

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND - REGION I
ONE 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 PURSUANT TO
THE CLEAN WATER ACT (CWA)**

NPDES PERMIT NUMBER: MA0090433

PUBLIC NOTICE START AND END DATES: July 20, 2007 – August 18, 2007

NAME AND MAILING ADDRESS OF APPLICANT:

U.S. Department of Homeland Security
U.S. Coast Guard
427 Commercial Street
Boston, MA 02109

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Light Station Boston
U.S. Coast Guard
Little Brewster Island
Hull, MA 02045

RECEIVING WATER: Massachusetts Bay (Boston Harbor Drainage System, MA-70)

RECEIVING WATER CLASSIFICATION: Massachusetts Class SA

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Figure 1. Map of the Facility, including outfall location

1. Proposed Action

The above named applicant has applied to the U. S. Environmental Protection Agency (EPA) for re-issuance of a National Pollutant Discharge Elimination System Permit to discharge treated sewage into the designated receiving water. The previous permit was issued on September 19, 2001, and expired on November 30, 2006. EPA received the application for permit re-issuance on May 19, 2006. Since the application for permit re-issuance was considered timely and complete by EPA, the previous permit has been administratively continued until EPA takes action on the re-issuance.

2. Type of Facility

The facility is a single family dwelling used by the lighthouse keeper of the Boston Light on Little Brewster Island. The lighthouse keeper is not a permanent resident on the Island, so the house is used only occasionally. The wastewater consists of sanitary sewage from the toilet, shower, sinks, etc. in the house.

3. Discharge Location and Description

The treatment facility is a 500 gallon per day extended aeration package plant which was purchased and installed in 1993 near the house on the rocky shore of Little Brewster Island. The treatment consists of aerobic digestion, activated sludge, an upflow filter, and a chlorine contact chamber for disinfection. The discharge pipe is not submerged during ordinary high or low tides. The effluent is discharged directly onto the rocky shoreline. However, there is rarely, if ever, any discharge from the facility. Nevertheless, the applicant wishes to retain the authorization to discharge to the surface waters.

A map of the facility and discharge location is shown in **Figure 1**.

4. Receiving Water Description

Massachusetts Bay at the point of discharge is designated as a Class SA water body by the Massachusetts Surface Water Quality Standards (314 CMR 4.06). Class SA waters are designated as an excellent habitat for fish, other aquatic life, and wildlife, and for primary and secondary contact recreation. In approved areas they shall be suitable for shellfish harvesting without depuration (Open Shellfish Areas). These waters shall have excellent aesthetic value. [314 CMR 4.05(4)(a)]

Section 303(d) of the Federal Clean Water Act (CWA) requires states to identify those water-bodies that are not expected to meet surface water quality standards after the implementation of technology-based controls and, as such require the development of total maximum daily loads (TMDLs). Massachusetts Bay is not included in the most recently EPA approved Massachusetts list of waters requiring the development of TMDLs (i.e., 303(d) list or Category 5 of the Massachusetts Year 2004 Integrated List of Waters) or on the Proposed 2006 CWA 303(d) List.

5. Permit Basis: Statutory and Regulatory Authority

The Clean Water Act (CWA) 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 CWA. The NPDES permit is the mechanism used to implement effluent limitations and other requirements, including monitoring and reporting, in accordance with various statutory and regulatory requirements established pursuant to the CWA and applicable State statutes and regulations. The regulations governing the EPA NPDES permit program are generally found at 40 CFR Parts 122, 124, 125, and 136.

When establishing NPDES permit requirements, EPA is required to consider, and include limitations in the permit, based on the most stringent of the following concepts: (a) technology-based requirements, (b) water quality-based requirements, (c) anti-backsliding from the limitations and requirements in the current/existing permit, and (d) antidegradation requirements.

Technology-based requirements represent the minimum level of control that must be imposed under Sections 402 and 301 (b) of the CWA and implementing regulations at 40 CFR 125, 133, and 405 through 471. 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 CWA as defined in 40 CFR 133.102. In situations where promulgated technology-based requirements are not applicable, Section 402(a)(1)(B) of the CWA provides that such limits be based on EPA's judgment. Such limits are referred to as "best professional judgment" (BPJ) limits, and are referenced in 40 CFR 125.3.

Water quality-based requirements are necessary where effluent limits more stringent than technology-based 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 federal or state water quality standards. The Massachusetts Surface Water Quality Standards (314 CMR 4.00) contain requirements for conventional and toxic pollutants in order to provide protection for designated uses in the receiving waters. Included in these Standards are provisions that EPA criteria for toxic pollutants, 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.

Anti-backsliding as defined in Section 402(o) of the CWA and implementing regulations at 40 CFR §122.44(l) require reissued permits to contain limitations as stringent or more stringent than those of the previous permit unless the circumstances allow application of one of the defined exceptions to this regulation.

In accordance with regulations found at 40 CFR Section 131.12, each state must adopt a statewide antidegradation policy to maintain and protect existing in-stream water quality. The Massachusetts Antidegradation Policy is found at Title 314 CMR 4.04. No lowering of water quality is allowed, except in accordance with the antidegradation policy. This applies in situations where a lowering of water quality is being proposed, such as a new discharge or an increased discharge of pollutants at a facility with an existing permit.

6. Effluent Limitations and Monitoring Requirements in the Permit

This facility is federally owned and is considered a POTW, and the wastewater being treated is domestic sewage. Therefore, the secondary treatment standards in 40 CFR 133.102 were used as the basis for effluent limitations on conventional pollutants (BOD₅ and TSS). The state water quality standards for Class SA Waters were used as the basis for the other effluent limitations in the permit. No dilution is assumed in applying these standards. The rationale for the permit limits is as follows:

Flow -- The limitation of 500 gallons per day is based on the design capacity of the treatment plant and is carried forward from the current permit. If there is any discharge flow, it is required to be reported each day.

BOD₅ and TSS -- The concentration limits of 30 mg/l, as a monthly average, and 45 mg/l, as a weekly average, are technology-based, using the secondary treatment standards in 40 CFR 133.102. These limits are carried forward from the current permit.

pH -- The limits, within the range of 6.5 through 8.5 std units, are based on the state water quality standards.

Dissolved Oxygen (DO) -- The draft permit includes a limit for DO based on state water quality standards. A minimum concentration of DO is needed for fish and other aquatic life. The facility discharges to Class SA waters, as classified by the Massachusetts Surface Water Quality Standards, and as such it shall have DO levels not less than 6.0 mg/l.

Fecal Coliform Bacteria -- The draft permit includes fecal coliform bacteria limitations which are in accordance with the Massachusetts Surface Water Quality Standards 314 CMR 4.05(1)(d)(4) for approved shellfish harvesting areas. The proposed limits in the draft permit are a geometric mean of 14 colony forming units (cfu)/100 ml for the average monthly limit and 28 colony forming units (cfu)/100 ml for the maximum daily limit. Colonies forming units (cfu) or most probable number (MPN) units are determined by the method of analysis used for bacteria analysis. Both units are acceptable. The frequency of sampling shall be maintained at 1/week if the discharge is active.

Enterococci Bacteria -- Seasonal weekly sampling for Enterococci is required if discharges occur to ascertain compliance with the water quality criteria promulgated by EPA on November 16, 2004, for Massachusetts Coastal Waters. Massachusetts has since adopted water quality criteria for Enterococci, which have not yet been approved by EPA. Upon approval of the State criteria, the federal criteria will no longer apply.

Total Residual Chlorine -- The current limit of 1.0 mg/l, as a daily maximum, is proposed for the draft permit based on anti-backsliding and attainment of water quality standards.

Other Permit Requirements -- In addition to these specific numerical effluent limitations, the permit contains general limitations to comply with state water quality standards on such things as

color, oil sheen, foam, floating or settleable solids, and non-specific toxic chemicals. Also, the permit contains the secondary treatment requirement of 85% removal of BOD₅ and TSS, along with other general monitoring conditions.

Special conditions are included in the permit to insure proper operation and maintenance of the treatment facility and proper handling and disposal of any sludge which may need to be removed from the treatment facility.

7. Essential Fish Habitat

Under the 1996 Amendments (PL 104-267) to the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. § 1801 et seq. (1998)), EPA is required to consult with the National Marine Fisheries 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.

The USCG Light Station Boston discharges into Massachusetts Bay which is designated by NMFS as EFH for the following species and applicable life stages:

Species	Eggs	Larvae	Juveniles	Adults
Atlantic cod (<i>Gadus morhua</i>)	X	X	X	X
haddock (<i>Melanogrammus aeglefinus</i>)	X	X		
pollock (<i>Pollachius virens</i>)	X	X	X	X
whiting (<i>Merluccius bilinearis</i>)	X	X	X	X
red hake (<i>Urophycis chuss</i>)	X	X	X	X
white hake (<i>Urophycis tenuis</i>)	X	X	X	X

Species	Eggs	Larvae	Juveniles	Adults
winter flounder (<i>Pleuronectes americanus</i>)	X	X	X	X
yellowtail flounder (<i>Pleuronectes ferruginea</i>)	X	X	X	X
windowpane flounder (<i>Scophthalmus aquosus</i>)	X	X	X	X
American plaice (<i>Hippoglossoides platessoides</i>)	X	X	X	X
ocean pout (<i>Macrozoarces americanus</i>)	X	X	X	X
Atlantic halibut (<i>Hippoglossus hippoglossus</i>)	X	X	X	X
Atlantic sea scallop (<i>Placopecten magellanicus</i>)	X	X	X	X
Atlantic sea herring (<i>Clupea harengus</i>)		X	X	X
bluefish (<i>Pomatomus saltatrix</i>)			X	X
long finned squid (<i>Loligo pealei</i>)	n/a	n/a	X	X
short finned squid (<i>Illex illecebrosus</i>)	n/a	n/a	X	X
Atlantic butterfish (<i>Peprilus triacanthus</i>)	X	X	X	X
Atlantic mackerel (<i>Scomber scombrus</i>)	X	X	X	X
summer flounder (<i>Paralichthys dentatus</i>)				X
scup (<i>Stenotomus chrysops</i>)	n/a	n/a	X	X
black sea bass (<i>Centropristus striata</i>)	n/a		X	X
surf clam (<i>Spisula solidissima</i>)	n/a	n/a	X	X

Species	Eggs	Larvae	Juveniles	Adults
bluefin tuna (<i>Thunnus thynnus</i>)			X	X

EPA has concluded that the limits and conditions in the draft permit minimize adverse effects to EFH for the following reasons:

The proposed permitted discharge of treated sanitary sewage is very small and, when active, discharges to the ocean where there is abundant dilution.

The discharged must be treated to meet secondary treatment standards.

The permit will prohibit violations of the state water quality standards.

EPA believes that the draft permit limits and requirements adequately protect EFH for the managed species, and therefore additional mitigation is not warranted. 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 conclusion, NMFS will be notified and an EFH consultation will be reinitiated.

8. Endangered Species Act

Section 7(a) of the Endangered Species Act of 1973, as amended (ESA) grants authority to and imposes requirements upon Federal agencies regarding endangered or threatened species of fish, wildlife, or plants ("listed species") and habitat of such species that has been designated as critical (a "critical habitat"). The ESA requires every Federal agency, in consultation with and with the assistance of the Secretary of Interior, to insure that any action it authorizes, funds, or carries out, in the United States or upon the high seas, is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat. The United States Fish and Wildlife Service (USFWS) administers Section 7 consultations for freshwater species, where as the National Marine Fisheries Service (NMFS) administers Section 7 consultations for marine species and anadromous fish.

As the federal agency charged with authorizing the discharge from this facility, EPA has reviewed available habitat information developed by the Services to see if one or more of the federal endangered or threatened species of fish, wildlife, or plants may be present within the influence of the discharge. EPA has concluded that no federally-listed or proposed, threatened or endangered species or critical habitat, under the jurisdiction of the USFWS or NMFS, are known to occur in the in the receiving waters identified in this permit. EPA is seeking concurrence with this opinion from the Services. A copy of the Draft Permit and Fact Sheet has been provided to both USFWS and NMFS for review and comment.

9. Coastal Zone Management

Section 307(c) of the Coastal Zone Management Act, 16 U.S.C. 1451 et seq. and implementing regulations (15 CFR part 930) prohibit EPA from issuing a permit for an activity affecting land or water use in the coastal zone until the applicant certifies that the proposed activity complies with the State Coastal Zone Management (CZM) program, and the State or its designated agency concurs with the certification (or the Secretary of Commerce overrides the State's nonconcurrence).

The discharge is within the defined coastal zone. The permittee has submitted a letter dated January 23, 2007, to the Massachusetts Coastal Zone Management Program stating its intention to abide by the CZM water quality and habitat policies. The CZM Program shall review the draft permit, and it will only be issued after CZM concurrence with the applicant's certification.

10. State Certification Requirements

EPA may not issue a permit unless the State Water Pollution Control 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 Massachusetts Department of Environmental Protection (MassDEP) 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.

11. Comment Period, Hearing Requests, and Procedures for Final Decisions

All persons, including applicants, who believe any condition of the Draft Permit is inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by the close of the public comment period, to Mark Voorhees, U.S. EPA, Office of Ecosystem Protection, 1 Congress Street, Suite 1100, Boston, Massachusetts 02114-2023. Any person, prior to such date, may submit a request in writing for a public hearing to consider the Draft Permit to EPA and the State Agency. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public meeting may be held if the criteria stated in 40 C.F.R. § 124.12 are satisfied. In reaching a final decision on the Draft Permit, the EPA 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 any public hearings, if such hearings are held, the EPA 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 petition for review of the permit to EPA's Environmental Appeals Board consistent with 40 C.F.R. § 124.19.

12. EPA and State Contacts

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:

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Stephen S. Perkins, Director
Office of Ecosystem Protection
U.S. Environmental Protection Agency

FIGURE 1



Light Station Boston
U.S. Coast Guard
MA0090433

