UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
JOHN F. KENNEDY FEDERAL BUILDING
BOSTON, MASSACHUSETTS 02203-0001

FACT SHEET

DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES

PUBLIC NOTICE START AND END DATES:

PUBLIC NOTICE NUMBER:

CONTENTS: 16 pages including (4) Attachments A through D

NPDES PERMIT NO.: NH0100293

NAME AND MAILING ADDRESS OF APPLICANT:

Town of Woodstock
Route 175
North Woodstock, New Hampshire 03262

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Woodstock Wastewater Treatment Plant
Route 175
North Woodstock, New Hampshire

RECEIVING WATER: Pemigewasset River (Hydrologic Unit Code: 01070001)

CLASSIFICATION: B

I. Proposed Action, Type of Facility and Discharge Location.

The Woodstock Wastewater Treatment Plant collects and treats domestic and commercial wastewater from the Town of Woodstock. The facility does not accept septage. The applicant has applied to the U.S. Environmental Protection Agency (EPA) for reissuance of its NPDES permit to discharge treated effluent into the designated receiving water (Pemigewasset River). The Pemigewasset River is used for fishing, boating, swimming and other primary contact recreation.

The plant is designed as a 0.34 million gallon per day (MGD) activated sludge wastewater treatment facility. Treatment consists of screening/grit removal, three oxidation ditches, clarification, and disinfection in a contact tank with chlorine gas.

The previous permit was issued on September 18, 1998, and expired on October 18, 2003. The expired permit (hereafter referred to as the "existing permit") has been administratively extended as the applicant filed a complete application for permit reissuance as per 40 Code of Federal Regulations (CFR) §122.6. The existing permit authorizes discharge from Outfall 001 (Treatment Plant).

The location of the facility, Outfall 001 and the receiving water are shown in Attachment A.

II. Description of Discharge.

A quantitative description of significant effluent parameters based on reapplication data and discharge monitoring data (January 2003 through December 2004) are shown in Attachment B.

III. Limitations and Conditions.

The draft permit contains limitations for pH, biochemical oxygen demand (BOD_5), *Escherichia coli*, and total suspended solids (TSS), and whole effluent toxicity (WET). It also contains monitoring requirements for flow, ammonia nitrogen as nitrogen, hardness, aluminum cadmium, chromium, copper, nickel, lead and zinc. The effluent limitations and monitoring requirements are found in Part I of the draft NPDES permit. The basis for each limit and condition is discussed below in Section IV of the Fact Sheet.

IV. Permit Basis and Explanation of Effluent Limitations Derivation.

A. Background

The Clean Water Act (the Act) prohibits the discharge of pollutants to waters of the United States without a National Pollutant Discharge Elimination System (NPDES) permit unless such a discharge is otherwise authorized by the Act. The NPDES permit is the mechanism used to implement technology and water-quality based effluent limitations and other requirements including monitoring and reporting. The draft NPDES permit was developed in accordance with various statutory and regulatory requirements established pursuant to the Act and any applicable State administrative rules. The regulations governing EPA's NPDES permit program are generally found in 40 CFR Parts 122, 124, 125 and 136. Many of these regulations consist primarily of management requirements common to all permits.

EPA is required to consider technology and water-quality based requirements as well as all requirements/limitations in the existing permit when developing permit limits. Technology-based treatment requirements represent the minimum level of control that must be imposed under Sections 301(b) and 402 of the Act (See 40 CFR §125 Subpart A). Secondary treatment technology guidelines (effluent limitations) represent the minimum level of control required for publicly-owned treatment works (POTW); these guidelines can be found in 40 CFR Part 133.

In general, all statutory deadlines for meeting various technology-based guidelines established pursuant

to the Act have expired. For instance, compliance with POTW technology-based effluent limitations is, effectively, from date of permit issuance (40 CFR §125.3(a)(1)). Compliance schedules and deadlines not in accordance with the statutory provisions of the Act can not be authorized by a NPDES permit.

EPA regulations require NPDES permits to contain effluent limits more stringent than technology-based limits where more stringent limits are necessary to maintain or achieve state or federal water-quality standards (see Section 301(b)(1)(C) of the Act). A water-quality standard consists of three elements: (1) Beneficial designated use or uses for a water body or a segment of a water body; (2) a numeric or narrative water quality criteria sufficient to protect the assigned designated use(s); and (3) an antidegradation requirement to ensure that once a use is attained it will not be eroded. Receiving water requirements are established according to numerical and narrative standards in the state's water quality standards adopted under state law for each stream classification.

When using chemical-specific numeric criteria to develop permit limits, both acute and chronic aquatic-life criteria, expressed in terms of maximum allowable in-stream pollutant concentration, are used. Acute aquatic-life criteria are considered applicable to daily time periods (maximum daily limit) and chronic aquatic-life criteria are considered applicable to monthly time periods (average monthly limit). Chemical-specific limits are allowed under 40 CFR §122.44 (d)(1) and are implemented under 40 CFR §122.45(d).

The basis for the average weekly limit for POTWs under 40 CFR §122.45(d) derives from the secondary treatment requirements for BOD_5 and TSS and is not directly related to achieving chemical specific water quality standards for toxic pollutants based on acute (short term) and chronic (long term) criteria. Since it would be impracticable to rely only on monthly or weekly average limits to ensure that water quality standards are being met, EPA New England establishes maximum daily and average monthly limits for chemical specific toxic pollutants, such as total residual chlorine.

The POTW's design flow is used when deriving constituent limits for daily and monthly time periods as well as weekly periods where appropriate. Also, the dilution provided by the receiving water is factored into this process. Furthermore, narrative criteria from the state's water quality standards are often used to limit toxicity in discharges where: (1) a specific pollutant can be identified as causing or contributing to the toxicity but the state has no numeric standard; or (2) toxicity cannot be traced to a specific pollutant.

The permit must limit any pollutant or pollutant parameter (conventional, non-conventional, toxic and whole effluent toxicity) that is or may be discharged at a level that causes or has "reasonable potential" to cause or contribute to an excursion above any water-quality criterion. An excursion occurs if the projected or actual in-stream concentration exceeds the applicable criterion.

In determining reasonable potential, EPA considers: (1) existing and planned controls on point and non-point sources of pollution; (2) pollutant concentration and variability in the effluent and receiving water as determined from permit's reissuance application, Monthly Discharge Monitoring Reports

(DMRs), and State and Federal Water Quality Reports; (3) sensitivity of the species to toxicity testing; (4) statistical approach outlined in **Technical Support Document for Water Quality-based Toxics Control, March 1991, EPA/505/2-90-001** in Section 3; and, where appropriate, (5) dilution of the effluent in the receiving water. In accordance with New Hampshire statutes and administrative rules [50 RSA 485-A:8, Env-Ws 1705.02], available dilution for discharges to freshwater receiving waters is based on a known or estimated value of the annual seven (7) consecutive-day mean low flow at the 10-year recurrence interval (7Q10) for aquatic life or the mean annual flow for human health (carcinogens only) in the receiving water at the point just upstream of the discharge. Furthermore, 10 percent (%) of the receiving water's assimilative capacity is held in reserve for future needs in accordance with New Hampshire's Surface Water Quality Regulations Env-Ws 1705.01. The current set of these new regulations, newly revised, were adopted on December 3, 1999, and became effective on December 10, 1999. Hereinafter, these New Hampshire Surface Water Quality Regulations are referred to as the NH Standards.

The permit may not be renewed, reissued or modified with less stringent limitations or conditions than those conditions in the previous permit unless in compliance with the antibacksliding requirement of the Act (See Sections 402(o) and 303(d)(4) of the Act and 40 CFR §122.44(l)(1 and 2). EPA's antibacksliding provisions found in 40 CFR §122.44(l) prohibit the relaxation of permit limits, standards, and conditions unless certain conditions are met. Therefore, unless those conditions are met the limits in the reissued permit must be at least as stringent as those in the previous permit.

The Act requires that EPA obtain state certification which states that all water-quality standards will be satisfied. The permit must conform to the conditions established pursuant to a State Certification under Section 401 of the Act (40 CFR §124.53 and §124.55. EPA regulations pertaining to permit limits based upon water-quality standards and state requirements are contained in 40 CFR §122.44(d).

The conditions of the permit reflect the goal of the Act and EPA to achieve and then to maintain water quality standards. To protect the existing quality of the State's receiving waters, the New Hampshire Department of Environmental Services, Water Division (NHDES-WD) adopted Antidegradation requirements (Env-Ws 1708) in their NH Standards.

B. Conventional Pollutants

Five-Day Biological Oxygen Demand (BOD_5) and Total Suspended Solids (TSS)

The average monthly, average weekly and maximum daily concentration and mass limitations for BOD_5 and TSS found in the draft permit are based on limitations in the existing permit, which are more stringent than the secondary treatment requirements found in Section 301(b)(1)(B) of the Act, and defined in 40 CFR §133.102. The limits have been retained in the draft permit thereby satisfying the antibacksliding provisions in Sections 402(o) and 303(d)(4) of the Act and 40 CFR §122.44(l). **See Appendix C for example calculation of mass-based limits.**

Compliance monitoring frequencies for both BOD_5 and TSS in the draft permit are twice per week

(2/Week), in conformance with the July 19, 1999 **EPA/NHDES-WD Effluent Monitoring Guidance**. These frequencies are minimum requirements consistent with sampling needed to assess a treatment system's effluent variability in order to properly evaluate compliance with NPDES permitted limits.

pH and Bacteria (*E. Coli*) Limits Including Related Conditions

The water quality-based effluent limitations for pH and Escherichia coli bacteria (*E.Coli*) in the draft permit are the same as the limits in the existing permit and, therefore satisfy the antibacksliding requirements found in 40 CFR §122.44(l). The permittee has been able to achieve consistent compliance with those limits.

The compliance monitoring frequency for bacteria (*E.Coli*) in the draft permit is three times per week (3/Week), the same as the existing permit. Also, pH in the draft permit remains unchanged (Daily) from the existing permit. Again, both frequencies conform with the July 19, 1999 **EPA/NHDES-WD Effluent Monitoring Guidance** described above. This does not violate antibacksliding regulations.

C. Available Dilution and Nonconventional and Toxic Pollutants

Water quality based limits for specific toxic pollutants such as chlorine, ammonia, metals, etc. are determined from chemical specific numeric criteria derived from extensive scientific studies. The specific toxic pollutants and their associated toxicity criteria are **known as the "Gold Book Criteria" which EPA published in Quality Criteria for Water, 1986, (EPA 440/5-86-001 as amended). The State of New Hampshire adopted these "Gold Book Criteria", with certain exceptions, and included them as part of the NH Standards. EPA uses these pollutant specific criteria and available dilution in the receiving water to determine a specific pollutant's draft permit limit.**

Available Dilution

The dilution factor, indicating the available dilution afforded the Woodstock POTW's effluent by the receiving water, was determined to be 87.56 in the draft permit. The dilution factor was calculated using the plant's design flow (0.34 MGD)**, an estimate of the 7Q10 low flow in the Pemigewasset River at the treatment plant's outfall (50.65 cfs), and a 10 percent set aside or reserve (pursuant to RSA 485-A:13,I.(a) and Env-Ws 1705.01). Because an exact value of the 7Q10 flow at the outfall is not available, 7Q10 flow from the nearest U.S. Geological Survey (Survey) gaging station (stream flow measuring site) on the Pemigewasset River downstream of the outfall is used with an appropriate adjustment** for the intervening drainage area between the gaging station and the outfall. **See Attachment C for calculations of 7Q10 flow and dilution factor.**

Total Residual Chlorine

Effluent limitations for total residual chlorine (TRC) in the draft permit are the same as the limits in the existing permit and, therefore, are in accordance with antibacksliding requirements found in 40 CFR § 122.44(1). EPA-New England has established a maximum daily TRC limitation of 1.0 mg/l using Best

Professional Judgement under the authority granted in Section 402(a)(1) of the CWA and 40 CFR §125.3. This maximum daily effluent limitation is more stringent than the 1.66 mg/l limitation based on the State's acute aquatic-life criterion in the NH Standards and allowable dilution. A numeric average monthly TRC limitation of 1.0 mg/l is based on the State's chronic aquatic-life criterion for chlorine found in the NH Standards pursuant to RSA 485-A:8,VI, Env-Ws 1703.21, Table 1703.1, and available dilution in the receiving water. **See Appendix C for TRC calculation.**

The daily sampling frequency in the draft permit is the same as in the existing permit.

D. Whole Effluent Toxicity

EPA's **Technical Support Document for Water Quality-based Toxics Control**, **EPA/505/2-90-001, March 1991**, recommends using an "integrated strategy" containing both pollutant (chemical) specific approaches and whole effluent (biological) toxicity approaches to control toxic pollutants in effluent discharges from entering the nation's waterways. EPA-New England adopted this "integrated strategy" on July 1, 1991, for use in permit development and issuance. These approaches are designed to protect aquatic life and human health. Pollutant specific approaches such as those in the Gold Book and State regulations address individual chemicals, whereas, whole effluent toxicity (WET) approaches evaluate interactions between pollutants thus rendering an "overall" or "aggregate" toxicity assessment of the effluent. Furthermore, WET measures the "Additivity" and/or "Antagonistic" effects of individual chemical pollutants which pollutant specific approaches do not, thus the need for both approaches. In addition, the presence of an unknown toxic pollutant can be discovered and addressed through this process.

Section 101(a)(3) of the Act specifically prohibits the discharge of toxic pollutants in toxic amounts and New Hampshire law states that, "all waters shall be free from toxic substances or chemical constituents in concentrations or combination that injure or are inimical to plants, animals, humans, or aquatic life;...." (N.H. RSA 485-A:8, VI and the N.H. Code of Administrative Rules, PART Env-Ws 1730.21(a)(1)). The federal NPDES regulations at 40 CFR §122.44(d)(1)(v) require whole effluent toxicity limits in a permit when a discharge has a "reasonable potential" to cause or contribute to an excursion above the State's narrative criterion for toxicity. Furthermore, results of these toxicity tests will demonstrate compliance of the POTW's discharge with the no toxics provision of the NH Standards.

Accordingly, to fully implement the integrated strategy and to protect the no toxics provision of the NH Standards, EPA-New England requires toxicity testing in all municipal permits with the type of toxicity test (acute or chronic) and effluent limitation based on the available dilution (Attachment D).

The **Toxicity Strategy for Municipal Permits** (Attachment D) is the basis for the WET limits in Woodstock's existing permit and this draft permit. In addition, the effluent limitation in the draft permit for LC50 is the same as the existing permit and, therefore, is in accordance with the antibacksliding requirements found in 40 CFR 122.44(1).

The LC50 is defined as the percentage of effluent that would be lethal to 50% of the test organisms during an exposure of 48 hours (static acute toxicity test). The existing and draft permit establish the LC50 limit at 100%, meaning a sample of 100% effluent shall have no greater than a 50% mortality rate in the effluent sample.

The Woodstock facility is a minor POTW (design flow less than 1 mgd). Woodstock's discharge is to the Pemigewasset River which is listed on the 303(d) list of impaired waters relative to elevated aluminum concentrations. A total maximum daily load (TMDL) study is planned for 2016 with respect to aluminum. In accordance with the EPA-New England's **Minor POTW Toxicity Policy** adopted March 2, 1994, Woodstock POTW's existing and draft permit require the permittee to collect and test the effluent samples once annually during the July-September period. If toxicity violations are shown, monitoring frequency and testing requirements may be increased, and enforcement actions may be taken. The permit may also be modified, or alternatively, revoked and reissued to incorporate additional toxicity testing requirements or chemical specific limits.

This draft permit requires reporting of selected parameters determined from the chemical analysis of the WET tests 100 % effluent sample. Specifically, ammonia nitrogen (as nitrogen), hardness, and total recoverable aluminum, cadmium, copper, chromium, lead, nickel and zinc are to be reported on the appropriate discharge monitoring report (DMR) for entry into EPA's Permit Compliance System's data base. EPA-New England does not consider these reporting requirements an unnecessary burden as reporting these constituents is required with the submission of each toxicity testing report. (See draft permit, Attachment A)

EPA conditioned the existing permit to require monitoring for one year on a quarterly basis for copper and lead in its effluent to evaluate whether there was "reasonable potential" to violate the NH Standards. Effluent monitoring of metals was believed necessary because high levels of these metals were observed in the sludge, and it was unknown whether high levels were being discharged to the receiving water. Review of the monthly DMR data relative to this monitoring requirement (n=4) demonstrates that no reasonable potential exists for the exceedence of water quality criteria for copper or lead. Therefore, the draft permit proposes to eliminate the 1/quarter monitoring requirement for copper and lead. However, copper and lead should continue to be sampled as part of Whole Effluent Toxicity (WET) testing.

E. Sludge

Section 405(d) of the Act requires that EPA develop technical standards regulating the use and disposal of sewage sludge. These regulations were signed on November 25, 1992, published in the Federal Register on February 19, 1993 and became effective on March 22, 1993. The permit contains conditions intended to implement Section 405(d). Conditions include: required compliance by the statutory deadlines; causes for modification of the permit; and, appropriate and necessary conditions to ensure that EPA and NHDES-WD are notified 180 days prior to a change in the sludge use or disposal method and receive appropriate sewage sludge monitoring results for all parameters associated with disposal method chosen including pollutants, pathogens and vectors.

The Town of Woodstock currently disposes approximately 9,000 gallons per week of sludge at 1% solids at the Winnipesaukee River Basin Program-Wastewater Treatment Plant (WRBP) in Franklin, New Hampshire. It is possible this sludge disposal method will be changed during the term of the reissued permit. The permittee is currently evaluating the practice of freeze dried sludge followed by land application of the dry solids. Using sludge drying bags placed in the old sand sludge drying beds, the sludge is allowed to freeze over one winter (at least). Upon thaw, water drains from the solids and it is anticipated the resulting sludge will consist of 35% to 50% dry cake solids. Prior to land application, the permittee must perform analytical testing of the sludge and meet the regulatory criteria of New Hampshire's Env-Ws 800. Domestic sludges which are land applied, disposed of in a surface disposal unit, or fired in a sewage sludge incinerator are subject to Part 503 technical standards. Domestic sludges which are disposed of in municipal solid waste landfills are in compliance with Part 503 provided the landfill meets the requirements of 40 CFR Part 258.

The permittee currently has the sludge analyzed for metals once every two years so that the various use or disposal options may be considered in advance of a future need to dispose of sludge in a different manner than presently done. It is anticipated this practice will continue.

The draft permit has been conditioned to ensure that sewage sludge use and disposal practices meet the CWA Section 405(d) Technical Standards. In addition, EPA-New England has included with the draft permit a 72-page document entitled **EPA Region I NPDES Permit Sludge Compliance Guidance, November 1999** for use by the permittee in determining the appropriate sludge conditions for the chosen method of sewage sludge use or disposal practices.

The permittee is required to submit an annual report to EPA-New England and NHDES-WD, by February 19th each year, containing the information specified in the Sludge Compliance Guidance document for their chose method of sewage sludge use or disposal practices.

F. Industrial Users (Pretreatment Program)

The permittee is not required to administer a pretreatment program based on the authority granted under 40 CFR §122.44(j), 40 CFR §403 and Section 307 of the Act. However, the draft permit contains conditions that are necessary to allow EPA and NHDES-WD to ensure that pollutants from industrial users will not pass through the facility and cause water quality standards violations and/or sludge use and disposal difficulties or cause interference with the operation of the treatment facility. The permittee is required to notify EPA and NHDES-WD whenever a process wastewater discharge to the facility from a primary industrial category (see 40 CFR §122 Appendix A for list) is planned or if there is any substantial change in the volume or character of pollutants being discharged into the facility by a source that was discharging at the time of issuance of the permit. The permit also contains the requirements to: 1) report to EPA and NHDES-WD the name(s) of all industrial users subject to categorical pretreatment standards (see 40 CFR §403 Appendix C for list) who commence discharge to the POTW after the effective date of the finally issued permit, and 2) submit copies of baseline monitoring reports and other pretreatment reports submitted by industrial users to EPA and NHDES-

WD.

G. Antidegradation

This draft permit is being reissued with allowable wasteloads and parameter coverages identical to those in the current permit with no change in outfall location. The State of New Hampshire has indicated that there is no lowering of water quality and no loss of existing water uses and that no additional antidegradation review is warranted at this time.

H. Additional Requirements and Conditions

The effluent monitoring requirements in the draft permit have been established to yield data representative of the discharge under the authority of Section 308(a) of the Act in accordance with 40 CFR §122.41(j), §122.44(i) and §122.48. In the draft permit, compliance monitoring frequency and sample type for Flow, BOD_5, TSS, pH, TRC, and *Escherichia coli* bacteria have been established in accordance with the latest version of **EPA/NHDES-WD's Effluent Monitoring Guidance (EMG)** mutually agreed upon and first implemented in March 1993 and last revised on July 19, 1999. In addition, the WET test monitoring requirements have been set according to EPA-New England's Municipal Toxicity Policy.

The remaining conditions of the permit are based on the NPDES regulations 40 CFR, Parts 122 through 125, and consist primarily of management requirements common to all permits.

I. Essential Fish Habitat

Under the 1996 Amendments (PL 104-267) to the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. §1801 et seq.(1998)), EPA is required to consult with the National Marine Fisheries Service (NMFS) if EPA's action or proposed actions that it funds, permits, or undertakes, "may adversely impact any essential fish habitat." 16 U.S.C. § 1855(b). The Amendments broadly define "essential fish habitat" (EFH) as: "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. 16 U.S.C. § 1802(10). Adverse impact means any impact which reduces the quality and/or quantity of EFH. 50 CFR § 600.910(a). Adverse effects may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey, reduction in species' fecundity), site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

EFH is only designated for fish species for which federal Fisheries Management Plans exist. 16 U.S.C. § 1855(b)(1)(A). EFH designations for New England were approved by the U.S. Department of Commerce on March 3, 1999.

EFH Species

Atlantic salmon (Salmo salar) is the only species for which EFH has been designated in the

Pemigewasset River, which is a tributary of the Merrimack River. According to New Hampshire Fish and Game Department (NHFGD), the section of the Pemigewasset River in proximity to Woodstock's POTW outfall consists predominantly of broken cobble and bedrock. The river flows swiftly through this area, and NHFGD considers it high value salmon habitat. NHFGD is attempting to restore Atlantic salmon to the Merrimack River and its tributaries through an annual stocking program. This area and locations upstream are routinely stocked with Atlantic salmon, as well as a migratory route for salmon smolts heading downstream towards the ocean.

Analysis of Effects

This draft permit, which is a re-issuance of an existing permit, has been written to satisfy NH Standards which are considered by EPA-New England and the NHDES-WD to be protective of all aquatic organisms, including Atlantic salmon and their forage. Therefore, EPA believes an possible adverse impacts to EFH from this discharge have been minimized to acceptable levels.

Mitigation

The EPA-New England considers the limits and conditions in this draft permit sufficient to protect the Atlantic salmon EFH. Therefore, additional mitigation is not warranted at this time. If EPA-New England receives new information that changes the basis for this conclusion, consultation with NOAA Fisheries will be re-initiated.

V. State Certification Requirements

EPA may not issue a permit unless the State Water Pollution Control Agency with jurisdiction over the receiving water(s) either certifies that the effluent limitations contained in the permit are stringent enough to assure that the discharge will not cause the receiving water to violate State Water Quality Standards or waives its right to certify as set forth in 40 CFR §124.53. State Water Quality Standards contain three major elements: Beneficial uses; water quality Criteria; and an antidegradation policy, all of which are part of the State's water quality certification under Section 401 of the Act. **The only exception to this is that sludge conditions/requirements are not part of the Section 401 state certification.** The staff of the NHDES-WD, Surface Water Quality Bureau (certifying authority), has reviewed the draft permit and advised EPA that the limitations are adequate to protect water quality. EPA has requested permit certification by the State and expects that the draft permit will be certified. Regulations governing state certification are set forth in 40 CFR §§124.53 and §124.55.

VI. Comment Period, Hearing Requests, and Procedures for Final Decisions

All persons, including applicants, who believe any condition of the draft permit is inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by the close of the public comment period, to the U.S. EPA, Office of Ecosystem Protection, New Hampshire State Program Unit, Mail Code CMP, One Congress Street, Suite 1100, Boston, Massachusetts 02114-2023. Any person, prior to such date, may submit a request in writing for a

public hearing to consider the draft permit to EPA and the State Agency. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public hearing may be held after at least thirty (30) days public notice whenever the Regional Administrator finds that response to this notice indicates significant public interest. In reaching a final decision on the draft permit, the Regional Administrator will respond to all significant comments and make these responses available to the public at EPA's Boston office.

Following the close of the comment period, and after a public hearing, if such hearing is held, the Regional Administrator will issue a final permit decision and forward a copy of the final decision to the applicant and each person who has submitted written comments or requested notice.

VII. EPA/State Contacts.

Additional information concerning the draft permit may be obtained between the hours of 9:00 A.M. and 5:00 P.M. (8:00 A.M. and 4:00 P.M. for the state), Monday through Friday, excluding holidays from:

Jeanne Voorhees
U.S. Environmental Protection Agency
One Congress Street, Suite 1100
Boston, Massachusetts 02114-2023
Telephone: (617) 918-1686
FAX No.: (617) 918-1505
or
Ms. Susan A. Willoughby, P.E.
NH Department of Environmental Services: Water Division
P.O. Box 95, 29 Hazen Drive
Concord, New Hampshire 03302-0095
Telephone: (603) 271-3307
FAX No.: (603) 271-4128

_____
Date

Linda M. Murphy, Director
Office of Ecosystem Protection
U.S. Environmental Protection Agency

ATTACHMENT A

OUTFALL LOCATION MAP

ATTACHMENT B

CONCENTRATIONS OF EFFLUENT CHARACTERISTICS AT OUTFALL 001

The following effluent characteristics were derived from analysis of discharge-monitoring data collected from Outfall 001 during the 24-month period, January 2003 through December 2004. All these data were extracted from the monthly Discharge Monitoring Reports submitted by the Woodstock Wastewater Treatment Plant. These effluent values characterize treated sanitary and commercial wastewaters discharged from this facility.

Effluent Characteristic	Average of Average Monthly	Range of Average Monthly	Maximum of Maximum Daily	Range of Maximum Daily
Flow (MGD)	0.129	0.101 - 0.232	0.304	0.125 - 0.304
BOD_5 (lbs/day)	5.915	2.69 - 12.86	24.75	4.63 - 24.75
BOD_5 (mg/l)	5.813	3.1 - 10	19	5.2 - 19
BOD_5 (percent removal)	97.8	95 - 99	----	----
TSS (lbs/day)	4.46	1.21 - 11.23	30.1	2 - 30.1
TSS (mg/l)	4.52	1.1 - 11.6	18.8	2 - 18.8
TSS (percent removal)	97.6	95 - 99	----	----
pH (S.U.)	-----	-----	8.1	6.8 - 8.1
E. Coli (#/100 ml)	4.45	1 - 18	370	3 - 370
Total Residual Chlorine (mg/L)	0.504	0.34 - 0.66	2.20	0.49 - 2.2
Whole Effluent Toxicity (LC50 in % Effluent)				
Ceriodaphnia dubia	100	100-100	----	----
Pimephales promelas	100	100-100	----	----

ATTACHMENT C

CALCULATIONS OF MASS-BASED LIMITS

Calculations of maximum alloable loads for average monthly BOD_5 and TSS are based on the following equation:

$$L = C \times Q_{PDF} \times 8.345$$

where:

L = Maximum allowable load, in lbs/day, rounded to nearest 1 lbs/day.
C = Maximum allowable effluent concentration for average monthly reporting period, in mg/l.
Q_{PDF} = Treatment plant's design flow, in MGD
8.345 = Factor to convert effluent concentration, in mg/l, and plant's design flow, in MGD, to lbs/day.

DERIVATION OF 7Q10 LOW-FLOW AT OUTFALL 001

Woodstock's treatment plant was designed to process a wastewater flow of 0.34 MGD. The 7Q10 low flow on the Pemigewasset River just above of the plant's Outfall 001 was calculated by using the 7Q10 flow for the U.S. Geological Survey's Pemigewasset River at Woodstock gaging station, and multiplying by a ratio of the calculated 7Q10 flows for the following areas: (1) the intervening drainage area between that gage and Outfall 001, and (2) the entire drainage area above the gage.

Drainage area of the Pemigewasset River at Outfall 001 is 181.3 square miles (mi^2) as compared with 194.6 mi^2 at the gage at Woodstock. Pertinent data and the equation used to calculate 7Q10 flow for Outfall 001 are shown below.

Pemigewasset River at Woodstock, NH (downstream of Outfall 001);
Drainage Area (DA): 194.6 mi^2;
7Q10 low-flow value: 50.65 cubic feet per second (CFS).

$$Q_{001} = Q_G \, (Q_{\text{Dingman Outfall 001}} / Q_{\text{Dingman at Woodstock gage}})$$
$$Q_{001} = 53.218 \, (39.4658/41.459)$$
$$Q_{001} = 50.65$$

where:

Q_{001} = Estimated 7Q10 flow at Outfall 001, in CFS.
Q_G = USGS 7Q10 flow at Woodstock gage, in CFS.
$Q_{\text{Dingman Outfall 001}}$ = Calculated 7Q10 above Woodstock POTW outfall 001.
$Q_{\text{Dingman at Woodstock gage}}$ = Calculated 7Q10 at Woodstock gage.

DILUTION FACTOR

Equation used to calculate dilution factor at Outfall 001.

$$\textit{Dilution Factor} = \{[Q_{001} + (Q_{PDF})(1.547)] \div [(Q_{PDF})(1.547)]\} \times 0.9$$
$$= \{[50.65 + 0.526)] \div [0.526]\} * 0.9$$
$$= 87.56$$

where:

Q_{001} = Estimated 7Q10 flow at Outfall 001, in CFS.
Q_{PDF} = Treatment plant's design flow, in MGD.
1.547 = Factor to convert MGD to CFS.
0.9 = Factor to reserve of 10 % of river's assimilative capacity

WATER QUALITY BASED LIMIT

Equation typcially used to calculate average monthly and maximum daily Total Residual Chlorine limits.

Chlorine Limit = (Dilution Factor) * (Water Quality Standard) (*note that Woodstock's permit contains chlorine limits lower than a calculated acute limit*)

where water quality standards for chlorine are:

0.011 = Chronic Aquatic-Life Criterion, in mg/l.
0.019 = Acute Aquatic-Life Criterion, in mg/l.

Example Chlorine Limit = 87.56 * 0.011 = 0.963 mg/L
= 87.56 * 0.019 = 1.66