 03053**

This permit shall become effective on December 1, 2008.

This permit and the authorization to discharge expire at midnight, five (5) years from the effective date.

This permit supersedes the permit issued on January 23, 2002.

This permit consists of 20 pages in Part I including effluent limitations, monitoring requirements, etc., Attachment A, Freshwater Chronic Toxicity Test Procedures & Protocol; Attachment B, Sludge Compliance Guidance; Attachment C, CSO Discharge Points; Attachment D, Reassessment of Technically Based Industrial Discharge Limits; Attachment E, Industrial Pretreatment Annual Report Requirements, Attachment F, Summary of Required Report Submittals; and 25 pages in Part II including General Conditions and Definitions.

Signed this 25th day of September, 2008

/S/ SIGNATURE ON FILE

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Stephen Perkins, Director
Office of Ecosystem Protection
U.S. Environmental Protection Agency
Boston, Massachusetts

PART I.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1.a. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge treated wastewater from outfall serial number 001 to the Merrimack 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 a location that provides a representative analysis of the effluent.

Effluent Characteristic	Discharge Limitations						Monitoring Requirements	
	Average Monthly (lbs/day)	Average Weekly (lbs/day)	Maximum Daily (lbs/day)	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type
Flow; MGD	----	----	----	Report	----	Report	Continuous	Recorder[1]
$CBOD_5$	7,090	11,350	12,770[2,3]	25 mg/l	40 mg/l	45 mg/l[2,3]	1/Day[4]	24-Hr. Comp.
TSS	8,510	12,770	14,190[2,3]	30 mg/l	45 mg/l	50 mg/l[2,3]	1/Day[4]	24-Hr. Comp.
pH Range[2]	6.5 to 8.0 Standard Units (See I.I.5)						1/Day	Grab
Escherichia coli[5,6]; Colonies/100 ml	----	----	----	126	----	406	1/Day	Grab
Total Residual Chlorine[5,7]; mg/l	----	----	----	0.130	----	0.225	2/Day	Grab
Total Recoverable Aluminum, ug/l	----	----	----	87	----	----	2/Month	Grab
Phosphorus Total, mg/l	----	----	----	Report	----	----	2/Month	Grab
Whole Effluent Toxicity								
LC50[9,10,11]			100 percent effluent				1/Quarter	24-Hr. Comp.
C-NOEC[10,11,12]			≥8.5 percent effluent				1/Quarter	24-Hr. Comp.
Hardness[13]; mg/l				----	----	Report	1/Quarter	24-Hr. Comp.
Ammonia Nitrogen as Nitrogen[13]; mg/l				----	----	Report	1/Quarter	24-Hr. Comp.
Total Recoverable Aluminum[13]; mg/l				----	----	Report	1/Quarter	24-Hr. Comp.
Total Recoverable Cadmium[13]; mg/l				----	----	Report	1/Quarter	24-Hr. Comp.
Total Recoverable Copper[13]; mg/l				----	----	Report	1/Quarter	24-Hr. Comp.
Total Recoverable Lead[13]; mg/l				----	----	Report	1/Quarter	24-Hr. Comp.
Total Recoverable Nickel[13]; mg/l				----	----	Report	1/Quarter	24-Hr. Comp.
Total Recoverable Zinc[13]; mg/l				----	----	Report	1/Quarter	24-Hr. Comp.

NOTE: See pages 4 and 5 for footnotes.

PART I.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Continued)

1.b. During the period beginning on the effective date of the permit and lasting through the expiration date, the Permittee is authorized to discharge storm water runoff and wastewater into the Merrimack River from Combined Sewer Outfalls serial numbers 011, 018, 031, 043, 044, 045, 046, 047, 050, 052 and 053 and into the Piscataquog River from Outfalls serial numbers 039 and 051. (Refer to **Attachment C**, "Combined Sewer Overflow Discharge Points".) These discharges are authorized only during wet weather. Such discharges shall be monitored by the Permittee as specified below. Samples specified below shall be taken at a location that provides a representative analysis of the effluent.

Effluent Characteristic	Discharge Limitation	Monitoring Requirement	
	Wet-Weather Event Maximum	Measurement Frequency	Sample Type
Escherichia coli [14] (Colonies per 100 ml)	1,000	1/Year	Grab

NOTE: See pages 4 and 5 for footnotes.

FOOTNOTES TO PART I.A.1a. and b.

(1) The effluent flow shall be continuously measured and recorded using a flow meter and totalizer. The permittee shall also attach to its discharge monitoring report a table showing the total daily effluent flow discharged from the POTW, the total daily flow receiving secondary treatment and the total daily flow receiving only primary treatment and disinfection.

(2) Limit is a State Certification Requirement.

(4) Influent and effluent samples shall be **collected daily** using a 24-Hour Composite sample.

(5) Samples for *Escherichia coli* bacteria shall be conducted concurrently with a sample for total residual chlorine.

(6) 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.

(7) The minimum level (ML) for total residual chlorine is defined as 20 µg/l. This is the minimum level using methods Method 4500CL-E and G, found in Standard Methods for the Examination of Water and Wastewater, 20th Edition, and approved by EPA at 40 CFR Part 136. One of these methods must be used to determine total residual chlorine. Sample results of 20 µg/l or less shall be reported as zero on the discharge monitoring report.

(8) DELETED

(9) LC50 (lethal concentration 50 percent) is the concentration of wastewater (effluent) causing mortality to 50 percent (%) of the test organisms. The "100 % limit" is defined as a sample which is composed of 100 percent effluent. Therefore, a 100 % limit means that a sample of 100 % effluent (no dilution) shall cause no greater than a 50 % mortality rate in that effluent sample.

(10) The permittee shall conduct chronic (and modified acute) survival and reproduction toxicity tests using the Daphnid (*Ceriodaphnia dubia*) and the Fathead Minnow (*Pimephales promelas*) on effluent samples following the protocol in **Attachment A** (Freshwater Chronic Toxicity Test Procedure and Protocol, dated May 2007). Toxicity test samples shall be collected and tests completed during the calendar quarters ending March 31st, June 30th, September 30th and December 31st each year. Toxicity test results are to be submitted by the 15th day of the month following the end of the quarter sampled. For example, test results for the calendar quarter January through March are due April 15th.

The permittee's authorization to use synthetic dilution water in its toxicity tests (granted by EPA letter dated June 5, 1991) is continued in this permit. Although, the permittee was authorized to use an alternate standard dilution water as the diluent for both Chronic Toxicity Test species the permittee is required to check again if the river water is acceptable to use. Furthermore, each Chronic Toxicity Test shall use three (3) separate controls composed of: (1) alternate standard

dilution water; (2) laboratory water; and (3) site (receiving) water. Please note that the alternate standard dilution water must be of known quality with water quality characteristics such as hardness, pH, specific electrical conductivity, alkalinity, organic carbon and total suspended solids similar to those of the receiving water and not elicit a toxic response. Therefore, it is recommended that the permittee screen the alternate dilution water for suitability prior to toxicity testing.

(11) 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 CFR Section 122.62(a)(2).

(12) C-NOEC (Chronic-No Observed Effect Concentration) is defined as the **highest** concentration of toxicant or effluent to which organisms are exposed in a life-cycle or partial life-cycle test which causes no adverse effect on growth, survival, or reproduction at a specific time of observation as determined from hypothesis testing where the test results (growth, survival, and/or reproduction) exhibit a linear dose-response relationship. However, where the test results do not exhibit a linear dose-response relationship, report the **lowest** concentration where there is no observable effect. The C-NOEC limit of **"equal to or greater than 8.5 %"** is defined as a sample which is composed of **8.5 % (or greater)** effluent, the remainder being dilution water. This is the minimum percentage of effluent at which no chronic effects will be observed.

(13) For each Whole Effluent Toxicity test the permittee shall report on the appropriate DMR, the concentrations of the Ammonia Nitrogen as Nitrogen, Hardness, and Total Recoverable Aluminum, Cadmium, Chromium, Copper, Lead, Nickel and Zinc found in the 100 percent effluent sample. All these aforementioned chemical parameters shall be determined to at least the MLs shown in **Attachment A** on page B-8, or as amended unless otherwise stated elsewhere in the permit. Also, the permittee should note that all chemical parameter results must still be reported in the appropriate toxicity report.

(14) The Permittee shall sample each CSO outfall listed in **Attachment C** once per year. The sampling shall occur during a wet-weather discharge event. One grab sample shall be obtained one-half hour after the outfall starts discharging. If more than one sample is collected per outfall per wet weather event, the maximum value for Escherichia coli shall be determined by calculating the geometric mean [Refer to Footnote (6)]. Results from the sampling shall be reported with each December DMR, which is due by January 15th. If an individual CSO does not discharge or does not discharge sufficiently to collect a sample during the calendar year, report "C" for that outfall on the December DMR.

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 insure 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 insure that the surface waters remain free from pollutants which produce odor, color, taste or turbidity in the receiving waters which are not naturally occurring and would render them unsuitable for their designated uses.

4. The permittee's treatment facility shall maintain a minimum of 85 percent removal of both total suspended solids and biochemical oxygen demand during dry weather. Dry weather is defined as any calendar day on which there is less than 0.1 inch of rainfall and no snow melt. The percent removal shall be calculated as a monthly average using the influent and effluent BOD and TSS values for samples collected during dry weather days.

   The permittee shall attach to its discharge monitoring reports the daily precipitation from the nearest National Weather Service gage, or a gage accepted by the permitting authority.

5. When the effluent discharged for a period of three consecutive months exceeds 80 percent of the 34 MGD design flow (27.2 MGD), the permittee shall submit to New Hampshire Department of Environmental Services, Water Division (NHDES-WD) and EPA-New England 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 is reached, or whenever treatment necessary to achieve permit limits cannot be assured, the permittee may be required to submit plans for facility improvements.

6. All Publicly Owned Treatment Works (POTWs) must provide adequate notice to both EPA New England and the NHDES-WD of the following:

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

   b. Any substantial change in the volume or character of pollutants being introduced into that 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 effluent introduced into the POTW; and

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

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

B. INDUSTRIAL PRETREATMENT PROGRAM

1. Limitations for Industrial Users

   a. A user may not introduce into a POTW any pollutant(s) which cause Pass Through or Interference with the operation or performance of the treatment works. The terms "user", "pass through" and "interference" are defined in 40 CFR Section 403.3.

   b. The permittee shall develop and enforce specific effluent limits (local limits) for Industrial User(s), and all other users, as appropriate, which together with appropriate changes in the POTW's Facilities or operation, are necessary to ensure continued compliance with the POTW's NPDES permit or sludge use or disposal practices. Specific local limits shall not be developed and enforced without individual notice to persons or groups who have requested such notice and an opportunity to respond. Within **120 days of the effective date of this permit**, the permittee shall prepare and submit a written technical evaluation (a "report") to EPA-New England analyzing the POTW's current local limits. As part of this evaluation, the Permittee shall assess how the POTW performs with respect to the influent and effluent of pollutants, water quality concerns, sludge quality, sludge processing concerns/inhibition, biomonitoring results, activated sludge inhibition, worker health and safety and collection system concerns. In preparing this evaluation, the Permittee shall complete and submit the attached form shown in **Attachment D (Reassessment of Technically Based Industrial Discharge Limits)** with the technical evaluation to assist in determining whether or not existing local limits need to be revised. Should the permittee have any questions on how to apply **Attachment D** to their particular freshwater environment, they are encouraged to contact the appropriate pretreatment coordinator at EPA-New England. Justifications and conclusions should be based on actual plant data, if available, and should be included in the report. Should the evaluation of the "report" including **Attachment D** by EPA-New England reveal the need to revise local limits, the Permittee shall complete the revisions within 270 days of notification by EPA-New England and submit the revisions to EPA-New England for approval. The Permittee shall carry out the local limits revisions in accordance with EPA's **LOCAL LIMIT DEVELOPMENT GUIDANCE (JULY 2004)**.

2. Industrial Pretreatment Program

   a. The permittee shall implement the Industrial Pretreatment Program in accordance with the legal authorities, policies, procedures, and financial provisions described in the permittee's approved Pretreatment Program, and the General Pretreatment Regulations, 40 CFR Part 403. At a minimum, the permittee must perform the following duties to properly implement the Industrial Pretreatment Program (IPP):

      (1) Carry out inspection, surveillance, and monitoring procedures which will determine, independent of information supplied by the industrial user, whether the industrial user

is in compliance with the Pretreatment Standards. At a minimum, all significant industrial users shall be sampled and inspected at the frequency established in the approved IPP but in no case less than once per year and maintain adequate records.

(2) Issue or renew all necessary industrial user control mechanisms within 90 days of their expiration date or within 180 days after the industry has been determined to be a significant industrial user.

(3) Obtain appropriate remedies for noncompliance by any industrial user with any pretreatment standard and/or requirement.

(4) Maintain an adequate revenue structure for continued implementation of the Pretreatment Program.

b. The permittee shall provide EPA-New England and NHDES-WD with an annual report describing the permittee's pretreatment program activities for the twelve (12) month period ending 60 days prior to the due date in accordance with 40 CFR Section 403.12(i). The annual report shall be consistent with the format described in **Attachment E** of this permit and shall be submitted no later than **August 1st of each year**.

c. The permittee must obtain approval from EPA-New England prior to making any significant changes to the industrial pretreatment program in accordance with 40 CFR Section 403.18(c).

d. The permittee must assure that applicable National Categorical Pretreatment Standards are met by all categorical industrial users of the POTW. These standards are published in the Federal Regulations at 40 CFR Part 405 et.seq.

e. The permittee must modify its pretreatment program to conform to all changes in the Federal Regulations that pertain to the implementation and enforcement of the industrial pretreatment program. The permittee must provide EPA-New England, in writing, within 180 days of this permit's effective date proposed changes, if applicable, to the permittee's pretreatment program deemed necessary to assure conformity with current Federal Regulations. At a minimum, the permittee must address in its written submission any revisions to its: (1) Enforcement response plan; (2) current EPA-New England approved sewer-use ordinance or regulation; and (3) slug-control evaluation program. The permittee will implement these proposed changes pending EPA-New England's approval under 40 CFR Section 403.18. This submission is separate and distinct from any local limits analysis submission described above.

C. SLUDGE CONDITIONS

1. Standard Conditions

a. The permittee shall comply with all existing federal and state laws and regulations that apply to sewage sludge use and disposal practices and the Clean Water Act section

405(d) technical standards.

b. The permittee shall comply with the more stringent of either the state or federal requirements.

c. No person shall fire sewage sludge in a sewage sludge incinerator except in compliance with the requirements of 40 CFR part 503 subpart E.

2. Pollutant Limitations

a. Firing of sewage sludge shall not violate the requirements of the National Emission Standard for beryllium in 40 CFR part 61, subpart C - 10 grams per 24-hour period.

b. Firing of sewage sludge shall not violate the requirements in the National Emission Standard for mercury in 40 CFR part 61, subpart E - 3200 grams per 24-hour period.

c. The daily concentration of the metals in the sewage sludge fed to the incinerator shall not exceed the limits specified below (dry weight basis):

	Maximum Daily
Arsenic	8,573 mg/kg
Cadmium	43,416 mg/kg
Chromium	1,423,398 mg/kg
Lead	262,781 mg/kg
Nickel	213,643 mg/kg

3. Operational Standards

a. The exit gas from the sewage sludge incinerator stack shall be monitored continuously for carbon monoxide.

b. The monthly average concentration of carbon monoxide in the exit gas from the sewage sludge incinerator, corrected for zero percent moisture and to seven percent oxygen, shall not exceed - **100 ppm on a volumetric basis.**

c. The CO concentration shall be corrected to zero percent moisture using the correction factor below:

$$\text{Correction factor} = \frac{1}{(1-X)}$$

Where : X = decimal fraction of the percent moisture in the sewage sludge incinerator exit gas in hundredths.

d. The measured CO concentration shall be corrected to seven percent oxygen using the correction factor below:

$$\text{Correction factor} = \frac{14}{(21-Y)}$$

Where: Y = percent oxygen concentration in the sewage sludge incinerator stack exit gas (dry volume/dry volume).

e. The measured CO value shall be multiplied by the correction factors in items **c** and **d**. The corrected CO value shall be used to determine compliance with paragraph b.

4. Management Practices

a. An instrument that continuously measures and records the carbon monoxide concentration in the sewage sludge incinerator stack exit gas shall be installed, calibrated, operated and maintained for each incinerator.

b. An instrument that continuously measures and records the oxygen concentration in the sewage sludge incinerator stack exit gas shall be installed, calibrated, operated and maintained for each incinerator.

c. An instrument that continuously measures and records combustion temperatures shall be installed, calibrated, operated and maintained for each incinerator.

d. Operation of the incinerator shall not cause the operating combustion temperature for the incinerator to exceed the performance test combustion temperature by more than 20 percent.

e. Any air pollution control devices shall be appropriate for the type of incinerator and operating parameters for the air pollution control device shall be adequate to indicate proper performance of the air pollution control device. For incinerators subject to the requirements of 40 CFR subpart O, operation of the air pollution control device shall not violate the air pollution control device requirements of that part.

f. Sewage sludge shall not be fired in an incinerator if it is likely to adversely affect a threatened or endangered species listed under section 4 of the Endangered Species Act or its designated critical habitat.

g. The permittee shall notify the EPA and NHDES if any continuous emission monitoring equipment is shut down or broken down for more that 72 hours while the incinerator continues to operate.

h. Notification shall include the following:

(1) The reason for the shut down or break down;
(2) Steps taken to restore the system;
(3) Expected length of the down time; and
(4) The expected length of the incinerator operation during the down time of the monitoring system.

i. Break downs or shut downs of less than 72 hours shall be recorded in the operations log along with an explanation of the event.

j. Copies of all manufacturer's instructions shall be kept on file and be available during inspections.

5. Monitoring Frequency

a. The frequency of monitoring beryllium shall be as required in 40 CFR part 61, subpart C.

b. The frequency of monitoring mercury shall be as required in 40 CFR part 61, subpart E.

c. The pollutants in paragraph 2c shall be monitored at the following frequency **- bimonthly (6 times per year)**.

d. After the sewage sludge has been monitored for the pollutants in paragraph 2c for two years at the frequency specified above, the permittee may request a reduction in the monitoring frequency.

e. The operating parameters for the air pollution control devices shall be monitored at the following frequency - **1/day**.

f. The CO concentration in the exit gas, the oxygen concentration in the exit gas, information from the instrument used to determine moisture content, and combustion temperatures shall be **continuously** monitored .

6. Sampling and Analysis

a. The sewage shall be sampled at a location which is prior to entering the incinerator and provides a representative sample of the sewage sludge being incinerated.

b. The sewage sludge shall be analyzed using "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA publication SW-846, Second Edition (1982) with Updates I (April 1984) and II (April 1985) and Third Edition (November 1986) with Revision I (December 1987).

c. If emission testing is done for demonstration of NESHAPS, testing shall be in accordance with Method 101A in 40 CFR part 60, Appendix B, "Determination of Particulate and Gaseous Mercury Emissions from Sewage Sludge Incinerators".

d. Sewage sludge samples for mercury shall be sampled and analyzed using Method 105 in 40 CFR part 61, Appendix B, "Determination of Mercury in Wastewater Treatment Plant Sewage Sludge".

7. Record Keeping Requirements

The permittee is required to keep records for the following :

a. Report the maximum concentration of each pollutant listed in paragraph 2c above;

b. Report the average monthly CO concentration in the exit gas from the incinerator stack;

c. Information that demonstrates compliance with the National Emission Standard for beryllium;

d. Information that demonstrates compliance with the National Emission Standard for mercury. If sludge sampling is used, include calculation for compliance demonstration;

e. The operating combustion temperature for the sewage sludge incinerator;

f. Report the average monthly operating values for the air pollution control devices operating parameters;

g. The oxygen concentration and the information used to measure moisture content in the exit gas from the sewage sludge incinerator. Report the oxygen concentration and percent moisture results which were used to determine the CO values reported in paragraph 8b;

h. Record the average daily and average monthly sewage sludge feed rate to the incinerator;

i. The stack height of the incinerator;

j. The dispersion factor for the site where the incinerator is located;

k. The control efficiency for arsenic, lead, chromium, cadmium and nickel;

l. A calibration and maintenance log for the instruments used to measure the CO concentration and the oxygen concentration in the exit gas; the information need to determine moisture content in the exit gas, and the combustion temperatures.

8. Reporting

The permittee shall report the information in paragraphs 7 a through l annually on February 19.

D. COMBINED SEWER OVERFLOW CONDITIONS

1. Effluent Limitations

a. During wet-weather periods, the permittee is authorized to discharge stormwater/wastewater from combined sewer overflows (CSOs) to receiving waters all of which are listed in

Attachment C, subject to the following effluent limitations.

(1) The discharges shall receive treatment at a level providing Best Practicable Control Technology Currently Available (BPT), Best Conventional Pollutant Control Technology (BCT) to control and abate conventional pollutants and Best Available Technology Economically Achievable (BAT) to control and abate non-conventional and toxic pollutants. The EPA-New England has made a Best Professional Judgement (BPJ) determination that BPT, BCT and BAT for CSOs include the implementation of the nine Minimum Technology-Based Limitations (MTBLs) specified below (also known as Nine Minimum Controls [NMC]):

(a) Proper operation and regular maintenance programs for the sewer system and the combined sewer overflow points;

(b) Maximum use of the collection system for storage;

(c) Review and modification of industrial pretreatment program requirements to assure CSO impacts are minimized;

(d) Maximization of flow to the POTW for treatment;

(e) Prohibition of dry-weather overflows from CSOs;

(f) Control of solid and floatable materials in CSO discharges;

(g) Pollution prevention programs that focus on contaminant reduction activities;

(h) Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts; and

(i) Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls.

(2) The Permittee must implement the activities identified in their nine minimum controls documentation titled "Report on Nine Minimum Control Measures" dated May 1995, submitted on May 8, 1995, and any amendments thereto. The permittee shall update the May 1995 NMC document within 6 months of the effective date of the permit.

b. The discharges shall not cause violations of Federal or State Water Quality Standards in the applicable receiving water.

2. Unauthorized Discharges

The permittee and co-permittees are authorized to discharge only in accordance with the terms and conditions of this permit and only from those outfalls listed **in Attachment C and WWTF outfall 001** of this permit. Discharges of wastewater from any other point source not described elsewhere in this permit are not authorized under this permit. Dry-weather overflows are prohibited (NMC at **Part**

D.1.a.(1)(e)). All dry-weather sanitary and/or industrial discharges from any CSO must be reported to EPA-New England and the State within 24 hours in accordance with the reporting requirements for plant bypass. (Paragraph D.1.e. of Part II of this permit).

3. Records and Reporting

The permittee shall quantify and record all CSO discharges from outfalls listed in **Attachment C** of this permit. Quantification may be performed either through direct measurement or through an estimation technique. When an estimation technique is used, such as an updated version of the SWMM model already developed for the City's Long-Term Control Plan (LTCP), the permittee shall make reasonable efforts (i.e., gaging, measurements, visual observations, tell-tale monitorings, etc.) to verify the validity of the estimation technique. If the SWMM model is used, it must be updated to reflect current conditions in the City's collection and treatment systems used for CSO abatement. The following information must be recorded for each combined sewer outfall for each discharge event:

- Estimated date of discharge;
- Estimated duration (hours) of discharge;
- Estimated volume (gallons) of discharge; and
- National Weather Service precipitation data from the nearest gage where precipitation data are available at daily (24-hour) intervals and the nearest gage where precipitation data are available at one-hour intervals. Cumulative precipitation per discharge event shall be calculated.

The permittee shall maintain all records of discharges for at least five (5) years after the effective date of this permit

Annually, no later than January 15th, the permittee shall submit a written certification to EPA-New England and the State which states that all the discharges from combined sewer outfalls were recorded, and all other appropriate reports and records maintained for the previous calendar year.

4. Reopener/Additional CSO Control Measures

This permit may be modified or reissued upon the completion of a long-term CSO control plan. Such modification may include performance standards for the selected controls, post construction water quality assessment program, monitoring for compliance with water quality standards, and a reopener clause to be used in the event that the selected CSO controls fail to meet water quality standards. Section 301(b)(1)(C) requires that a permit include limits that may be necessary to protect Federal and State water quality standards.

E. SPECIAL CONDITIONS

Whole Effluent Toxicity Test Frequency Adjustment

The permittee may submit a written request to the EPA-New England requesting a reduction in the frequency (to not less than once per year) of required toxicity testing, after completion of a minimum of the most recent four (4) successive toxicity tests of effluent, all of which must be valid tests and

demonstrate compliance with the permit limits for whole effluent toxicity. Until written notice is received by certified mail from the EPA-New England indicating that the Whole Effluent Testing requirement has been changed, the permittee is required to continue testing at the frequency specified in the respective permit.

pH Limit Adjustment

The permittee may submit a written request to the EPA-New England 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 CFR Part 133). The permittee's written request must include the State's approval letter containing an original signature (no copies). The State's 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. That letter must specify for each outfall the associated numeric pH limit range. Until written notice is received by certified mail from the EPA-New England indicating the pH limit range has been changed, the permittee is required to meet the permitted pH limit range in the respective permit.

F. OPERATION AND MAINTENANCE OF THE SEWER SYSTEM

Operation and maintenance of the sewer system shall be in compliance with the General Requirements of Part II and the following terms and conditions. The permittee is required to complete the following activities for the collection system which it owns:

1. Collection System Mapping

Within 30 months of the effective date of the permit, the permittee and co-permittees shall each prepare a map of the sewer collection system it owns. The map shall be on a street map of the community, with sufficient detail and at a scale to allow easy interpretation. The collection system information shown on the map shall be based on current conditions. Such map(s) shall include, but not be limited to:

(a) All sanitary sewer lines and related manholes;
(b) All combined sewer lines and related manholes;
(c) All combined sewer regulators and any known or suspected connections between the sanitary sewer and storm drain system, e.g., combined manholes;
(d) All outfalls, including the treatment plant outfall(s), CSOs, combined manholes, and any known or suspected SSOs;
(e) All pump stations and force mains;
(f) The wastewater treatment facility(ies);
(g) All surface waters(labeled);
(h) Other major appurtenances such as inverted siphons and air release valves;
(i) A numbering system which uniquely identifies overflow points, regulators and outfalls;
(j) The scale and a north arrow***;*** and

(k) The pipe diameter, age and type of pipe, the length of pipe between manholes, the direction of flow, and invert elevations.

2. Collection System O&M Plan

The permittee and co-permittees shall each develop and implement a collection system operation and maintenance plan. The plan shall be submitted to EPA and NHDES **within six months of the effective date of this permit** (see page 1 of this permit for the effective date). The plan shall describe the permittee's program for preventing I/I related effluent limit violations and all unauthorized discharges of wastewater, including overflows and by-passes.

The plan shall include:

a. A description of the overall condition of the collection system including a list of recent studies and construction activities.

b. A preventive maintenance and monitoring program for the collection system

c. Recommended staffing to properly operate and maintain the sanitary sewer collection system.

d. The necessary funding level, the source(s) of funding, for implementing the plan

e. Identification of known and suspected overflows, including combined manholes. A description of the cause of the identified overflows, and a plan for addressing the overflows consistent with the requirements of this permit.

f. An ongoing program to identify and remove sources of I/I. The program shall include an inflow identification and control program that focuses on the disconnection and redirection of illegal sump pumps and roof down spouts.

g. An educational public outreach program for all aspects of I/I control, particularly private inflow.

For each of the above activities that are not completed and implemented as of the submittal date, the plan shall provide a schedule for its completion.

3. Annual Reporting Requirement:

The permittee and co-permittees shall each submit a summary report of activities related to the implementation of its Collection System O&M Plan during the previous calendar year. The report shall be submitted to EPA and the NHDES annually, **by March 31.**

The summary report shall, at a minimum, include:

a. A description of the staffing levels maintained during the year.

b. A map and a description of inspection and maintenance activities conducted and corrective actions taken during the previous year.

c. Expenditures for any collection system maintenance activities and corrective actions taken during the previous year.

d. A map with areas identified for investigation/action in the coming year.

e. A calculation of the annual average infiltration, the annual average inflow, the maximum month infiltration and the maximum month inflow for the reporting year.

f. A report of any corrective actions taken as a result of unauthorized discharges reported pursuant to the Unauthorized Discharges section of this permit.

G. ALTERNATE POWER SOURCE

In order to maintain compliance with the terms and conditions of this permit, the permittee and co-permittees shall provide an alternate power source with which to sufficiently operate the publicly owned treatment works, as defined at 40 C.F.R. § 122.2, which references the definition at 40 C.F.R. § 403.3(o).

H. MONITORING AND REPORTING CONDITIONS

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

Signed and dated original DMRs and all other reports and notifications required herein and 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 of all reports required herein shall be submitted to the State at:

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

The permittee shall notify the downstream water supply community listed below of any emergency condition, plant upset, bypass, CSO discharge or other system failure which has the potential to violate permit limits and affect harvesting of shellfish or the quality of water to be withdrawn for drinking water purposes. This notification should be made as soon as possible, and in anticipation of such an event, if feasible, without taking away from any response time necessary to attempt to alleviate the situation. The permittee shall follow up with a written notification within 10 days to the contact below. This notification shall include the reason for the emergency, any sampling information, any visual data recorded, a description of how the situation was handled, and when it would be considered to no longer be an emergency situation. Below is the contact and phone number of the drinking water supplier which will be contacted:

Pennichuck Water Treatment Plant
25 Manchester Street
Merrimack, NH 03054
Tel.: 603 – 913 – 2370 (24-hr.)

I. STATE PERMIT CONDITIONS

1. 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).

2. This NPDES Discharge Permit is issued by EPA under Federal and State law. Upon final issuance by EPA, the New Hampshire Department of Environmental Services-Water Division (NHDES-WD) may adopt this permit, including all terms and conditions, as a State permit pursuant to RSA 485-A:13.

3. EPA shall have the right to enforce the terms and conditions of this Permit pursuant to federal law and NHDES-WD shall have the right to enforce the Permit pursuant to state law, if the Permit is adopted. Any modification, suspension or revocation of this 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.

4. Pursuant to New Hampshire Statute RSA 485-A:13,I(c), any person responsible for a bypass or upset at a wastewater treatment facility shall give immediate notice of a bypass or upset to all public or privately owned water systems drawing water from the same receiving water and located within 20 miles downstream of the point of discharge regardless of whether or not it is on the same receiving water or on another surface water to which the receiving water is a tributary. The permittee shall maintain a list of persons, and their telephone numbers, who are to be notified immediately by telephone. In addition, written notification, which shall be postmarked within 3 days of the bypass or upset, shall be sent to such persons.

5. The pH range of 6.5 to 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 CFR 133.102(c).

6. Pursuant to New Hampshire Code of Administrative Rules, Env-Wq 703.07(a):

    a. Any person proposing to construct or modify any of the following shall submit an application for a sewer connection permit to the department:

    (1) Any extension of a collector or interceptor, whether public or private, regardless of flow;

    (2) Any wastewater connection or other discharge in excess of 5,000 gpd;

    (3) Any wastewater connection or other discharge to a WWTP operating in excess of 80 percent design flow capacity based on actual average flow for 3 consecutive months;

    (4) Any industrial wastewater connection or change in existing discharge of industrial wastewater, regardless of quality or quantity; and

    (5) Any sewage pumping station greater than 50 gpm or serving more than one building.

7. For each new or increased discharge of industrial waste to the POTW, the permittee shall submit, in accordance with Env-Wq 904.14(e) an "Industrial Wastewater Discharge Request Application" approved by the permittee in accordance with 904.13(a). The "Industrial Wastewater Discharge Request Application" shall be prepared in accordance with Env-Wq 904.10.

8. Pursuant to Env-Wq 904.17, at a frequency no less than every five years, permittees are required to submit:

    a. A copy of its current sewer use ordinance. The sewer use ordinance shall include local limits pursuant to Env-Wq 904.04 (a).

    b. A current list of all significant indirect discharger to the POTW. As a minimum, the list shall include for each industry, its name and address, the name and daytime telephone number of a contact person, products manufactured, industrial processes used, existing pretreatment processes, and discharge permit status.

    c. A list of all permitted indirect dischargers; and

    d. A certification that the municipality is strictly enforcing its sewer use ordinance and all discharge permits it has issued.

9. In addition to submitting DMRs, monitoring results shall also be summarized for each calendar month and reported on separate Monthly Operating Report Form(s) (MORs) postmarked no later than the 15th day of the month following the completed reporting period.

   Signed and dated MORs shall be submitted to:

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

ATTACHMENT E
NPDES PERMIT REQUIREMENT
FOR
INDUSTRIAL PRETREATMENT ANNUAL REPORT

The information described below shall be included in the pretreatment program annual reports:

1. An updated list of all industrial users by category, as set forth in 40 CFR §403.8(f)(2)(i), indicating compliance or noncompliance with the following:

   -Baseline monitoring reporting requirements for newly promulgated industries,
   -Compliance status reporting requirements for newly promulgated industries,
   -Periodic (semi-annual) monitoring reporting requirements,
   - Categorical standards, and
   - Local limits;

2. A summary of compliance and enforcement activities during the preceding year, including the number of:

   - Significant industrial users inspected by POTW (include inspection dates for each industrial user),
   - Significant industrial users sampled by POTW (include sampling dates for each industrial user),
   - Compliance schedules issued (include list of subject users),
   - Written notices of violations issued (include list of subject users),
   - Administrative orders issued (include list of subject users),
   - Criminal or civil suits filed (include list of subject users) and,
   - Penalties obtained (include list of subject users and penalty amounts);

3. A list of significantly violating industries required to be published in a local newspaper in accordance with 40 CFR §403.8(f)(2)(vii);

4. A narrative description of program effectiveness including present and proposed changes to the program, such as funding, staffing, ordinances, regulations, rules and/or statutory authority;

5. A summary of all pollutant analytical results for influent, effluent, sludge and any toxicity or bioassay data from the wastewater treatment facility. The summary shall include a comparison of influent sampling results versus threshold inhibitory concentrations for Manchester's Wastewater Treatment Facility and effluent sampling results versus water quality standards. Such a comparison shall be based on the sampling program described in the paragraph below or any similar sampling program described in this Permit.

Attachment E (continued)

At a minimum, annual sampling and analysis of the influent and effluent of Manchester's Wastewater Treatment Plant shall be conducted for the following pollutants:

a.) Total Recoverable Arsenic
b.) Total Recoverable Cadmium
c.) Total Recoverable Chromium
d.) Total Recoverable Copper
e.) Total Cyanide
f.) Total Recoverable Lead
g.) Total Recoverable Mercury
h.) Total Recoverable Nickel
i.) Total Recoverable Silver
j.) Total Recoverable Zinc

The sampling program shall consist of one 24-hour flow-proportioned composite and at least one grab sample that is representative of the flows received by the POTW. The composite shall consist of hourly flow-proportioned grab samples taken over a 24-hour period if the sample is collected manually or shall consist of a minimum of 48 samples collected at 30 minute intervals if an automated sampler is used. Cyanide shall be taken as a grab sample during the same period as the composite sample. Sampling and preservation shall be consistent with 40 CFR Part 136.

6. A detailed description of all interference and pass-through that occurred during the past year;

7. A thorough description of all investigations into interference and pass-through during the past year;

8. A description of monitoring, sewer inspections and evaluations which were done during the past year to detect interference and pass-through, specifying parameters and frequencies;

9. A description of actions being taken to reduce the incidence of significant violations by significant industrial users; and,

10. The date of the latest adoption of local limits and an indication as to whether or not the Manchester's Wastewater Treatment Facility is under a State or Federal compliance schedule that includes steps to be taken to revise local limits.

ATTACHMENT C
Combined Sewer Overflow Discharge Points
Wastewater Collection System
Manchester, New Hampshire

COMBINED SEWER OUTFALL NUMBER	LOCATION	RECEIVING WATER
011	Schiller Street	Merrimack River
018	Turner/Ferry Streets	Merrimack River
031	Stark Brook	Merrimack River
039	Third Street	Piscataquog River
043	Tannery Brook	Merrimack River
044	Cemetery Brook	Merrimack River
045	Granite Street	Merrimack River
046	Bridge Street (East)	Merrimack River

ATTACHMENT C (**Continued**)

COMBINED SEWER OUTFALL NUMBER	LOCATION	RECEIVING WATER
047	Pennacook Street	Merrimack River
050	WWTP Manhole #1	Merrimack River
051	West Side Pumping Station Emergency Overflow	Piscataquog River
052	WWTP Manhole #2	Merrimack River
053	Walnut/North Streets and Canal/West Pennacook Streets	Merrimack River