

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
NEW ENGLAND REGION  
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/FINISH DATE:**

**PUBLIC NOTICE NUMBER:**

**NPDES PERMIT NO.:** NH0001619

**NAME AND ADDRESS OF APPLICANT:**

Cold Regions Research and Engineering Laboratory (CRREL)  
U.S. Army Corps of Engineers  
72 Lyme Road  
Hanover, New Hampshire 03755-1290

**NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:**

Cold Regions Research and Engineering Laboratory (CRREL)  
U.S. Army Corps of Engineers  
72 Lyme Road  
Hanover, New Hampshire 03755-1290

**RECEIVING WATER:** Connecticut River

**CLASSIFICATION:** Class 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 the reissue of its NPDES permit to discharge effluent into the Connecticut River, the designated receiving water. The applicant owns and operates, at the above named site, a facility which conducts research and engineering applicable to the world's cold regions for the Army Corps of Engineers, U.S. Army and the Department of Defense.

The existing NPDES permit was issued on October 25, 1973, and

contains limitations on non-contact cooling water discharged to the Connecticut River from the Cold Regions Research and Engineering Laboratory's (CRREL) large capacity chilling equipment. Storm water runoff is also directed to the same discharge piping used by the cooling water system.

Non-contact cooling water is water employed to reduce or control the temperature of an industrial process. This cooling water does not come in direct contact with any raw material, intermediate product, a waste product (other than heat) or finished product. A NPDES Permit is required when non-contact cooling water is discharged to the surface waters of the United States (See Title 40 Code of Federal Regulations (CFR) §122.1(b)(1)).

The water that CRREL uses for non-contact cooling water is drawn from five groundwater wells. All these wells are located on the CRREL facility. The combined discharge to the Connecticut River of the cooling water drawn from these wells has an average flow rate of 1.3 million gallons per day (MGD).

Four of the five groundwater wells are contaminated with Trichloroethylene (TCE). TCE is a nonflammable, colorless liquid which is mainly used as a solvent to remove grease from metal parts. An accident at CRREL some thirteen years ago resulted in the spilling of several containers of TCE. The spilled TCE seeped into the ground where it contaminated the groundwater. Wells No. 1, No. 2, No. 4 and No. 5 are the four wells contaminated with TCE, while well No. 3 has shown no sign of contamination.

On January 27, 1991, EPA granted CRREL an emergency exclusion from the requirement for an NPDES permit in order to discharge contaminated groundwater. The emergency exclusion was in accordance with 40 CFR §122.3(d) and initially authorized the discharge of untreated groundwater in order to depress the groundwater table and prevent the contaminated groundwater from damaging a nearby water supply, and also allowed the continued use of CRRELs refrigeration systems, which are necessary to the laboratory's mission. The exclusion required the design and construction of a treatment system by January 1, 1992 which would achieve effluent TCE limits of 5 µg/l, which were based on the drinking water maximum contaminant level (MCL).

The remediation method which CRREL employs to treat the TCE contamination is based on adding potassium permanganate (KMnO<sub>4</sub>) to the well water. Potassium permanganate is used as the treatment chemical because it is a stable chemical and does not produce

adverse byproducts. The potassium permanganate oxidizes the TCE resulting in the production of carbon dioxide, hydrogen, chlorine and magnesium oxide. After the addition of the potassium permanganate the well water passes through an ion exchange green sand filter where iron and the manganese oxide are removed. Next, the water is injected with air and passed through an air stripper to remove any remaining organic compounds. Additionally, carbon dioxide is added after the air stripping to lower the pH. As pointed out, the reason potassium permanganate is chosen as a treatment chemical is that it does not produce adverse byproducts, such as, a change in the treated water's pH. Addition of CO<sub>2</sub> to lower the pH is viewed by the EPA as a redundant layer of protection installed by the engineering firm which designed the TCE remediation process at CRREL.

The Cold Regions Research and Engineering Laboratory's existing permit was issued on October 25, 1973; was modified on March 20, 1975 and expired on July 1, 1978. The expired permit (hereafter referred to as the "existing permit") has been administratively extended as the applicant filed an application to reissue the permit within the prescribed time period as per 40 CFR §122.6.

CRREL's original application to reissue, dated January 13, 1978, was subsequently updated and deemed complete on January 16, 1992. Although CRREL's reapplication is over twelve years old, both the EPA and NHDES-WD have decided it is not necessary for CRREL to further update the permit application. In the interim years the use of non-contact cooling water and all processes related to cooling water use at CRREL have not been altered. The quarterly DMRs and the monthly TCE analysis report submitted pursuant to the NPDES exclusion accurately reflect the effluent characteristics at CRREL. These reports show that the effluent characteristics have remain constant. Additionally, both the EPA and NHDES have conducted on site visits to verify there have been no major alterations to the cooling water system in the past twelve years.

The location of Cold Regions Research and Engineering Laboratory, the facility's outfall, and the receiving water are shown in Attachment A.

## **II. Description of Discharge.**

A quantitative description of those effluent parameters limited and monitored in the existing permit are presented in Attachment

B. The data was compiled from quarterly Discharge Monitoring Report (DMR) data submitted by the facility to the New Hampshire Department of Environmental Services, Wastewater Division (NHDES-WD) and the EPA. CRREL also conducts and records a monthly sample for TCE at several locations. In addition, the Permittee submitted quantitative data with current application (FORMs 1 and 2C) which along with the DMR data (on file at the EPA Boston office) and TCE sample data were used to develop the draft permit effluent limitations. The draft permit contains limits for Non-Contact Cooling Water Flow, Temperature, pH, Trichloroethylene, and a reporting requirement for Whole Effluent Toxicity (WET).

### **III. Limitations and Conditions.**

Effluent limitations and monitoring requirements 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.G. 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.

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).

In general, all statutory deadlines for meeting various treatment technology-based effluent 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 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) 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 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 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. Conventional Pollutants**

#### Flow

Although not considered a pollutant, the cooling water flow rate determines the heat load at a given temperature, and the mass loadings of other pollutants. The flow rate, also, determines the dilution factor in the receiving water. The dilution factor is used to establish water quality based limits. Flow is, therefore, regulated to control the impact of any pollutant entrained in the non-contact cooling water. The flow limit, 1.9 million gallons per day (MGD), in the draft permit remains unchanged from the existing permit. This is in accordance with the antibacksliding requirements found in 40 CFR §122.44.

#### Temperature

The Connecticut River in the Hanover, NH area is classified as a warm water fishery by the New Hampshire Fish and Game Department. The maximum daily temperature limits for warm water fisheries is 83°F. The existing permit sets the maximum daily temperature limit of 75°F; which was carried over to the draft permit. This is in accordance with the antibacksliding requirements found in 40 CFR §122.44.

#### pH

The pH limits, 6.5 to 8.0 Standard Units (SU), in the draft permit remain unchanged from the existing permit. This is in accordance

with the antibacksliding requirements found in 40 CFR §122.44.

As previously discussed, the groundwater TCE remediation process uses potassium permanganate. The oxidation of TCE by potassium permanganate does not alter the treated water's pH. The addition of CO<sub>2</sub> during the remediation process is considered a conservative, redundant process used to maintain a narrow pH range.

The existing permit required pH monitoring once every three months. The draft permit requires the measurement of pH three per week. This monitoring requirement is based on requirements of 40 CFR §122.41(j)(1) that states samples taken are to be representative of the monitored activity. The use of treated well water for non-contact cooling by CRREL lies somewhere between the straightforward use of water to remove heat, i.e., a non-contact cooling water process, and a variable treatment process, such as, treatment of wastewater in a treatment works. The former process measures pH once per week, and the later measures pH daily. The EPA and NHDES-WD; therefore, considers sampling for pH three times per week is an appropriate frequency to monitor the treated non-contact cooling water at CRREL.

#### **D. Non-Conventional and Toxic Pollutants**

##### Trichloroethylene (TCE)

On January 27, 1991, EPA granted CRREL an emergency exclusion from the requirement for an NPDES permit in order to discharge contaminated groundwater. The emergency exclusion was in accordance with 40 CFR Section 122.3 (d) and initially authorized the discharge of untreated groundwater in order to depress the groundwater table and prevent the contaminated groundwater from damaging a nearby water supply, and also allowed the continued use of CRRELs refrigeration systems, which are necessary to the laboratory's mission. The exclusion required the design and construction of a treatment system by January 1, 1992 which would achieve effluent TCE limits of 5 ug/l, which were based on the drinking water maximum contaminant level (MCL).

The permittee has monitored the TCE treatment facility's influent and effluent TCE concentrations once per month since the exclusion was issued. The data shows that the groundwater pumped to the treatment facility still has elevated concentrations of TCE, which are effectively removed by the treatment facility. The TCE

treatment facility generally achieves the 5 µg/l limit imposed in the NPDES exclusion. A summary of the TCE data is found in Attachment B.

The EPA is required to consider technology and water quality requirements when developing permit limits. 40 CFR Part 125, Subpart A, sets the criteria and the standards that the EPA must use to determine which technology based requirements, requirements under Section 301(b) of the Act and/or requirements established on a case-by case basis under Section 402(a)(1) of the Act should be included in the a permit. Section 301(b)(2) of the CWA requires the application of Best Conventional Control Technology (BCT) for conventional pollutants and Best Available Technology Economically Achievable (BAT) for non-conventional pollutants. BCT and BAT requirements became effective on March 31, 1989.

The EPA has been developing Effluent Limitations Guidelines (ELGs) for existing industrial activities for BPT and BAT, as directed in the original Federal Water Pollution Control Act Amendments of 1972. Although many ELGs have been developed, no ELG has been established for the discharges of TCE contaminated groundwater. Because TCE is classified as a toxic pollutant (see 40 CFR §401.15), the appropriate technology based standard is BAT, in accordance with Section 301(b)(2)(A) of the Clean Water Act. Accordingly, EPA has established a BAT effluent limitation for TCE based on best professional judgement (BPJ) as allowed in 40 CFR §125.3(c)(2). A BAT limit for TCE has been established at 5 µg/l since the existing treatment system has essentially demonstrated that the limit is appropriate in consideration of those factors contained in 40 CFR §125.3(d)(3).

The NH water quality criteria for TCE include aquatic life chronic criteria of 21,900 µg/l, acute criteria of 45,000 µg/l, and human health criteria of 2.7 µg/l for water and fish ingestion, and 81 µg/l for fish consumption only. The effluent data submitted by the permittee shows that the effluent concentrations of TCE are well below the aquatic life criteria and the fish consumption human health criteria. Based on a dilution factor for protection of health of 980 (see Attachment C) the water plus fish ingestion human health criteria is expected to be achieved very close to the discharge point given the afforded dilution available in the Connecticut River. Since the technology-based limit will result in attainment of all NH water quality criteria, this limit has been included in the draft permit. This limit also ensures that there

will be no degradation of the receiving water quality, since the proposed limit is the limit that is in the NPDES exclusion.

The draft permit also requires that TCE sampling of the treated groundwater be conducted at the discharge from the groundwater treatment system. This is the location where the NPDES exclusion required the sampling to be performed, and is an acceptable location under NPDES since it will ensure that the technology based limit for TCE is achieved with no dilution from downstream sources such as storm water (see 40 CFR §122.45(h) and USEPA Permit Writers Manual, page 188).

#### 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. Whole Effluent Toxicity (WET) evaluates the interactions between pollutants thus rendering an "overall" or "aggregate" toxicity assessment of the effluent. WET also measures the "Additive" and/or "Antagonistic" effects of individual chemical pollutants. 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. 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 EPA and NHDES-WD have determined a reasonable potential does exist to contribute to an excursion above the State's narrative criterion for toxicity. Accordingly, the draft permit has a requirement to conduct two WET tests. The first test is to be conducted 90 days after the receipt of the issued permit. The

second test is to occur 180 days after the first test.

This determination was made after the consideration of the following factors. CRREL's non-contact cooling water is essentially a product of an industrial process. Specifically, four of the five groundwater wells that produce the non-contact cooling water are contaminated with TCE. In order to remove the TCE the groundwater passes through a remediation process. This process adds potassium permanganate ( $\text{KMnO}_4$ ) to the well water. Permanganate oxidizes the TCE and the chemical reaction by-products (carbon dioxide, hydrogen, chlorine, magnesium oxide and any organic compounds) are removed. Since an industrial type operations is conducted at CRREL and no toxicity testing has ever been conducted at the facility, EPA and NHDES-WD considers it appropriate to establish a historical toxicity record for the facility.

As part of the WET test both the LC50 and C-NOEC will be measured. LC50 is the concentration of non-contact cooling water (effluent) causing mortality to 50 percent (%) of the test organisms. C-NOEC (Chronic-No Observed Effect Concentration) is defined as the highest concentration of toxicant or effluent to which organisms are exposed in a life-cycle or partial life-cycle test which causes no adverse effect on growth, survival, or reproduction at a specific time of observation as determined from hypothesis testing. The EPA and NHDES-WD will view the toxicity tests to determine compliance with the no toxics provision of the ACT.

If toxicity is found, the 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 NH Standards are not adequately enforced 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).

[NOTE: The Non-Conventional and Toxic Pollutants section of a Fact Sheet supporting New Hampshire NPDES draft permits normally contains a Dilution Factor paragraph. The dilution factor is used to calculate the effluent limits for WET tests and toxic pollutants. A dilution factor, however, is not required to

determine any effluent limitations for CRREL's draft permit. The reason is the effluent from CRREL does not contain any toxic pollutants which must be limited. There is also no WET limit, which must be calculated, just a reporting requirement of the WET testing results.

A dilution factor, though not directly required to determine any effluent limits at CRREL, still has been calculated. That calculation is contained in Attachment C. In the event toxicity is discovered in CRREL's effluent at a later date, a dilution factor will be available. This will facilitate revision of the CRREL NPDES permit in order to impose more stringent effluent limits.]

#### **E. Storm Water**

Section 402(p) of the ACT requires that EPA issue permits for storm water discharges associated with industrial activity. This facility is involved with research and engineering (Standard Industrial Classification code No. 873 - Research and Testing Services) and is not classified as a Storm Water Discharge Associated with Industrial Activity within the meaning of 40 CFR §122.26(b)(14). CRREL, therefore, does not have to apply for a storm water discharge permit. The draft permit requires that sampling of the discharge for all pollutants (except TCE) be performed on dry days to ensure that the discharge is not diluted with storm water.

#### **F. 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 104-267), 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. EFH designations for New England were approved by the Secretary of Commerce on March 3, 1999.

The 1996 Sustainable Fisheries Act broadly defined essential fish habitat as "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." Waters include aquatic areas and their associated physical, chemical and biological

properties. Substrate includes sediment, hard bottom, and structures underlying the waters. Necessary means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem. Spawning, breeding feeding, or growth to maturity covers all habitat types utilized by a species throughout its life cycle. Adversely affect means any impact which reduces the quality and/or quantity of EFH. Adverse affects may include direct (i.e. contamination; physical disruption), indirect (i.e. loss of prey), site-specific or habitat-wide impacts, including individual, cumulative or synergistic consequences of actions.

The Magnuson-Stevens Act requires all federal agencies to consult with NMFS on all actions, proposed actions, permitted, funded, undertaken by the agency, that "may adversely affect any essential fish habitat." The Connecticut River is designated EFH for Atlantic Salmon (Salmo salar), and CRREL's outfall discharges to the Connecticut River. Since the outfall discharged to designated EFH, the EPA has begun consultation with NMFS pursuant to the requirements under the Magnuson-Stevens ACT.

The EPA considers the draft permit conditions and limitations will protect the most sensitive aquatic species, including the Atlantic salmon. The Magnuson-Stevens Act requirements did not exist, though, when the existing permit was issued. The EPA has decided to entered into an informal consultation with the National Marine Fisheries Service (NMFS) as a precautionary measure. Based on the draft permit's stringent conditions and limitations, the EPA expects to receive no adverse comments from the NMFS consultation.

#### 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 continue 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) and National Marine Fisheries Service (NMFS) to determine particular permit conditions when the regulations of the Endangered Species Act may apply.

The Dwarf Wedge Mussel (Alasmidonta heterodon) was added to the endangered species list on March 4, 1990. Presently in New England the dwarf wedge mussel known populations are located in

the Ashuelot River, Cheshire County, New Hampshire and in the Connecticut River, Sullivan County, New Hampshire and Windsor County, Vermont. CRREL is located in Grafton County, New Hampshire about ten miles upstream from the northern border of Sullivan County. The facility is also located across the Connecticut River from the northern end of Windsor County, Vermont.

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.

The EPA conducted an informal consultation with the USFWS on November 16, 1999, at the Service's Concord, NH office. The USFWS determined the discharges from CRREL posed no threat to the Connecticut River colonies of the Dwarf Wedge Mussel.

#### **G. 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 CWA in accordance with 40 CFR § 122.41(j), 122.44(i) and 122.48. 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.

The sampling frequency for Non-Contact Cooling Water Flow has been increased in the draft permit to continuous sampling from one sample per yearly quarter as found in the existing permit. The pH monitoring has been increased to three times per week from once per yearly quarter. Temperature monitoring has been increased to three per week from one sample per yearly quarter. The limitation and monitoring of TCE has been added to the draft permit. Two Whole Effluent Toxicity Test are required in the draft permit as means to ensure the facility's non-contact cooling water is not potentially harmful to the Connecticut River ecosystem.

Sampling taken in compliance with the draft permits monitoring requirements shall be taken at a location that provides a representative analysis. The sampled non-contact cooling water effluent can not be commingled with any another permitted

discharge; such as, storm water. Additionally, the various non-contact cooling water discharge piping does not flow into a common header. In order to ensure a representative analysis, each individual cooling water flow streams must be sampled separately.

| Parameter   | Existing Permit    |               | Draft Permit       |                       |
|-------------|--------------------|---------------|--------------------|-----------------------|
|             | Sampling Frequency | Sample Type   | Sampling Frequency | Sample Type           |
| Flow        | 1/3 Month          | Instrument    | <b>Continuos</b>   | <b>Recorder</b>       |
| Temperature | 1/3 Month          | Grab          | <b>3/Week</b>      | <b>Grab</b>           |
| pH          | 1/3 Month          | Grab          | <b>3/Week</b>      | <b>Grab</b>           |
| <b>TCE</b>  | <b>(None)</b>      | <b>(None)</b> | <b>1/Month</b>     | <b>Grab</b>           |
| <b>WET</b>  | <b>(None)</b>      | <b>(None)</b> | <b>Two Tests</b>   | <b>24hr Composite</b> |

**V. Antidegradation**

This draft permit represents a noticeable change from the existing permit. The notable difference is the sampling frequencies are significantly increased in the draft permit. The monitoring frequency of all the parameters carried over from the existing permit to the draft monitored were increased.

The State of New Hampshire has indicated there will be no decline in water quality nor loss of existing uses for the Connecticut River. Based on the States determination, 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, Wastewater Engineering Bureau 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.

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 CPE)**  
**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.

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. 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.

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.

\_\_\_\_\_ Linda M. Murphy, Director

**NH0001619**

Date

Office of Ecosystem Protection  
U.S. Environmental Protection Agency