

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
NEW ENGLAND  
1 CONGRESS STREET, SUITE 1100  
BOSTON, MASSACHUSETTS 02114-2023

**FACT SHEET**

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

NPDES PERMIT NO.: **MA01003101**

NAME AND ADDRESS OF APPLICANT:

**Charlemont Sewer District  
P.O. Box 137  
Charlemont, Massachusetts 01339**

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

**Charlemont Wastewater Treatment Plant  
20 Factory Road  
Charlemont, Massachusetts 01339**

RECEIVING WATER: **Deerfield River (State Basin Code 33- DEER)**

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 NPDES permit to discharge into the designated receiving waters. The facility is engaged in the collection and treatment of municipal wastewater. The discharge is effluent from the Charlemont wastewater treatment plant to Deerfield River. The Deerfield River has been classified as a Class B waterway by the state. The designated uses for Class B waters are 1) the protection and propagation of fish, other aquatic life, and wildlife and 2) for primary and secondary contact recreation.

**II. Description of Discharge.**

A quantitative description of the discharge in terms of significant effluent parameters based on recent monitoring data is shown on **Attachment A**.

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

The effluent limitations of the draft permit and the monitoring requirements may be found in the draft NPDES permit..

### **IV. Permit Basis and Explanation of Effluent Limitation Derivation.**

#### **A. Description**

The Charlemont Wastewater Treatment Facility is a 0.05 mgd treatment facility which discharges to the Deerfield River. The facility consists of two primary clarifiers, followed by a screen chamber and six re-circulation sand filters. Two ultraviolet units are used for disinfection. The treated final effluent is discharged to the Deerfield River. Currently, sludge is sent to the Montague Water Pollution Control Facility in Montague, MA.

The dilution factor for the discharge is estimated to be 806, based on the design flow of 0.05 MGD (0.08 cfs) and a 7Q10 flow in the Deerfield River of 66.4 cfs. The dilution factor calculations are shown on Attachment B.

#### **B. Publicly-Owned Treatment Works (POTW) Discharges**

EPA is required to consider technology and water quality requirements when developing permit effluent limits. Technology based treatment requirements represent the minimum level of control that must be imposed under Sections 402 and 301 (b) of the Clean Water Act. For publicly owned treatment works (POTWs), technology based requirements are effluent limitations based on secondary treatment requirements of Section 301(b)(1)(B) of the Clean Water Act (CWA) as defined in 40 CFR 133.102.

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 federal or state water quality standards.

Under Section 301(b)(1)(c) of the CWA, discharges are subject to effluent limitations based on water quality standards. The Massachusetts Surface Water Quality Standards (314 CMR 4.00) requirements for the regulation and control of toxic constituents and also require that EPA criteria, established pursuant to Section 304 (a) of the CWA, shall be used unless a site specific criteria is established. The state will limit or prohibit discharges of pollutants to surface waters to assure that surface water quality standards of the receiving waters are protected and maintained, or attained.

The permit must limit any pollutant or pollutant parameter (conventional, non-conventional, toxic, and whole effluent toxicity) may not be discharged at a level that caused, has reasonable

potential to cause, or contributes to an excursion above any water quality criterion. An excursion occurs if the projected or actual instream concentrations exceed the applicable criterion. In determining reasonable potential, EPA considers existing controls on point and non-point sources of pollution, variability of the pollutant in the effluent, sensitivity of the species to toxicity and, where appropriate, the dilution of the effluent in the receiving water.

A permit may not be renewed, reissued, or modified with less stringent limitations or conditions than those contained in the previous permit unless in compliance with the anti-backsliding requirements of the CWA. EPA's anti-backsliding provisions restrict the relaxation of permit limits, standards, and conditions. Therefore effluent limits in the reissued permit must be at least as stringent as those of the previous permit. Effluent limits based on technology, water quality, and state certification requirements must meet anti-backsliding provisions found under section 40 (o) and 303 (d) of the CWA, as described in 40 CFR 122.44 (1).

### **Conventional Pollutants:**

#### **BOD and TSS:**

Under section 301 (b) (1) (B) of the Clean water Act (CWA), POTWs must achieve effluent limitations based upon secondary treatment requirements as set forth at 40 CFR Part 133. The regulations describe the secondary treatment requirements for the biochemical oxygen demand (BOD), total suspended solids (TSS), and pH. The "Average Monthly" and "Average Weekly" BOD and TSS limitations are based on the requirements of 40 CFR Section 133.102.

#### **pH and Fecal Coliform:**

The numerical limitations for pH and fecal coliform (seasonal) are based on state certification requirements under Section 401 (a) (1) of the CWA, as described in 40 CFR 124.53 and 124.55.

### **Toxicity**

Under Section 301 (b) (1) (C) of the CWA, discharges are subject to effluent limitations based on water quality standards. The MA surface Water Quality Standards require the EPA criteria established pursuant to Section 304 (a) (1) of the CWA be used as guidance for interpretation of the following narrative criteria:

All surface waters shall be free from pollutants in concentrations or combinations that are toxic to humans, aquatic life, or wildlife.

National studies conducted by the EPA have demonstrated that industrial and domestic sources contribute toxic constituents such as metals, chlorinated solvents, aromatic hydrocarbons, and other to POTWs. The impact of such complex mixtures is often difficult to assess. Therefore, the toxicity of several constituents in a single effluent can only be accurately examined by whole effluent toxicity (WET) testing. In addition, 40 CFR 122.44 (d) requires whole effluent toxicity

limits in NPDES permits when the permittee has a “reasonable potential” to cause toxicity.

Therefore, the draft permit includes acute whole effluent toxicity limitations and monitoring requirements. (See, e.g., “Policy for the Development of Water Quality-Based Permit Limitations for Toxic Pollutants”, to FED. REG. 30,784- July 24, 1985. See also EPA’s Technical Support Document for Water Quality-Based Toxics Control, EPA/505/2-90-001 and MADEP’s Implementation Policy for the Control of Toxic Pollutants in Surface Waters). In accordance with MADEP’s Implementation Policy for the Control of Toxic Pollutants in Surface Waters, the draft permit contains an LC50 limitation which prohibits acute effects (lethality), to more than 50% of the test organisms when exposed to undiluted POTW effluent for 48 hours (LC50  $\geq$  50%).

The acute toxicity tests shall be performed using (one species) the Ceriodaphnia dubia. These tests will be conducted annually during the first week of April. See the Toxicity Testing Protocol is **Attachment A** of the draft permit for a more complete description of the testing requirements.

### **C. Sewage Sludge**

The Section 405 (d) of the Clean Water Act requires that sludge conditions be included in all NPDES permits. Technical sludge standards required by Section 405 of the Clean Water Act (CWA) were finalized on November 25, 1992 and were published on February 19, 1993. The regulations went into effect on March 21, 1993. The permit contains conditions to implement Section 405 (d) of the CWA and 40 CFR Part 503. Section 405 (f) of the CWA requires that these regulations be implemented through permits. This permit is intended to implement section 405 (d) of the CWA and 40 CFR part 503.

Currently, the Charlemont Wastewater Treatment Facility transports its untreated sludge to the Montague water pollution Control Facility Montague, MA. The permit specifies that the permittee comply with all existing federal and state laws and regulations that apply to sewage sludge use and disposal practices with with the Clean Water Act (CWA) Section 405 (d) technical standards.

### **V. State Certification Requirements**

EPA may not issue a permit unless the state agency, with jurisdiction over the receiving waters, certifies that the effluent limitations contained in the permit are stringent enough to assure that the discharge will not cause the receiving water to violate state water quality standards. The staff of the MA DEP has reviewed the draft permit. EPA has requested permit certification by the state pursuant to 40 CFR 124.53 and expects that the draft permit will be certified.

### **VI. Public Comment Period, Public Hearing, and Procedures for Final decision.**

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 comments period, to the U.S. EPA, Massachusetts Office of Ecosystem Protection, One Congress Street, Boston, Massachusetts 02114-2023. Any person, prior to such date, may submit a request in writing for public hearing to consider the draft permit to EPA and MA DEP. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public hearing may be held after at least thirty days public notice whenever the Regional Administrator finds that the 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 a hearing is held, the Regional Administrator will issue a final permit decision and forward a copy of the final decision to the applicant and each person who has submitted written comments or requested notice.

## **VII. EPA Contact**

Additional information concerning the draft permit may be obtained between the hours of 9:00 AM and 5:00 PM, Monday through Friday, excluding holiday from:

H.M. Chikkalingaiah, P.E.  
Massachusetts NPDES Permit Program Unit  
U.S. Environmental Protection Agency  
New England, 1 Congress Street, Suite 1100  
Boston, MA. 02114-2023  
Telephone: (617) 918-1574

September 3, 2003

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

**Attachment A**  
**NPDES Permit No. MA0103101**  
**Charlemont, Massachusetts**

DESCRIPTION OF DISCHARGE: Treated Municipal Wastewater

DISCHARGE: Outfall 001

The reported monthly average values and the reported daily maximum values between June 2001 and July 2002 were separately averaged to yield the data listed below about each parameter.

**AVERAGE EFFLUENT CHARACTERISTICS AT POINT OF DISCHARGE:**

<u>Parameter</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>
Flow, mgd	0.026	----
BOD, mg/l	5.30	----
TSS, mg/l	5.81	----
SS, ml/l	<0.1	<0.1
Minimum & Maximum pH, s.u.	4.7 - 6.7	----
Fecal Coliform, #/100 ml	12.37	20.78
TSS, % removal	97%	----
BOD,% removal	98%	----

**Attachment B**  
**NPDES Permit No. MA0103101**  
**Charlemont, Massachusetts**

U.S.G.S.station No.01168500 is located on the Deerfield River in Charlemont 2.5 miles downstream fromChickley River. The 7Q10 for this station is 66.4 cfs. The facility is located approximately one mile upstream of this station.

**Dilution Factor at Outfall:**

WWTP design flow = 0.05 mgd = 0.08 cfs

7Q10 of Deerfield River = 64.4 cfs

7Q10 dilution factor = (WWTP design flow + Deerfield River 7Q10)/ WWTP design flow  
= (0.08 cfs + 64.4 cfs)/0.08 cfs = **806**