

**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"),

Town of Waterville Valley, New Hampshire

is authorized to discharge from the facility located at

**Tripoli Road
Waterville Valley, New Hampshire 03215**

to receiving water named

The Mad River (Hydrologic Basin Code: 01070002)

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

This permit shall become effective 60 days from the date of signature.

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

This permit supersedes the permit issued on February 18, 2000.

This permit consists of 9 pages in Part I including effluent limitations, monitoring requirements, etc., Attachment A (9 pages), Sludge Compliance Guidance (72 pages) and 35 pages in Part II, which includes General Conditions and Definitions.

Signed this 23rd day of November, 2005

/s/ SIGNATURE ON FILE

Linda M. Murphy, Director
Office of Ecosystem Protection
U.S. Environmental Protection Agency (EPA)
Region I
Boston, Massachusetts

PART I.

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 treated wastewater effluent (predominately of sanitary origin with minor commercial contributions) from Outfall Serial Number 001 into the receiving water (Mad 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.

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>			<u>Monitoring Requirements</u>			
	<u>Average Monthly</u> (lbs/day)	<u>Average Weekly</u>	<u>Maximum Daily</u>	<u>Average Monthly</u> (Units Specified)	<u>Average Weekly</u>	<u>Maximum Daily</u>	<u>Measurement Frequency</u> <u>Sample Type</u>
Flow (MGD)	---	---	---	0.55	---	Report	Continuous Recorder ¹
BOD ₅	23	23	23 ²	5 mg/l	5 mg/l	5 mg/l	2/Week ³ 8-Hour Comp.
TSS	5	9	18 ²	1 mg/l	2 mg/l	4 mg/l	2/Week ³ 8-Hour Comp.
pH Range (Std. Units) ²	(6.5 to 8.0, unless altered by PART I.D.1.a)						1/Day Grab
<u>Escherichia coli</u> Bacteria ^{2,4} (Colonies/100 ml)	---	---	---	126	---	406	3 Days/wk Grab
Total Residual Chlorine ⁵	---	---	---	0.08 mg/l	---	0.14 mg/l	1/Day Grab
Ammonia Nitrogen, as N ⁶	---	5	---	Report	1.0 mg/l	---	1/Week 8-Hour Comp.
(Jul. & Aug.)	---	---	---	Report	Report	---	1/Week 8-Hour Comp.
Ammonia Nitrogen, as N ⁶	---	---	---	Report	Report	---	1/Week 8-Hour Comp.
(Jun. & Sept.)	---	---	---	Report	Report	---	1/Week 8-Hour Comp.
Ammonia Nitrogen, as N ⁶	---	---	---	Report	---	---	1/Week 8-Hour Comp.
(Oct. - May)	---	---	---	Report	---	---	1/Week 8-Hour Comp.
Copper, ug/l	---	---	---	---	---	Report	1/Week 8-Hour Comp.
Total Phosphorus	---	---	---	0.75 mg/l	---	1.0 mg/l	1/Week 8-Hour Comp.
Whole Effluent Toxicity	---	---	---	---	---	100 %	1/Quarter 8-Hour Comp.
LC50 ^{7,8,9}	---	---	---	---	---	≥13.3 %	1/Quarter 8-Hour Comp.
C-NOEC ^{7,8,10}	---	---	---	---	---	1/Quarter	8-Hour Comp.
Hardness ¹¹ , mg/l	---	---	---	---	---	Report	1/Quarter 8-Hour Comp.
Ammonia Nitrogen, as N ¹¹ , mg/l	---	---	---	---	---	Report	1/Quarter 8-Hour Comp.
Total Recoverable Aluminum ¹¹ , mg/l	---	---	---	---	---	Report	1/Quarter 8-Hour Comp.
Total Recoverable Cadmium ¹¹ , mg/l	---	---	---	---	---	Report	1/Quarter 8-Hour Comp.
Total Recoverable Chromium ¹¹ , mg/l	---	---	---	---	---	Report	1/Quarter 8-Hour Comp.
Total Recoverable Copper ¹¹ , mg/l	---	---	---	---	---	Report	1/Quarter 8-Hour Comp.
Total Recoverable Nickel ¹¹ , mg/l	---	---	---	---	---	Report	1/Quarter 8-Hour Comp.
Total Recoverable Lead ¹¹ , mg/l	---	---	---	---	---	Report	1/Quarter 8-Hour Comp.

Total Recoverable Zinc¹; mg/l

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See pages 3 and 4 for footnotes

FOOTNOTES:

1. The effluent flow shall be continuously measured and recorded using a flow meter and totalizer.
2. State Certification Requirement.
3. The influent concentrations of both Five-Day Biochemical Oxygen Demand (BOD₅) and Total Suspended Solids (TSS) shall be monitored twice per month (2/Month) using a 8-Hour Composite sample and the results reported as average monthly values.
4. The average monthly value for Escherichia coli shall be determined by calculating the geometric mean and the result reported. Escherichia coli shall be tested using test method 1103.1 found in Test Methods for Escherichia coli in Water by Membrane Filtration using Membrane Thermotolerent Escherichia coli Agar (Mtec) (EPA 821-R-02-020) found in 40 CFR Part 136. This monitoring shall be conducted concurrently with the TRC sampling described below.
5. Any time, any form of chlorine is being added to the POTW as part of any treatment process, Total Residual Chlorine (TRC) shall be tested using Amperometric Titration or the DPD Spec-trophotometric methods. The EPA approved methods are found in Standard Methods for the Examination of Water and Wastewater, 18th or subsequent Edition(s) as approved in 40 CFR Part 136, Method 4500-Cl E and Method 4500-Cl G or U.S. E.P.A Manual of Methods of Analysis of Water and Wastes, Method 330.5. The minimum level (ML) for total residual chlorine is defined as 20 ug/l. Sample results of 20 ug/l or less shall be reported as zero on the discharge monitoring reports.
6. Ammonia Nitrogen as N is limited at 1.0 mg/L weekly average from July 1 through August 31, Weekly average values must be reported during the months of June through September. Monthly average values shall be reported year-round.
7. The permittee shall conduct acute and chronic toxicity tests on effluent samples using two species, Daphnid (Ceriodaphnia dubia) and Fathead Minnow (Pimephales promelas) following the protocol in **Attachment A** (Freshwater Chronic Toxicity Test Procedure and Protocol dated December 1995). This test protocol includes the procedure to calculate an LC50 at the end of 48 hours for the two species.

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. The chemical data for the alternate dilution water and the site water are to be submitted with the test results.

8. This permit shall be modified, or alternatively, revoked and reissued to incorporate additional requirements, including chemical specific limits, if results of these toxicity tests indicate the discharge causes an exceedance of any water-quality criterion, particularly a metal. Results from these toxicity tests are considered "New Information" and the permit may be modified as provided in 40 CFR §122.62(a)(2).
9. LC50 (Lethal Concentration 50 Percent) is the concentration of wastewater causing mortality to 50 percent of the test organisms at a specified time of observations. The "100 %" is defined as a sample

which is composed of 100 percent effluent (See A.1.a. on Page 2 of **PART I** and Attachment A of **PART I**). 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. The limit is considered to be a maximum daily limit.

10. C-NOEC (Chronic-No Observed Effect Concentration) is defined as the **highest** concentration of an effluent to which aquatic test 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 “13.3% or greater limit” is defined as a sample which is composed of 13.3 percent (or greater) effluent, the remainder being dilution water (See A.1.a. on Page 2 of **PART I** and Attachment A of **PART I**). This is the minimum percentage of effluent at which no acute or chronic effects will be observed. The limit is considered to be a maximum daily limit.
11. For each Whole Effluent Toxicity (WET) test the permittee shall report on the appropriate Discharge Monitoring Report (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 Minimum Quantification Level (MLs) shown in **Attachment A** on page A-8, or as amended. Also, the permittee should note that all chemical parameter results must still be reported in the appropriate toxicity report. The permittee may use results from the WET test’s chemical analysis for Ammonia Nitrogen as Nitrogen (N) in partial fulfillment of this limited and/or monitored parameter.

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 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 BOD₅ and 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 0.55 MGD design flow or 0.44 MGD, the permittee shall submit to the permitting authorities 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. All Publicly Owned Treatment Works (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 industry category (See 40 CFR Part 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. Limitations for Industrial Users:

The permittee shall submit to EPA and NHDES-WD the name of any Industrial User (IU) subject to Categorical Pretreatment Standards (see list in 40 CFR §403 Appendix C as amended) pursuant to 40 CFR §403.6 and 40 CFR 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 Approval Authority as defined in 40 CFR 403.12(a) on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement (in accordance with 40 CFR 403.8(f)(6)).

In the event that the permittee receives reports (baseline monitoring reports, 90-day compliance reports, periodic reports on continued compliance, etc.) from Categorical Industrial Facilities (see list in 40 CFR §403 Appendix C as amended), the permittee shall forward all copies of these reports within ninety (90) days of their receipt to EPA and NHDES-WD.”

8. **Requirement to develop a Toxicity Identification Evaluation and a Toxicity Reduction Evaluation .**

The draft permit requires the permittee to complete a Toxicity Identification Evaluation (TIE) and a Toxicity Reduction Evaluation (TRE) if the permittee violates any WET effluent limits. The draft permit requires the TIE to be completed within one year of the first violation of a WET limit and the TRE to be completed within one year of the completion of the TIE.

The TIE and TRE are to be performed in accordance with EPA guidance. (Refer to EPA Research and

Development Manual Methods for Aquatic Toxicity Identification Evaluations, Phase I Toxicity Characterization Procedures EPA/600/3-88/034, Sept. 1988, Phase II Toxicity Identification Procedures, EPA/600/3-88/035, Feb. 1989, and Phase III Toxicity confirmation Procedures, EPA/600/3-88/036, Feb. 1989, and EPA Research and Development Manual, Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (TREs) EPA/600/2- 88/070). Reports documenting the required TIE and TRE shall be submitted to EPA and NH DES for review. The TRE report shall include a schedule for recommended corrective measures. These measures shall be implemented upon approval by EPA and NH DES.

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 CWA Section 405(d) technical standards.
2. The permittee shall comply with the more stringent of either the state (Env-Ws 800) or federal (40 CFR Part 503) requirements.
3. The requirements and technical standards of 40 CFR Part 503 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 the soil.
 - b. Surface disposal - the placement of sewage sludge in a sludge only landfill.
 - c. Placement of sludge in a municipal solid waste landfill (See 40 CFR Section 503.4).
 - d. Sewage sludge incineration in a sludge only incinerator.
4. The 40 CFR Part 503 conditions applying to facilities which place sludge within a municipal solid waste landfill stipulate that the sewage sludge meets the requirements of 40 CFR Part 258 concerning the quality of materials disposed in a municipal landfill. These conditions do not apply to facilities which do not dispose of sewage sludge during the life of the permit, but rather treat the sludge (lagoons-reed beds), or are otherwise excluded under 40 CFR Section 503.6.
5. The permittee shall submit an annual report containing the information specified in the attached Sludge Compliance Guidance document. Reports are due annually by February 19th. Reports shall be submitted to both addresses (EPA-New England and NHDES-WD) 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 15th day of the month following the completed reporting period.

Signed and Dated original DMRs and all other reports required herein, 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

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 of the range of 6.0 to 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).
 - 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.
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 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 sued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation.

E. SPECIAL CONDITIONS

Whole Effluent Toxicity Test Frequency Adjustment

The permittee may submit a written request to the EPA 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 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 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) for this facility. 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 indicating the pH limit range has been changed, the permittee is required to meet the permitted pH limit range in the respective permit.