UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
1 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.

NPDES PERMIT NO.: MA0027391

NAME AND ADDRESS OF APPLICANT:

Frank Luchart, Facility Manager
Shore Cliff - Deaconess Retirement Home
14 Cliff Avenue
Gloucester, MA 01930

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Wastewater Treatment Plant
14 Cliff Avenue
Gloucester, MA 01930

RECEIVING WATER: Massachusetts Bay (Atlantic Ocean) ; North Coastal Watershed - 93

CLASSIFICATION: SA

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

The above named applicant has requested that the U.S. Environmental Protection Agency reissue an NPDES permit to discharge into the designated receiving water. The discharge consists of treated domestic wastewater from a retirement facility. The discharge is from the wastewater treatment facility.

II. Description of Discharge

A quantitative description of the discharge in terms of significant effluent parameters is shown on Attachment A. All data are taken from the Discharge Monitoring Reports submitted by the permittee from January 2002 to November 2003. A review of these reports shows that the facility has complied with its current NPDES permit for all parameters except pH and TRC.

III. Limitations and Conditions

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

IV. Permit Basis and Explanation of Effluent Limitation Derivation

Shore Cliff Deaconess Retirement Home (SCDRH) is served by a 4,000 gpd (average) packaged activated sludge wastewater treatment facility (WWTF) which provides biological secondary treatment and chlorine disinfection. Following chlorination, the effluent is discharged to Massachusetts Bay. Sludge is disposed off-site at the Gloucester wastewater treatment facility. Since July of 2004 the retirement facility has been closed due to renovation of the assisted living quarters. During this period there has not been any discharge from the facility. Flow and pollutants loading are not expected to change following the renovation.

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 Act (see 40 CFR 125 Subpart A) to meet Best Practicable Control Technology Currently Available (BPT), Best Conventional Control Technology (BCT) for conventional pollutants and Best Available Technology Economically Achievable (BAT) for toxic pollutants.

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 Clean Water Act (CWA), discharges are subject to effluent limitations based on Water Quality Standards. The Massachusetts Surface Water Quality Standards include the 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 site specific criteria are 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.

In the absence of technology-based guidelines, EPA is authorized to use Best Professional Judgement (BPJ) to establish effluent limitations, in accordance with Section 402 (a)(1) of the CWA.

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 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

requirement of the CWA.

The outfall is reportedly located on the boulder strewn shoreline across the road from the WWTF and terminates above the high tide mark. The outfall was not located, nor was the discharge of effluent observed by EPA during site inspections conducted during the development of the last permit, apparently because the outfall terminates beneath the large boulders on the beach and infiltrates into sand beneath the boulders. Because of these factors, EPA and MADEP are not allowing any dilution in the receiving water. The site inspections indicated that any water quality impacts associated with the discharge are minimal.

Conventional Pollutants

The Environmental Protection Agency has not developed effluent guidelines for this type of facility as provided for in the Clean Water Act (CWA). In the absence of national standards, effluent limitations for the "Average Monthly" and "Average Weekly" TSS and BOD limitations are based upon professional judgement pursuant to Section 401 (a)(1) of the CWA. Because the wastewater generated at this site is similar in characteristics to domestic wastewater treated by publicly owned treatment works (POTWs), secondary treatment limits for BOD and TSS found at 40 CFR 133.102 have been used.

The numerical limitations for fecal coliform (no shellfish beds in the vicinity of the discharge) and pH are based on state certification requirements under Section 401(a)(1) of the CWA, as described in 40 CFR 124.53 and 124.55. These limitations are also in accordance with the Massachusetts Surface Water Quality Standards 314 CMR 4.00.

Toxic Pollutants:

Chlorine is a toxic chemical. Discharge Monitoring Reports data shows that chlorine residual has ranged from 0.1 mg/l to 9.0 mg/l. The present permit daily maximum limit of 1.0 mg/l is considered Best Available Technology (BAT) based on Best Professional Judgement(BPJ) under the authority of section 402 (a) (1) of the Clean Water Act and 40 CFR Section 125.3 (c), and was included as the appropriate effluent limit based on an assumption that the effluent was significantly diluted by the receiving water.

However, because dilution cannot be quantified, it has been considered unavailable and the chlorine residual limits in the draft permit have been based on water quality criteria found in EPA's National Recommended Water Quality Criteria: 2002. The chronic salt water criteria of 7.5 ug/l is used as the monthly average limit and the acute criteria of 13 ug/l is used as the daily maximum limit.

In order to achieve these limits the permittee must construct either dechlorination facilities for its existing disinfection system, or ultraviolet (non chlorine) disinfection facilities. Accordingly, the water quality based limits will become effective two years after the effective date of the permit to allow time for construction. An interim maximum daily limit of 1 mg/l will be in

effect during this period.

Whole Effluent Toxicity

National studies conducted by the Environmental Protection Agency have demonstrated that domestic sources contribute toxic constituents. These constituents include metals, chlorinated solvents and aromatic hydrocarbons among others. The Region's current policy is to include toxicity testing requirements in all municipal permits, while Section 101(a)(3) of the CWA specifically prohibits the discharge of toxic pollutants in toxic amounts.

Based on the potential for toxicity resulting from domestic sewage, and in accordance with EPA regulation and policy, the draft permit includes acute toxicity limitations and monitoring requirements. (See, e.g., "Policy for the Development of Water Quality-Based Permit Limitations for Toxic Pollutants", 50 Fed. Reg. 30,784 (July 24, 1985); see also, EPA's Technical Support Document for Water Quality-Based Toxicities Control). EPA Region I has developed a toxicity control policy. The policy requires wastewater treatment facilities to perform toxicity tests on their effluents. EPA and the Commonwealth of MADEP requires bioassay toxicity testing for State certification. The principal advantages of biological techniques are: (1) the effects of complex discharges of many known and unknown constituents can be measured only by biological analyses; (2) bioavailability of pollutants after discharge is best measured by toxicity testing including any synergistic effects of pollutants; and (3) pollutants for which there are inadequate chemical analytical methods or criteria can be addressed. Therefore, toxicity testing is being used in conjunction with pollutant specific control procedures to control the discharge of toxic pollutants.

The frequency and the type of WET test depends on dilution ratio and risk factor. The present permit requires that the Permittee conduct acute WET testing (LC_{50} = 50% or greater) for the Outfall 001 effluent, two times per year and that each test include the use of Mysid Shrimp and Inland Silverside. On February 25, 2003 EPA reduced the frequency of testing requirements from two per year to one per year with two species. A review of the toxicity test results from January 2000 to January 2004 reveals that the facility did not violate the limits of LC-50 for eight consecutive tests.

Because EPA and MADEP are not using dilution to calculate effluent limitations, the draft permit includes an acute toxicity limit (LC_{50}) of 100% and a chronic toxicity limit (NOEC) of 100%, in accordance with MADEP's Implementation Policy for the Control of Toxic Pollutants in Surface Waters. The draft permit requires that an annual chronic and modified acute toxicity test be conducted using the Inland Silverside. The test shall be conducted in accordance with the EPA Region I protocol to be found in permit Attachment A. EPA believes these limits are protective of surface water quality.
As a condition of this permit , the testing requirements may be reduced by a certified letter from the EPA. This permit provision anticipates that the permittee may wish to request a reduction in WET testing. After two consecutive WET tests, demonstrating compliance with the permit 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 pertinent information to make a determination. The permittee is required to continue testing at the frequency and species specified in the permit until the permit is either formally modified or until the permittee receives a certified letterfrom the EPA indicating a change in the permit conditions.

V. Sludge

In February 1993, the Environmental Protection Agency (EPA) promulgated standards for the use and disposal of sewage sludge. The regulations were promulgated under the authority of Section 405(d) of the Clean Water Act (CWA). Section 405(d) of the CWA requires that sludge conditions be included in all municipal permits. The sludge conditions in the draft permit satisfy this requirement.

VI. Antidegradation

This draft permit is being reissued with an allowable wasteload identical to the current permit and no change in outfall location. The State of Massachusetts has indicated that there will be no lowering of water quality and no loss of existing water uses and that no additional anti-degradation review is warranted.

VII. Essential Fish Habitat (EFH)

Under the 1996 Amendments (PL 104-267) to the Magunson-Stevens Fishery Conservation and Management Act (16 U.S.C. § 1801 et seq. (1998)), EPA is required to consult with the National Marine Fisheries Services (NMFS) if EPA's action or proposed actions that it funds, permits, or undertakes, may adversely impact any 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 EFH (50 C.F.R. § 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 species for which federal fisheries management plans exist (16 U.S.C. § 1855(b) (1) (A)). EFH designations for New England were approved by the U.S. Department of Commerce on March 3, 1999.

EPA has determined that a formal EFH consultation with NMFS is not required because the proposed discharge will not adversely impact EFH.

VIII. State Certification Requirements

EPA may not issue a permit unless the Massachusetts Department of Environmental Protection 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 Massachusetts Department of Environmental Protection 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.

IX. 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 a supporting material for their arguments in full by the close of the public comment period, to Suprokash Sarker, U.S. EPA, MA Office of Ecosystem Protection, 1 Congress Street, Suite 1100 (CMP), Boston, Massachusetts 02114-2023. Any person, prior to such date, may submit a request in writing to EPA and MADEP for a public hearing to consider the draft permit. 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 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.

X. EPA Contact

Additional 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 from:

Suprokash Sarker
MA NPDES Permit Program Unit
U.S. Environmental Protection Agency
1 Congress Street, Suite 1100 (CMP)
Boston, MA 02114-2023
Telephone: (617) 918-1693

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Date

Linda M. Murphy, Director
Office of Ecosystem Protection
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