

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND
ONE CONGRESS STREET
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 DATE:

PUBLIC NOTICE NUMBER:

NPDES PERMIT NO.: NH0100498

NAME AND ADDRESS OF APPLICANT:

Warner Village Water District
P.O. Box 252
Warner, New Hampshire 03278

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Warner Wastewater Treatment Facility
55 West Joppa Road
Warner, New Hampshire 03278

RECEIVING WATER: Warner River (Hydrologic Unit Code:01070003)

CLASSIFICATION: B

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

The above named applicant has applied to the U.S. Environmental Protection Agency (EPA) for reissue of its NPDES permit to discharge treated effluent into the designated receiving water (Warner River). The facility collects and treats domestic, commercial and industrial wastewater from the Town of Warner. This facility does not accept septage.

The existing permit was issued on June 21, 2001 and became effective July 21, 2001. The existing permit expired on July 21, 2006. The existing NPDES permit remains in effect since the permittee

has filed a complete application for permit reissuance as per 40 Code of Federal Regulations (CFR) §122.6.

The Warner Wastewater Treatment Facility (WWTF) was designed as a 0.17 million gallon per day (MGD) wastewater treatment facility using the extended aeration activated sludge process. In August 1995 the Warner Village Water District had their request approved by the New Hampshire Department of Environmental Services (NHDES) to decrease the facility's design flow to 0.11 MGD.

Influent to the treatment plant first passes through a comminutor building containing grinders, a v-notched weir and a grit collector. Wastewater then flows to two oxidation ditches, which provide activated sludge biological treatment. Following biological treatment, wastewater is discharged to a secondary clarifier, where solids are settled. The majority of the settled solids are returned to the oxidation ditches; excess solids are wasted to an aerobic digester. The clarified effluent passes through a v-notch weir flow meter and chlorine contact tanks where the effluent is disinfected with sodium hypochlorite. Following disinfection, residual chlorine is removed from the effluent by addition of sodium bisulfate. The treated effluent is then discharged to the Warner River via Outfall 001. The effluent from the facility does not discharge directly to a designated beach area.

Excess settled solids in the aerobic digester are periodically decanted, with supernatant returned to the treatment plant influent flow and settled sludge trucked off-site for disposal at the Concord-Hall Street Wastewater Treatment Plant. The treatment facility was constructed with reed sludge drying beds, but use of the beds was discontinued in 1999. Grease and scum from the clarifier, along with the grit removed from the influent, is buried onsite.

Map location of the treatment plant and its effluent discharge point is contained in Attachment A.

II. Description of Discharge.

A quantitative description of the treatment plant's discharge in terms of recent effluent monitoring data from the 49-month period, September 2001 through February 2006, is shown in Attachment B. The data was compiled from Discharge Monitoring Reports (DMR) submitted to the EPA and New Hampshire Department of Environmental Services - Water Division (NHDES-WD).

The draft permit contains limitations for pH, Five-Day Biochemical Oxygen Demand (BOD5), Total Suspended Solids (TSS), Escherichia coli Bacteria, Total Residual Chlorine (TRC), and Whole Effluent Toxicity (WET).

III. Limits and Conditions.

Effluent limitations, monitoring requirements, and any implementation schedule (if required) are found in PART I of the draft NPDES permit. The basis for each limit and condition is discussed in

sections IV.C.through IV.J. of this Fact Sheet.

IV. Permit Basis and Explanation of Effluent Limitations Derivation.

A. General Regulatory Background

The Clean Water Act (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.

EPA is required to consider technology and water-quality based requirements as well as those requirements and limitations included in the existing permit when developing the revised permit's effluent limits. Technology-based treatment requirements represent the minimum level of control that must be imposed under Sections 301(b) and 402 of the ACT. Publicly owned treatment works are required to achieve effluent limitations based on secondary treatment, which are found at 40 CFR Part 133.

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 Judgment (BPJ).

Statutory deadlines for meeting secondary limitations established pursuant to the ACT have expired. When technology-based effluent limits are included in a permit, compliance with those limitations is, effectively, from the date the revised permit is issued.(See 40 CFR §125.3(a)(1)) Compliance schedules and deadlines not in accordance with the statutory provisions of the Act cannot 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) antidegradation requirement to ensure that once a use is attained it will not be eroded.

Receiving stream requirements are established according to numerical and narrative standards adopted under state law for each stream classification. When using chemical-specific numeric criteria from the state's water-quality standards to develop permit limits both the 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).

B. Introduction

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.

Reasonable Potential

In determining reasonable potential, EPA considers: (1) existing 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 Controls, 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 [RSA 485-A:8,VI, Env-Ws 1705], available dilution is based on a known or estimated value of the lowest average annual flow which occurs for seven (7) consecutive days with a recurrence interval of once in ten (10) years (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 outfall. 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.

Anti-Backsliding

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 anti-backsliding 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 anti-backsliding 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.

State Certification

The Act requires that EPA obtain State Certification which asserts 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 CWA and EPA to achieve and then to maintain water quality standards. To protect the existing quality of the State's receiving waters, the NHDES-WD adopted anti-degradation requirements in their December 3, 1999, Surface Water Quality Regulations (Env-Ws 1708). Hereinafter, New Hampshire's Surface Water Quality Regulations are referred to as the NH Standards.

C. Flow

As in the existing permit, a design flow rate of 0.11 MGD was used to calculate the mass limits for Five-Day Biochemical Oxygen Demand, Total Suspended Solids and the Available Dilution. During the period August 2001 to February 2006, the facility's average daily flow was 0.056 MGD (see Appendix B).

D. Conventional Pollutants

Five-day Biochemical Oxygen Demand (BOD5) and Total Suspended Solids (TSS)

The average monthly and weekly concentration-based limitations for Biochemical Oxygen Demand (BOD5) and Total Suspended Solids (TSS) are based on requirements under Section 301(b)(1)(B) of the ACT as defined in 40 CFR §133.102.

All of the effluent limitations in the draft permit for Five-day Biochemical Oxygen Demand (BOD5) and Total Suspended Solids (TSS) are the same as limits in the existing permit. Carry-over of these limits from the existing to the draft permit is consistent with the antidegradation requirements. See Attachment C for the calculations of the mass-based load limits.

pH

The pH limits in the draft permit are 6.5 to 8.0 Standard Units (S.U.). The existing permit pH range was revised to 6.0 to 8.0 S.U. because the WVWD had demonstrated to the NHDES-WD and EPA that the Class B pH water quality standard range of 6.0 to 8.0 S.U. would be protected if the facility's pH was maintained between 6.0 to 8.0 S.U.

The existing permit's pH limits of 6.0 to 8.0 S.U. were **not** carried over to the draft permit because the NHDES-WD requires each permittee who has been granted a pH adjustment to reapply for that adjustment after reissue of its NPDES permit.

Language has been added, therefore, to the State Permit Conditions of the draft permit (PART I.E.1.a.) allowing for a change in pH limit(s) under certain conditions. A change would be considered if the applicant can demonstrate to the satisfaction of NHDES-WD that the in-stream pH standard will be protected when the discharge is outside the permitted range, then the applicant or NHDES-WD may request (in writing) that the permit limits be modified by EPA to incorporate the results of the demonstration.

Anticipating the situation where NHDES-WD grants a formal approval changing the pH limit(s) to outside the 6.5 to 8.0 Standard Units (S.U.), EPA has added a provision to this draft permit (See SPECIAL CONDITIONS section). That provision 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. Reference Part I.E.1. SPECIAL CONDITIONS in that permit. However, the pH limit range cannot be less restrictive than 6.0 - 9.0 S.U. found in the applicable National Effluent Limitation Guideline (Secondary Treatment Regulations in 40 CFR Part 133) for the facility.

If the State 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 NHDES-WD will satisfy all effluent requirements for this discharge category and will comply with NH Standards amended on December 3, 1999.

Escherichia coli

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 Warner 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 basis for these limits is New Hampshire's State statutes (N.H. RSA 485-A:8). The State of New Hampshire Water Quality Regulations require that bacteria limits to be applied at end-of-pipe with no allowance for dilution [see Env-Ws 1703.06(b)]. The limits are the same as the limits in the existing permit and are therefore consistent with the anti-backsliding requirements.

E. Non-Conventional and Toxic Pollutants

Water-quality based limits for specific toxic pollutants such as chlorine, ammonia, etc. are determined from numeric chemical specific criteria derived from extensive scientific studies. The

EPA has summarized and published specific toxic pollutants and their associated toxicity criteria in Quality Criteria for Water, 1986, EPA 440/5-86-001 as amended, commonly known as the federal "Gold Book". Each criteria consists of two values; an acute aquatic-life criteria to protect against short-term effects, such as death, and a chronic aquatic-life criteria to protect against long-term effects, such as poor reproduction or impaired growth. New Hampshire adopted these "Gold Book" criteria, with certain exceptions and included them as part of the State's Water Quality Regulations adopted on December 3, 1999. EPA uses these pollutant specific criteria along with available dilution in the receiving water to determine a specific pollutant's draft permit limit. Available dilution is discussed in the next subheading.

Available Dilution

The available dilution (also referred to as dilution factor) was based on the plant's design flow of 0.11 MGD or 0.17 cfs (cubic feet per second), an estimate of the 7Q10 low flow at Outfall 001 of 4.28 cfs, and a State of New Hampshire prescribed minimum 10% set aside for reserve. There has been no change in these parameters from the existing permit. The available dilution remains at 23.5 in the draft permit.

Federal regulations at 40 CFR §122.45(b)(1), require effluent limitations be calculated using a POTW's design flow. The 7Q10 low flow is the mean low flow over seven consecutive days, recurring every ten years on average. An exact value of the 7Q10 flow at Outfall 001 is not available. The 7Q10 low flow is estimate based on the 7Q10 flow measure at the U.S. Geological Survey gaging station at Davisville, NH; adjusted for the intervening drainage area between the gaging station and the outfall. The State of New Hampshire has reserved ten percent assimilative capacity of surface water for future needs [Refer to Env-Ws 1705.01]. See Attachment C for calculation of the available dilution.

Total Residual Chlorine (TRC)

Chlorine and chlorine compounds, such as "organo-chlorines", produced by the chlorination of wastewater can be extremely toxic to aquatic life. Section 101(a)(3) of the CWA and State law N.H. RSA 485-A:8, VI and the N.H. Code of Administrative Rules, PART Env-Ws 1703.21(a) prohibits the discharge of toxic pollutants in toxic amounts.

The existing permit contains an average monthly and daily maximum limit for Total Residual Chlorine (TRC) of 0.26 mg/l and 0.45 mg/l, respectively. These limits have been retained, unchanged from the existing permit and so are consistent with antibacksliding provisions. Refer to Attachment C for the calculation of the TRC limits.

F. 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. Pollutant specific approaches, as those in the Gold Book and State regulations, address individual chemicals. A Whole Effluent Toxicity (WET) approach, alternatively, evaluate interactions between pollutants thus rendering an "overall" or "aggregate" toxicity assessment of the effluent. WET testing measures the "Additive" and/or "Antagonistic" effects of individual chemical pollutants which pollutant specific approaches do not. WET testing also provides the best means to discover the presence of an unknown toxic pollutant. An integrated strategy, consisting of both specific pollutant and WET testing, is required to protect aquatic life and human health.

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. Surface Water Quality Regulations, PART Env-Ws 1703.21(a)). The federal NPDES regulations, 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. The draft permit's WET limit remains the same as those in the existing permit.

EPA New England's current policy requires toxicity testing in all municipal permits. The type of whole effluent toxicity (WET) test, acute and/or chronic and effluent limitations (LC50 and/or C-NOEC), are based on available dilution (See Attachment D). For minor wastewater treatment facilities, such as Warner's, EPA policy is identical to that described above except for monitoring frequency, for which EPA allows annual testing by minor POTWs with dilution factors greater than 20. Warner's available dilution factor was calculated as 23.5 (See Attachment C). A dilution factor of 23.5 indicates Warner is a medium to low risk POTW. The permittee will be required to perform one acute WET test during the third quarter of the calendar year with the results to be reported on the October DMR.

If toxicity is found, monitoring frequency and testing requirements may be increased. The permit may also be modified, or alternatively, revoked and reissued to incorporate additional toxicity testing requirements or chemical specific limits. These actions will occur if the Regional Administrator determines the WET limits are not adequate to protect the NH Surface Water Quality Standards, and users of the waterways are not adequately protected during the remaining life of the permit. Results of these toxicity tests are considered "new information not available at permit development"; therefore, the permitting authority is allowed to use said information to modify an issued permit under authority in 40 CFR §122.62(a)(2).

This draft permit requires the reporting of selected parameters determined from the chemical analysis of the WET tests effluent samples. Specifically, parameters for the constituents of 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 Reports for entry into the EPA's Permit Compliance Systems Data Base. EPA New England does not consider reporting

these requirements an unnecessary burden as the reporting of these constituents is required with the submission of each toxicity report (See Draft Permit, Attachment A, page A-7).

G. 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. 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 and to State Env-Ws 800 standards. Part 503 regulations have a self-implementing provision, however, the 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 CWA Section 405(d) Technical Standards. In addition, EPA New England has included with the draft permit a 72-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 NHDES-WD annually, on February 19th, an annual report containing the information specified in the Sludge Compliance Guidance Document for the permittee's chosen method of sludge disposal..

H. 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 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 (IU) subject to Categorical Pretreatment Standards pursuant to 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) and/or New Hampshire Pretreatment Standards (Env-Ws 904) who currently discharge to the POTW as well as those who commence discharge to the POTW after the effective date of the finally issued permit, and (2) submit to EPA and NHDES-WD copies of Baseline Monitoring Reports and other pretreatment reports submitted by industrial users.

I. Essential Fish Habitat and Endangered Species

Essential Fish Habitat

The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104267), established a new requirement to describe and identify (designate) "essential fish habitat" (EFH) in each federal fishery management plan. Only species managed under a federal fishery management plan are covered. Fishery Management Councils determine which areas will be designated as EFH. The Councils have prepared written descriptions and maps of EFH, and include them in fishery management plans or their amendments. EFH designations for New England were approved by the Secretary of Commerce on March 3, 1999.

The Magnuson-Stevens Act requires all federal agencies to consult with National Marine Fishery Service (NMFS) on all actions, proposed actions, permitted, funded, undertaken by the agency, which "may adversely affect any essential fish habitat." According to the Guide to Essential Fish Habitat Designations in the Northeastern United States; Volume I: Maine and New Hampshire, March 1999, the Warner River has been designated as EFH for the species listed in Attachment D of that document

Atlantic salmon (*Salmo salar*) is the only managed species with designated EFH in the Warner River. Based on discussions with the New Hampshire Fish and Game Department no Atlantic salmon fry are presently stocked in any section of the Warner River. EPA has concluded that the limits and conditions contained in this draft permit will minimize any adverse effects to Atlantic salmon EFH if a future stocking plan is undertaken. The Warner POTW effluent characteristics have consistently average below the facility's effluent limitations. Further, an acute Whole Effluent Toxicity test will be conducted two species; Daphnid (*Ceriodaphnia dubia*) and Fathead Minnow (*Pimephales promelas*). Current results of the toxicity tests are in compliance with the permit limits.

EPA believes the draft permit adequately protects Atlantic salmon EFH, and therefore additional mitigation is not warranted. NMFS will be notified and an EFH consultation will be reinitiated if adverse impacts to EFH are detected as a result of this permit action, or if new information is received that changes the basis for our conclusions.

Endangered Species

The Endangered Species Act (16 USC 1451 et seq) requires the EPA ensure that any action authorized by the EPA is not likely to jeopardize the continued existence of any endangered or threaten species or adversely affect its critical habitat. Further, 40 CFR 122.49(c) requires the EPA to consult with the U.S. Fish and Wildlife Service (USFWS) to determine particular permit conditions when the regulations of the Endangered Species Act may apply.

Previous consultations with the USFWS have indicated there are no endangered species presently know to reside in the area of the Warner River where the Warner WWTF discharges.

J. Operation and Maintenance

Regulations regarding proper operation and maintenance are found at 40 CFR § 122.41(e). These regulations require, "that the permittee shall at all times operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of the permit." The treatment plant and collection system are included in the definition "facilities and systems of treatment and control" and are therefore subject to proper operation and maintenance requirements.

Similarly, permittees have a "duty to mitigate" pursuant to 40 CFR §122.41(d). This requires the permittees to "take all reasonable steps to minimize or prevent any discharge in violation of the permit which has a reasonable likelihood of adversely affecting human health or the environment."

General requirements for proper operation and maintenance, and mitigation have been included in Part II of the permit. Specific permit conditions have also been included in Part I.B, I.C and I.D of the Draft Permit. These requirements include reporting of unauthorized discharges including Sanitary Sewer Overflows (SSO), maintaining an adequate maintenance staff, performing preventative maintenance, controlling inflow and infiltration to the extent necessary to prevent SSOs and Infiltration/Inflow related effluent violations at the wastewater treatment plant, and maintaining alternate power where necessary.

K. Effluent Monitoring

The effluent monitoring requirements have been established to yield data representative of the discharge under the authority of Section 308(a) of the CWA in accordance with 40 CFR § 122.41(j), 122.44(i) and 122.48. Compliance monitoring frequencies for Flow, BOD5, TSS, Total Residual Chlorine, pH and Escherichia coli in the draft permit are consistent with the EPA/NHDES-WD Effluent Monitoring Guidance mutually agreed upon and implemented in July 19, 1999.

WET test monitoring requirements have been set according to EPA- New England's Municipal Toxicity Policy for Minor POTWs. As explained in the Whole Effluent Toxicity section, Section IV.F., the once per year WET testing frequency is maintained from the existing permit.

There were no revisions made to either monitoring parameters or sampling frequency in the draft permit from the existing permit. The EPA and NHDES-WD considers the draft permit’s sample parameters and sample frequency sufficient to detect violations of the State’s Water Quality Standards

Effluent Monitoring Comparison

Parameter	Existing Permit		Draft Permit	
	Sampling Frequency	Sample Type	Sampling Frequency	Sample Type
Flow	Continuous	Recorder	Continuous	Recorder
BOD5	2/Week	24hr Composite	2/Week	24hr Composite
TSS	2/Week	24hr Composite	2/Week	24hr Composite
Total Residual Chlorine	1/Day	Grab	1/Day	Grab
Escherichia coli	3/Week	Grab	3/Week	Grab
WET	1/Year	Grab	1/Year	24hr Composite

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.

V. Antidegradation

This draft permit is being reissued with allowable wasteloads identical those in the existing permit, with identical parameter coverage and no change in the outfall location. Since the State of New Hampshire has indicated there will be no lowering of water quality and no loss of existing uses, no additional antidegradation review is warranted.

VI. 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 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 NH Standards 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 NHDES-WD is the certifying authority. EPA has discussed this draft permit with the Staff of the Wastewater Engineering Bureau 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 the State's certification is provided prior to permit issue, any failure by the State to provide this statement waives the State's right to certify or object to any less stringent condition. These less stringent conditions may be established by EPA during the permit issuance process based on information received following the public 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 CWA or State law, the State should include such conditions and, in each case, cite the CWA 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 only exception to this is the sludge conditions/requirements implementing Section 405(d) of the CWA are not subject to the Section 401 State Certification requirements.

Reviews and appeals of limitations 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.

VII. Comment Period, Hearing Requests, Procedures for Final Decisions, and EPA Contact.

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:

Mr. John Paul King, Environmental Scientist
U.S. Environmental Protection Agency
1 Congress Street
Suite 1100 (Mailcode CIP)
Boston, Massachusetts 02114-2023
Telephone: (617) 918-1295
FAX No.: (617) 918-1505

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.

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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.

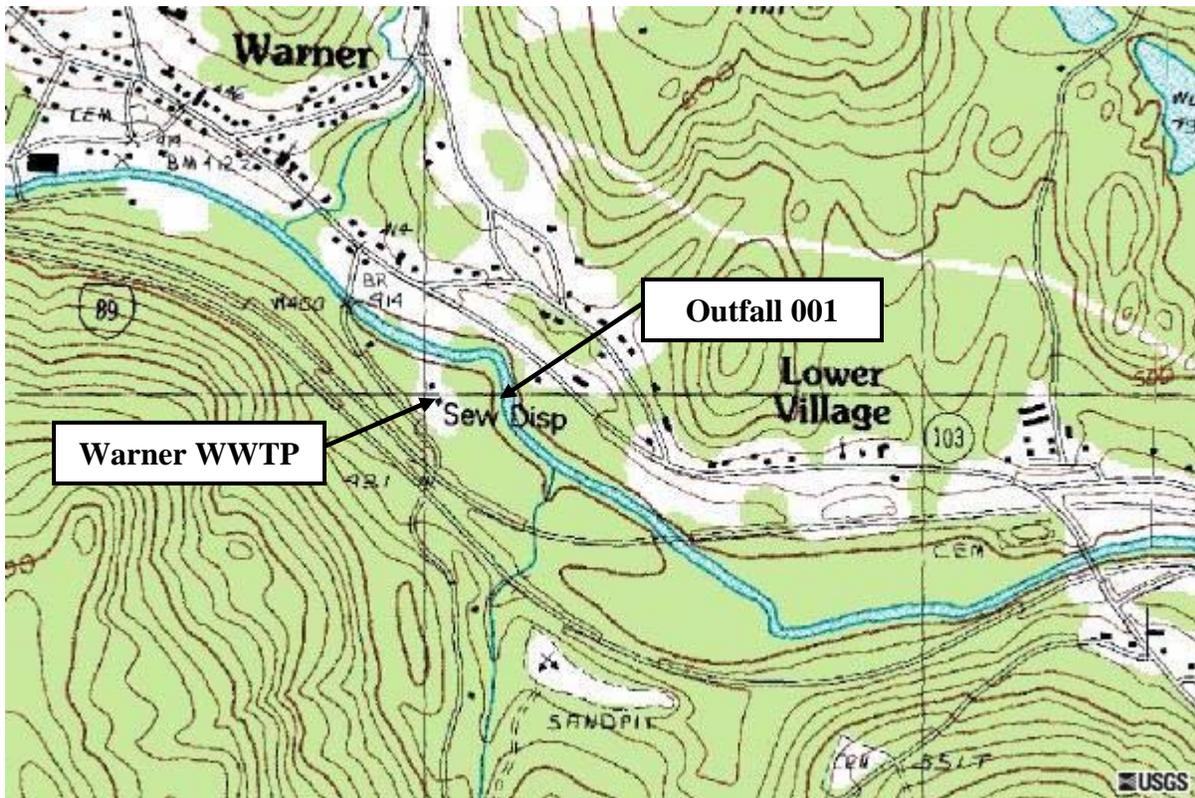
Information concerning the draft permit may be obtained between the hours of 9:00 a.m. and 5:00 p.m., Monday through Friday, excluding holidays.

Date

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

Appendix A

WARNER WASTEWATER TREATMENT PLANT AND OUTFALL 001
LOCATION MAP



Appendix B

TABLE I: EFFLUENT CHARACTERISTICS AT OUTFALL 001

The following effluent characteristics were derived from analysis of discharge monitoring data collected from Outfall 001 during the 66-month period, August 2001 through February 2006. This data was extracted from the monthly Discharge Monitoring Reports (DMR's) submitted by the Warner's Wastewater Treatment Plant. These effluent values characterize the treated sanitary waste waters discharged from this facility.

Effluent Characteristic	Average of Average Monthly	Maximum of Maximum Daily ¹
Flow (MGD)	0.056	0.530, 0.198, 0.129
pH (Standard Units)	--	6.0 to 7.8 ²
<u>Escherichia coli</u> (Colonies/100 ml)	8.83	>8000, 2017, 850
Total Residual Chlorine (mg/L)	0.047	1.59, 0.42, 0.41
TSS (lbs/day)	3.7	72, 20, 18
TSS (mg/L)	15.6	181, 49, 38
TSS (Percent Removal)	96.4	87 ³ , 88 ³ , 89 ³
BOD ₅ (lbs/day)	3.7	23, 17, 15
BOD ₅ (mg/L)	14.9	37, 36, 35
BOD ₅ (Percent Removal)	94.2	90 ³ , 91 ³ , 93 ³

1. More than one number represents the second and third highest values, except for pH.
2. Numbers listed are minimum and maximum daily readings.
3. Minimums of the Average Monthly values.

TABLE II
Whole Effluent Toxicity Testing

Effluent Test	Test Result 2001 - 2005				
	LC50 ¹ (Per Cent Effluent)				
	2001	2002	2003	2004	2005
<u>Ceriodaphnia dubia</u>	>100	100	>100	>100	>100
<u>Pimephales promelas</u>	>100	100	>100	>100	>100

1. This test involves preparing a series of effluent concentrations by diluting the effluent with receiving water. Groups of test animals, i.e. Ceriodaphnia dubia and Pimephales promelas, are exposed to each effluent concentration and a control for a specific period. The mortality data for each concentration can be used to calculate (by regression) the medium lethal concentration or LC-50. LC-50 is defined as the concentration which kills half the test animals. Samples with a high LC-50 value are less likely to cause environmental impact.

Appendix C

MAXIMUM ALLOWABLE LOADS

Equation used to calculate non-TMDL mass limits for BOD5 and TSS.

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

- Where:
- L = Maximum allowable load, in lb/day
 - C = Maximum allowable effluent concentration for reporting period, in mg/l.
(Reporting periods are average monthly, average weekly and maximum daily)
 - C = 30, 45 and 50 mg/l; respectively
 - QPDF = Treatment plant's design flow, in MGD.
 - QPDF = 0.11 MGD
 - 8.345 = Factor to convert effluent concentration, in mg/l, and plant's design flow, in MGD, to lbs/day.

AVAILABLE DILUTION FACTOR

7Q10 Flow at Outfall 001 Estimate

Warner WWTF was designed to process a wastewater flow of 0.11 MGD. The 7Q10 low flow on the Warner River in the vicinity of the WWTF outfall was calculated by using the U.S. Geological Survey's Warner River gaging station near Davisville, NH (Station No. 01086000). The Davisville gaging station is downstream of Outfall 001. The approach used to estimate the 7Q10 at Outfall 001; therefore, is to remove the intervening drainage area's contribution to the Warner River's flow. This is accomplished by applying a proportional relationship between the Davisville drainage area and Outfall 001's drainage area.

$$Q_{001} = \left[\frac{DA_{001}}{DA_G} \right] \times Q_G$$

- Where:
- Q₀₀₁ = Estimated 7Q10 flow at Outfall 001; in cfs
 - DA₀₀₁ = Drainage area at Outfall 001; 118 mi²
 - DA_G = Drainage area at Davisville; 146 mi²
 - Q_G = 7Q10 flow at Davisville gage; 5.29 cfs

Dilution Factor Calculation

Equation used to calculate available dilution factor at Outfall 001.

$$\text{Dilution Factor} = \{ \{ (Q_{001}) + (Q_{PDF} \times 1.547) \} \div \{ Q_{PDF} \times 1.547 \} \} \times (0.9)$$

Where:

- Q₀₀₁ = Equivalent 7Q10 flow at Outfall 001, in CFS. Q₀₀₁ = 4.28 CFS
- Q_{PDF} = Treatment plant's design flow, in MGD. Q_{PDF} = 0.11 MGD
- 1.547 = Factor to convert MGD to CFS.
- 0.9 = Factor to reserve of 10% of river's assimilative capacity.

WATER QUALITY CRITERIA BASED LIMIT

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

$$\text{Chlorine Limit} = \text{Dilution Factor} \times \text{Water Quality Criteria}$$

Where:

Water Quality Criteria for chlorine:

- 0.011 = Chronic Criterion (mg/l) to Protect Aquatic-Life
- 0.019 = Acute Criterion (mg/l) to Protect Aquatic-Life