

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND
OFFICE OF ECOSYSTEM PROTECTION
ONE CONGRESS STREET, SUITE 1100 (CMP)
BOSTON, MASSACHUSETTS 02114-2023**

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:

NPDES PERMIT NO.: NH0100005

CONTENTS : 23 pages including four Attachments

NAME AND MAILING ADDRESS OF APPLICANT:

Town of Ashland Wastewater Treatment Facility
6 Collins Street
Ashland, New Hampshire 03217

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Town of Ashland Wastewater Treatment Facility
6 Collins Street
Ashland, New Hampshire 03217

RECEIVING WATER: Squam River
(Hydrologic Basin Code:01070001)

CLASSIFICATION: B

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

The above named applicant has requested that the U.S. Environmental Protection Agency (EPA) reissue its permit to discharge to the designated receiving waters. The facility is engaged in the collection and treatment of domestic (municipal), commercial and industrial wastewaters. The discharge is from a 1.6 million gallon per day (MGD) secondary wastewater treatment facility with four aerated lagoons operated in two parallel systems. The receiving water is the Squam River.

The previous permit was issued on March 30, 2000, and expired on May 14, 2005. The expired

permit (hereinafter referred to as the “existing permit”) has been administratively extended because the applicant filed a complete application for permit reissuance as required by 40 Code of Federal Regulations (CFR) §122.6. The existing permit authorizes discharge from Outfall 001. The location of the existing treatment works, its outfall and the receiving water are shown in Attachment A of this Fact Sheet.

The constructed bottom of the lagoons is approximately 18-feet above the groundwater table. Approximately 50,000 gallons per day (on average) of wastewater infiltrates from the lagoons through this 18-foot interval and into the groundwater below. There are a series groundwater wells downgradient of the lagoon for monitoring the discharge from the lagoons, and the facility has a Groundwater Discharge Permit from the NH DES (Permit No. GWP-199705002-A-002).

The lagoons are situated on a highly transmissive geologic formation, thus the groundwater provides some dilution. Then, the groundwater migrates to the Pemigewasset River from the lagoon area, and the dilution provided by the Pemigewasset River in this area is significant. The 7Q10 in this reach of the river is approximately 76.3 mgd (or 118 cfs). Assuming a discharge of 50,000 gpd (0.05 mgd), the dilution factor would be 1374. Therefore, it can be assumed the discharge from the lagoons is adequately diluted by both groundwater and river flow.

II. Description of Discharge.

A quantitative description of the discharge based on recent effluent discharge monitoring reports (DMRs) from October 2002 through November 2004 is shown in Attachment B of this Fact Sheet. The draft permit contains limits for Flow, Five Day Biochemical Oxygen Demand (BOD₅), Total Suspended Solids (TSS), pH, Escherichia coli Bacteria, Total Residual Chlorine (TRC), and Whole Effluent Toxicity.

III. Limits and Conditions.

The effluent limits and monitoring requirements may be found in the draft permit. The basis for each limit and permit condition is discussed in section IV. of this Fact Sheet.

IV. Permit Basis and Explanation of Effluent Limitation Derivation.

A. General Regulatory Background

The Clean Water 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 allowed by the Clean Water Act. The NPDES permit is the mechanism used to implement technology and water-quality based effluent limits and other requirements including monitoring and reporting. This draft NPDES permit was developed in accordance with various statutory and regulatory requirements established pursuant to the Clean Water Act and any applicable State administrative rules. The regulations governing EPA’s NPDES permit program, as it applies to Publicly Owned Treatment Works, are generally found in 40 CFR Parts 122, 124, 125, 133 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 and limits in the existing permit when developing permit limits (anti-backsliding).

In the absence of published technology-based effluent guidelines, the permit writer is authorized under Section 402(a)(1)(B) of the Act to establish effluent limitations on a case-by-case basis using Best Professional Judgement (BPJ).

B. Technology-based Limits

Secondary treatment technology guidelines (effluent limits) represent the minimum level of control for Publicly Owned Treatment Works and those guidelines can be found at 40 CFR §133.

Because all Clean Water Act statutory deadlines for meeting technology-based guidelines (effluent limits) have expired, the deadline for compliance with technology-based effluent limits for a Publicly Owned Treatment Works is the date of permit issuance (40 CFR §125.3(a)(1)). If statutory deadlines have passed, extended deadlines for compliance cannot be authorized by a NPDES permit.

C. Water-Quality-Based Limits

Water quality-based limits are required in NPDES permits when EPA and the State determine that effluent limits more stringent than technology-based limits are necessary to maintain or achieve state or federal water-quality standards. See Section 301(b) (1)(C) of the Clean Water Act. Receiving stream requirements are established according to numerical and narrative standards adopted under state law. A water quality standard consists of three elements: (1) beneficial designated use(s) for a water body or segment of a water body; (2) a numeric or narrative water quality criteria sufficient to protect the designated use(s); and (3) an anti-degradation requirement to ensure that once a use is attained, it will not be eroded.

When using chemical-specific numeric criteria to develop permit limits, both the acute and chronic aquatic-life criteria, expressed in terms of maximum allowable instream pollutant concentration, are used. Acute aquatic-life criteria apply to daily time periods (maximum daily limit) and chronic aquatic-life criteria apply to monthly time periods (average monthly limit). Chemical-specific limits are allowed under 40 CFR Part 122.44 (d)(1) and are implemented under 40 CFR §122.45(d). In addition to technology-based average weekly limits for Publicly Owned Treatment Works under 40 CFR Part 122.45(d), the Region believes it is necessary to establish a maximum daily limit for specific chemical pollutants since chemical specific water-quality standards for toxic pollutants are based on an acute (short-term) and chronic (long-term) criteria. Given that, it would be impracticable to rely on only monthly or weekly average limits to ensure that the State's Surface Water Quality Regulations for toxic pollutants are met.

A Publicly Owned Treatment Work's design flow is used when deriving limits for daily, weekly and monthly time periods. Dilution provided by the receiving water is also considered when deriving

limits. 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 NPDES permit shall limit any pollutant or pollutant parameter (conventional, non-conventional, toxic and whole effluent toxicity) that may be discharged at a level that causes or has "reasonable potential" to cause or contribute to an excursion above any water-quality criterion. See CFR §122.44(d)(1). An excursion occurs if the projected or actual in-stream concentration exceeds the applicable criterion.

In determining "reasonable potential", EPA considers: (1) existing controls on point and non-point pollution sources; (2) pollutant concentration and variability in the effluent and receiving water as determined from the permit reissuance application, 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 Controls, March 1991, EPA/505/2-90-001** in Section 3; and, (5) where appropriate, dilution of the effluent in the receiving water.

In accordance with State statutes and administrative rules [RSA 485-A:8, VI, and Env-Ws 1705.01 and 1705.02, available dilution for discharges to freshwater receiving waters is based on an estimated value of the 7 consecutive-day mean low flow at the 10 year recurrence interval (7Q10) for aquatic life in the receiving water at the point of 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.

D. Anti-backsliding

EPA's anti-backsliding provisions prohibit the relaxation of permit limits, standards, and conditions unless certain conditions are met. [See Section 402 (o) and 303 (d)(4) of the Clean Water Act and 40 CFR §122.44 (1)(2).] Therefore, unless those conditions are met, all requirements from the existing permit are retained.

The Clean Water Act requires that EPA obtain state certification that all water quality standards will be satisfied. The permit must conform to the conditions established under Section 401 of the Clean Water Act (40 CFR §124.53 and Part 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 Clean Water Act 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 adopted anti-degradation requirements in their December 10, 1999, Surface Water Quality Regulations (Env-Ws 1708.01 through 1708.12).

E. Flow

The average monthly discharge flow limit of 1.6 MGD in the existing permit is carried forward into the draft permit, in accordance with anti-backsliding requirements found in 40 CFR §122.44(l).

The draft permit prohibits discharges during late June and early July because of a significant annual reduction in the Squam River flow due to dam maintenance. The permittee must submit a schedule each year by May 15th with the steps necessary to ensure that adequate storage is available in the four lagoons to store the discharge in the June and July period. The permittee should coordinate with the operator of the Ashland power plant and the New Hampshire Department of Environmental Services-Water Division regarding scheduled low flows. The permittee can resume normal discharge five days following resumption of normal river flow.

F. Conventional Pollutants

Biochemical Oxygen Demand (BOD₅) and Total Suspended Solids(TSS)

The average monthly and weekly concentration-based limits for BOD₅ and TSS are derived from technology-based requirements under Section 301(b)(1)(B) of the Clean Water Act, as defined in 40 CFR §133.102. The effluent limits in the draft permit for BOD₅ and TSS concentrations (average monthly/weekly and maximum daily) are based on limits in the existing permit in accordance with the anti-backsliding requirements found in 40 CFR §122.44. The permittee has been able to achieve consistent compliance with these limitations for the past two years. The mass limits for BOD₅ and TSS are based on the appropriate concentration, a plant design flow of 1.6 MGD, and a factor to convert from milligrams per liter (mg/l) and MGD to pounds per day (lbs/day). (See Attachment C of this Fact Sheet for the formula to calculate the various BOD₅ and TSS maximum allowable loads.) In addition to mass and concentration limits, the permittee is also required to obtain 85% reduction of BOD₅ and TSS between the inlet and outlet of the plant. (40 CFR §133.102.)

pH Limits

The pH limits in the draft permit are carried forward from the existing permit in accordance with the anti-backsliding requirements found in 40 CFR Part 122.44(l). The original basis for the pH limits is found in New Hampshire's State statutes (N.H. RSA 485-A:8). Historically, the State of New Hampshire has required pH limits to be satisfied at end-of-pipe with no allowance for dilution. Therefore, in addition to the anti-backsliding requirement, these limits are based on State certification requirements for Publicly Owned Treatment Works under section 401(d) of the Clean Water Act, 40 CFR §§124.53 and 124.55.

A change to the pH limits in the permit would be considered if the applicant can demonstrate to the satisfaction of The New Hampshire Department of Environmental Services that the in-stream pH standard will be protected when the discharge is outside the permitted range, then the applicant or New Hampshire Department of Environmental Services may request (in writing) that the permit limits be modified by EPA to incorporate the results of the demonstration.

Anticipating the situation where New Hampshire Department of Environmental Services grants a

formal approval changing the pH limit(s) to outside the 6.5 to 8.0 Standard Units, EPA has included a provision to this draft permit. (See F. SPECIAL CONDITIONS section.) That will allow EPA to modify the pH limit(s) using a certified letter approach. This change will be allowed as long as it can be demonstrated that the revised pH limit range does not alter the naturally occurring receiving water pH. (See STATE PERMIT CONDITIONS in the draft permit.) However, the pH limit range cannot be less restrictive than 6.0 - 9.0 Standard Units found in the applicable National Effluent Limitation Guideline (Secondary Treatment Regulations in 40 CFR §133).

If the State of New Hampshire approves results from a pH demonstration study, this permit's pH limit range can be relaxed in accordance with 40 CFR §122.44(l)(2)(i)(B), because it will be based on new information not available at the time of this permit's issuance. This new information includes results from the pH demonstration study that justifies the application of a less stringent effluent limitation. EPA anticipates that the limit determined from the demonstration study as approved by the State of New Hampshire will satisfy all effluent requirements for this discharge category and will comply with New Hampshire's Surface Water Quality Regulations adopted on December 10, 1999.

Escherichia coli Bacteria

The limits for Escherichia coli bacteria are based upon limits in the existing permit in accordance with the anti-backsliding requirements found in 40 CFR §122.44(1). There are two sets of Escherichia coli bacterial limits in the State's Statutes (N.H. RSA 485-A:8): one for beach areas, and one for non-designated beach areas. Since no designated beaches exist in the vicinity of the Ashland outfall, the non-designated beach area limit was applied. Calculation for compliance with the Average Monthly limit for Escherichia coli shall be determined by using the geometric mean. The original basis for these limits is New Hampshire's State statutes (N.H. RSA 485-A:8). Historically, the State of New Hampshire required bacteria limits to be satisfied at end-of-pipe with no allowance for dilution. Therefore, in addition to the anti-backsliding requirement, these limits are based on State certification requirements for Publicly Owned Treatment Works under section 401(d) of the Clean Water Act, 40 CFR §§124.53 and 124.55.

G. Nonconventional and Toxic Pollutants

Water-quality based limits for specific toxic pollutants such as chlorine, ammonia, etc. are determined from chemical specific numeric criteria derived from extensive scientific studies. The specific toxic pollutants and their associated toxicity criteria are popularly known as the "Gold Book Criteria" which EPA summarized and published in **Quality Criteria for Water, 1986, EPA 440/5-86-001** as amended). On December 10, 1998 EPA amended the water quality criteria. The State of New Hampshire adopted these "Gold Book Criteria", with few exceptions, and included them as part of the State's Revised Water Quality Regulations adopted on December 10, 1999. EPA and State uses these pollutant specific criteria along with available dilution in the receiving water to determine a specific pollutant's draft permit limit, such as the fast acting toxicant chlorine. Available dilution and its relation to the limits for total residual chlorine for this facility are discussed below under separate subheadings.

Available Dilution

Available dilution (also referred to as dilution factor) in the receiving water was determined to be **10.3**. This was based on the plant's design flow of 1.6 MGD (million gallons per day), which is equal to 2.48 cfs (cubic feet per second). The dilution factor was calculated using an estimate of the 7Q10 low flow of 26.0 cfs. The 7Q10 low flow is based on measurements of flow in the Squam River and estimates of the drainage basin area above the outfall. The 7Q10 low flow is the mean low flow over 7 consecutive days, recurring every ten years.

The flow of the Squam River is regulated by Squam and Little Squam Lakes. The New Hampshire Department of Environmental Services, Water Resources Division, proprietor of the dam at the outlet of these lakes coordinates release of water to the Squam River with three hydropower plants. The hydropower plants are operated by the Town of Ashland, L.W. Packard Co., and Golden Pond Power. All three facilities are upstream from the Ashland Wastewater Treatment Plant. During the first weeks of July, the state significantly reduces flow in the Squam River to less than 10 cfs for several days to perform yearly maintenance on the lake's dams. Stream flow data are available for the USGS gaging station on the Squam River at Ashland, about 1.8 miles upstream from the outfall and 1.4 miles downstream from Little Squam Lake. (See Attachment A of this Fact Sheet.)

Annual low-flow data at the Ashland gage for the period 1941 - 1989, excluding the low events in June and July, were used to define the 7 day low-flow frequency curve and to obtain the 7Q10 value. The 7Q10 at the outfall was computed by adding the 7Q10 for the gage and the low flow contributed from the area between the gage and the outfall. This contribution was estimated from the unit 7Q10 value for the Smith River, a nearby tributary to the Pemigewasset River, and the intervening area (7.0 mi² estimate.)

Drainage areas, low-flow data, and calculations are summarized below:

Squam River at Ashland, NH (01077000)
Drainage Area: 57.6 (mi²)
7Q10 low-flow value: 25.5 cfs

Smith River near Bristol, NH (01078000)
Drainage Area: 85.8 (mi²)
7Q10 low-flow value: 5.87 cfs or 0.068 cfs/mi²

Low-flow contribution = 7.0 mi² (0.068 cfs/mi²) = 0.5 cfs

Squam River 7Q10 = 25.5 + 0.5 = 26.0 cfs.

Finally, the available dilution was multiplied by 90%, setting aside 10 % for future needs. (See State Regulation Env-Ws 1705.01 for the set aside definition, and Attachment C of this Fact Sheet for calculation of the dilution factor.)

Disinfection Using Chlorine

The total residual chlorine (TRC) limits in the draft permit are water quality-based and are the same as the limits in the current permit. The December 10, 1998 EPA water quality criteria for chronic and acute numbers for chlorine are 0.011 mg/l and 0.019 mg/l respectively. The State's Water Quality Criteria for chlorine found under Part Env-Ws 1703.21 of NHDES's Surface Water Quality Regulations dated December 10, 1999 are the same as the EPA criteria. With available dilution of 10.3 in the receiving water, the calculated average monthly and maximum daily limits are 0.113 mg/l and 0.196 mg/L, respectively.

Inspection of discharge monitoring reports (DMR's) from October 2002 to December 2004 shows that the permittee is able to achieve consistent compliance with the existing permit's limits.

Metals

Copper :

The existing permit requires monitoring for Total Recoverable and Dissolved Copper, two per month. After an examination of data (10 ug/l from DMRs during the months of May and June of 2004) for copper, the monitoring requirement for this pollutant has been dropped from the draft permit, because these data do not have reasonable potential to violate its aquatic life criteria in the state's surface water quality regulations. However, testing of copper will be performed in the WET test described under Section H.

A review of the metals data also indicates that there is no reasonable potential for the discharge of total recoverable aluminum, cadmium, chromium, lead, nickel and zinc to cause or contribute to water quality violations.

Color

Because of recurring occasions of colored discharge, the existing permit included a monitoring requirement for color in the current permit. The discharge came from the Woolen Manufacturing Industry owned by L. W. Packard. In a letter dated June 23, 2005, the permittee notified that the Woolen Industry is no longer in business and there is no visible color in the effluent. As such, the permittee has requested to remove the monitoring requirements for color from the permit. EPA has reviewed the material and agrees, so the monitoring requirement for color has been removed from the permit.

H. 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 approaches evaluate interactions between pollutants thus rendering an "overall" or "aggregate" toxicity assessment of the effluent. Furthermore, whole effluent toxicity 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.

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 1703.21(a)). 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.

EPA-New England's current policy requires toxicity testing in all municipal permits. The type of toxicity test (acute and/or chronic), effluent limitations, and sampling frequency, are based on the available dilution. (See Attachment C of this Fact Sheet for calculation of available dilution, and see Attachment D of this Fact Sheet for the Toxicity Strategy for Municipal Permits.)

The LC_{50} and C-NOEC effluent limits of $\geq 100\%$ and $\geq 9.7\%$ in the draft permit are based upon limits in the existing permit in accordance with anti-backsliding requirements found in 40 CFR §122.44(l). The C-NOEC limit of $\geq 9.7\%$ is calculated by dividing one by the available dilution and multiplying by 100 percent.

The existing permit's testing protocol requiring two (2) species has been carried forward in the draft permit. The two species are Daphnid (*Ceriodaphnia dubia*) and Fathead Minnow (*Pimephales promelas*). The LC_{50} is defined as the percentage of effluent that would be lethal to 50 % of the test organisms during an exposure of 48 hours. C-NOEC is defined as the highest concentration 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, the draft permit requires the permittee to report the lowest concentration where there is no observable effect. See page 9 of the draft permit's ATTACHMENT A: FRESHWATER CHRONIC TOXICITY TEST PROCEDURE AND PROTOCOL, Section VII: "Toxicity test Data Analysis", for additional clarification in selecting a C-NOEC value to report. The modified acute toxicity test required in the draft permit is measured 48 hours into the chronic test.

The existing permit's sampling frequency of one toxicity test per quarter is carried forward in the draft permit.

The SPECIAL CONDITIONS section of the draft permit allows the frequency of testing to be reduced by a certified letter from EPA. After completion of a minimum of four consecutive Whole Effluent Toxicity tests, all of which must be valid tests and must demonstrate compliance with the permitted limits for whole effluent toxicity, the permittee may submit a written request to the EPA seeking a review of the toxicity test results. The EPA will review the test results and other pertinent information to make a determination. The frequency of toxicity testing may be reduced to as little as once per year. The permittee is required to continue testing at the frequency specified in the permit until the permit is either formally modified or until the permittee receives a certified letter from the EPA indicating a change in the permit conditions. This special condition does not negate the permittee's right to request a permit modification at any time prior to the permit expiration.

Alternately, if toxicity violations are shown, monitoring frequencies and testing requirement may be increased and enforcement actions may result. The permit may also be modified, or revoked and reissued to incorporate additional toxicity testing requirements or chemical specific limits if EPA-New England decides these are necessary to protect water quality. Results of these toxicity tests are considered "new information not available at permit issuance", so the information may be used to modify a permit under 40 CFR §122.62(a)(2).

This draft permit requires reporting of selected parameters determined from the chemical analysis of a 100% effluent sample. Specifically, Hardness, Ammonia Nitrogen as Nitrogen; and Total Recoverable Aluminum, Cadmium, Chromium, Copper, 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.

I. Sludge

Section 405(d) of the Clean Water 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. 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. Part 503 regulations have a self implementing provision, however, the Clean Water Act requires implementation through permits. Domestic sludges which are disposed of in municipal solid waste landfills are in compliance with Part 503 regulations provided the sludge meets the quality criteria of the landfill and the landfill meets the requirements of 40 CFR Part 258.

The draft permit has been conditioned to ensure that sewage sludge use and disposal practices meet the Clean Water Act Section 405(d) Technical Standards. In addition, EPA-New England has included with the draft permit a 48 page sludge compliance guidance document for use by the permittee in determining their appropriate sludge conditions for their chosen method of sludge disposal.

The permittee is also required to submit to EPA and to the New Hampshire Department of

Environmental Services - Water Division annually, on February 19th, the various sludge reporting requirements as specified in the guidance document for the chosen method of sludge disposal.

According to permittee, the Ashland lagoons currently have about two feet of sludge. It is estimated that sludge will not need to be removed for another 10 years, which will be well after the expiration date of the draft permit.

J. Industrial Users

The permittee is presently 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 Clean Water Act. However, the draft permit contains conditions that are necessary to allow EPA and the State of New Hampshire 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 the State of New Hampshire whenever a process wastewater discharge to the facility from a primary industrial category is planned, (see 40 CFR §122 Appendix A for list) 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 New Hampshire Department of Environmental Services the name(s) of all Industrial Users subject to Categorical Pretreatment Standards under 40 CFR §403.6 and 40 CFR Chapter I, Subchapter N (Parts 405-415, 417-436, 439-440, 443, 446-447, 454-455, 457-461, 463-469, and 471 as amended) who commence discharge to the Publicly Owned Treatment Work after the effective date of the finally issued permit, and (2) submit to EPA and New Hampshire Department of Environmental Services copies of Baseline Monitoring Reports and other pretreatment reports submitted by industrial users.

K. Additional Requirements and Conditions

The effluent monitoring requirements have been established to yield data representative of the discharge under the authority of Section 308(a) of the Clean Water Act in accordance with 40 CFR §122.41(j), 122.44(i) and 122.48. Compliance monitoring frequencies for Flow, BOD₅, TSS, pH, Escherichia coli, and Total Residual Chlorine, have been established in accordance with the Effluent Monitoring Guidance mutually agreed upon and first implemented in March 1993 and last revised on July 19, 1999, by EPA and New Hampshire Department of Environmental Services. EPA and New Hampshire Department of Environmental Services intend to establish minimum monitoring frequencies in all NPDES permits at permit modification and/or reissuances in accordance with this Effluent Monitoring Guidance.

The table that follows shows changes to permitted limits between the existing permit and the draft permit. There are no changes except monitoring requirements for color and copper.

DISCHARGE LIMITS

PARAMETER	Existing Permit Limit	Draft Permit Limit
Flow	1.6 MGD	1.6 MGD
BOD ₅	400/600/667 lbs/day 30/45/50 mg/l	400/600/667 lbs/day 30/45/50 mg/l
TSS	400/600/667 lbs/day 30/45/50 mg/l	400/600/667 lbs/day 30/45/50 mg/l
pH	6.5-8.0	6.5-8.0
<u>Escherichia coli</u>	126 colonies per 100 ml = average monthly 406 colonies per 100 ml = daily maximum	126 colonies per 100 ml = average monthly 406 colonies per 100 ml = daily maximum
Total Residual Chlorine	0.113 mg/l average monthly 0.196 mg/l daily maximum	0.113 mg/l average monthly 0.196 mg/l daily maximum
Color	report	no requirement
Total Rec. copper	report	no requirement (except under WET Test)
Whole Effluent Toxicity ¹ LC ₅₀ C-NOEC	≥ 100% ≥ 9.7%	≥ 100% ≥ 9.7%
¹ In a letter dated May 22, 1992, EPA allowed use of synthetic dilution water. The toxicity test protocol, dated December, 1995, shall be used. (See Attachment A, “Freshwater Chronic Toxicity Test Procedure and Protocol”, of the draft permit.)		

This second table shows the sampling frequencies and sample types from the existing and draft permits. There are no changes except for color and copper..

SAMPLING FREQUENCY AND SAMPLE TYPE

PARAMETER	Existing Permit		Draft Permit	
	Sampling Frequency	Sample Type	Sampling Frequency	Sample Type
Flow	Continuous ¹	Recorder ¹	Continuous ¹	Recorder ¹
BOD ₅	1/Week	grab	1/Week	grab
TSS	1/Week	grab	1/Week	grab
pH	1/Day	grab	1/Day	grab
<u>Escherichia coli</u>	3/Week	grab	3/Week	grab
Total Residual Chlorine	1/Day	grab	1/Day	grab
Color	2/Month	grab	N/A	N/A
Total Rec. copper	2/Month	grab	N/A (except with WET Test)	N/A
Whole Effluent Toxicity ²	4/Year	grab	4/Year	grab

¹ Both influent and effluent flow shall be continuously measured and recorded using a flow meter and totalizer.

² In a letter dated May 22, 1992, EPA allowed use of synthetic dilution water. The toxicity test protocol, dated December, 1995, should be used. (See Attachment A, “Freshwater Chronic Toxicity Test Procedure and Protocol”, of the draft permit.)

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

V. Antidegradation

This draft permit is being reissued with allowable wasteloads and concentrations identical to those in the existing permit. The draft permit also has the same parameter coverage, except that an average monthly limit for total residual chlorine has been added in the draft permit.

VI. 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 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" as: "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. 16 U.S.C. §1802(10). "Adversely impact" means any impact which reduces the quality and/or quantity of essential fish habitat. 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.

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

The Merrimack River and its tributaries, including the Pemigewasset River in the vicinity of Ashland, are designated essential fish habitat for Atlantic salmon (*Salmo salar*). While the receiving water of the Ashland Wastewater Treatment Plant is actually the Squam River, the plant is in close proximity to the confluence of the Squam and Pemigewasset Rivers, and therefore should also be considered Atlantic salmon essential fish habitat. According to the New Hampshire Fish and Game Department, the habitat value for juvenile salmon in the vicinity of the wastewater treatment plant is probably low given its sandy substrate. Additionally, controlled releases of water during the summer from an upstream dam are likely to elevate river temperatures above desirable levels for juvenile salmon. Salmon fry are not stocked in the Squam River, however, there is an extensive stocking program in the Pemigewasset River above its confluence with the Squam River. The stretch of the Pemigewasset River where it meets the Squam River is used by smolts during their spring migration to the sea.

Based on the permit requirements identified in this Fact Sheet that are designed to be protective of aquatic species including Atlantic salmon, EPA has determined that a formal essential fish habitat consultation with the National Marine Fisheries Service is not required because the proposed discharge will not adversely effect Atlantic salmon essential fish habitat. If adverse effects to essential fish habitat do occur as a result of this permit action, or if new information becomes available that changes the basis for this determination, then the National Marine Fisheries Service will be notified and consultation will be promptly initiated.

VII. 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 limits and/or conditions contained in the permit are stringent enough to assure, among other things, that the discharge will not cause the receiving water to violate State's Surface Water Quality Regulations or waives its right to certify as set forth in 40 CFR §124.53.

Upon public noticing of the draft permit, EPA is formally requesting that the State's certifying authority make a written determination concerning certification. The State will be deemed to have waived its right to certify unless certification is received within 60 days of receipt of this request.

The New Hampshire Department of Environmental Services, Water Division is the certifying authority. EPA has discussed this draft permit with the Staff of the Water Division and expects that the draft permit will be certified. Regulations governing state certification are set forth in 40 CFR §§124.53 and 124.55.

The State's certification should include the specific conditions necessary to assure compliance with applicable provisions of the Clean Water Act, Sections 208(e), 301, 302, 303, 306 and 307 and with appropriate requirements of State law. In addition, the State should provide a statement of the extent to which each condition of the draft permit can be made less stringent without violating the requirements of State law. Since certification is provided prior to permit issuance, failure to provide this statement for any condition waives the right to certify or object to any less stringent condition which may be established by EPA during the permit issuance process following public noticing as a result of information received during that noticing. If the State believes that any conditions more stringent than those contained in the draft permit are necessary to meet the requirements of either the Clean Water Act or State law, the State should include such conditions and, in each case, cite the Clean Water Act or State law reference upon which that condition is based. Failure to provide such a citation waives the right to certify as to that condition. The sludge conditions implementing section 405(d) of the Clean Water Act are not subject to the 401 certification requirements.

Reviews and appeals of limits and conditions attributable to State certification shall be made through the applicable procedures of the State and may not be made through the applicable procedures of 40 CFR Part 124.

VIII. 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 supporting material for their arguments in full by the close of the public comment period, to: Mr. Suproakash Sarker, Municipal Permit Branch, U.S. EPA, One Congress Street, Suite 1100 (Mail Code: CMP), 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 issue 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 comments 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 of the applicant and each person who has submitted written comments or requested notice. Within 30 days following the notice of the final permit decision, any interested person may submit a request for a formal hearing to reconsider or contest the final decision. Requests for formal hearing must satisfy the requirement of 40 CFR §124.74.

IX. EPA Contact

Additional information concerning the draft permit may be obtained between the hours of 8:00 a.m. and 4:00 p.m., Monday through Friday, excluding holidays from:

Mr. Suproakash Sarker, P.E.
U.S. Environmental Protection Agency
One Congress Street
Suite 1100 (Mail Code: CMP)
Boston, Massachusetts 02114-2023
Telephone: (617) 918-1693
FAX No.: (617) 918-1505

Date

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

ATTACHMENT D

Toxicity Strategy for Municipal Permits

HIGH RISK	MED-HIGH RISK	MED-LOW RISK	LOW RISK
DILUTION FACTOR	<10:1	10.1-20:1	20.1-100:1
SAMPLING EVENTS PER YEAR	4(1/3 MONTHS)	4(1/3 MONTHS)	4(1/3 MONTHS)
TOXICITY TESTS: FRESH WATER MARINE WATER	CHRONIC ¹ CHRONIC & ACUTE	CHRONIC ¹ CHRONIC & ACUTE	ACUTE ACUTE
NUMBER OF SPECIES: FRESH WATER MARINE WATER	2 3	2 3	2 2
PERMIT LIMITS	LC50=100% C-NOEC ² >=RWC ³	LC50=100%	LC50=100% LC50>=50%

TEST SPECIES:		
FRESH WATER	DAPHNID ¹ (<i>Ceriodaphnia dubia</i> or <i>Daphnia pulex</i>) FATHEAD MINNOW ¹ (<i>Pimephales promelas</i>)	DAPHNID (<i>Ceriodaphnia dubia</i> or <i>Daphnia pulex</i>) FATHEAD MINNOW (<i>Pimephales promelas</i>)
MARINE WATER	INLAND SILVERSIDE ¹ (<i>Menidia beryllina</i>) MYSID SHRIMP (<i>Mysidopsis bahia</i>) SEA URCHIN (<i>Arbacia punctulata</i>)	INLAND SILVERSIDE (<i>Menidia beryllina</i>) MYSID SHRIMP (<i>Mysidopsis bahia</i>)

¹ 7-DAY CHRONIC/MODIFIED ACUTE.

² C-NOEC IS CHRONIC NO OBSERVED EFFECT CONCENTRATION.

³ RWC IS RECEIVING WATER CONCENTRATION, IN PERCENT, AS DETERMINED FROM DIVIDING ONE BY THE DILUTION FACTOR ALL TIMES 100.

ATTACHMENT B

The following data are taken from the Discharge Monitoring Reports (DMRs) for the period from October 2002 to November 2004 except for toxicity test data which are from January 2001 to May 2004.

Effluent Characteristic	Average of Average Monthly	Range of Average Monthly	Maximum of Maximum Daily	Range of Maximum Daily
Flow (MGD)	0.832	0.408 - 1.182	1.156	0.73 - 1.468
BOD ₅ (lbs/day)	69.25	7 - 108	75.25	8 - 108
BOD ₅ (mg/l)	11.25	9 - 13	12.25	9 - 16
BOD ₅ (percent removal)	94.75	92 - 99	----	----
TSS (lbs/day)	24.5	3 - 47	34.5	4 - 65
TSS (mg/l)	4.75	1 - 8	6.25	1 - 12
TSS (percent removal)	96	92 - 99	----	----
pH (S.U.)	6.86	6.78 - 7.0	7.54	7 - 7.98
TRC (mg/l)	0.07	0.067 - 0.072	0.077	0.072 - 0.085
<i>E. Coli</i> (#/100 ml)	5	1 - 11	16	4 - 27
Whole Effluent Toxicity (% Effluent)				Range of Daily Minimum Values
<i>Ceriodaphnia dubia</i> (LC50)	----	----	100	100-100
<i>Pimephales promelas</i> (LC50)	----	----	100	100-100
<i>Ceriodaphnia dubia</i> (CNOEC)	----	----	12.5	12.5 - 100

Effluent Characteristic	Average of Average Monthly	Range of Average Monthly	Maximum of Maximum Daily	Range of Maximum Daily
Pimephales promelas (CNOEC)	----	----	6.25	6.25 - 100