

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
OFFICE OF ECOSYSTEM PROTECTION
ONE CONGRESS STREET
BOSTON, MASSACHUSETTS 02114**

FACT SHEET

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

NPDES PERMIT NO.: MA0005517

NAME AND ADDRESS OF APPLICANT:

Braintree Electric Light Department
150 Potter Road
Braintree, MA 02184

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Potter Station
150 Potter Road
Braintree, MA 02184

SIC CODE: 4911 (Electric Services)

RECEIVING WATER: Weymouth Fore River

CLASSIFICATION: Class SB

Table of Contents

I.	PROPOSED ACTION	2
II.	TYPE OF FACILITY	3
III.	SUMMARY OF MONITORING DATA	3
IV.	PERMIT BASIS AND EXPLANATION OF EFFLUENT LIMIT DERIVATIONS	3
	A. General Requirements	3
	1. Technology-Based Requirements	4
	2. Water Quality-Based Requirements	5
	3. Anti-Backsliding	5
	4. Anti-Degradation	6
	B. Description of the Facility	6
	C. Description of Discharges	7
	1. Outfall 001	7
	2. Outfall 002	8
	D. Description of Receiving Water	8
	E. Proposed Permit Effluent Limitations and Conditions	8
	1. Outfall 001	8
	2. Outfall 002	11
	3. Storm Water Pollution Prevention Plan (SWPPP).....	13
	4. Additional Requirements and Conditions	14
V.	ENDANGERED SPECIES ACT	14
VI.	ESSENTIAL FISH HABITAT	15
VII.	STATE CERTIFICATION REQUIREMENTS	16
VIII.	ADMINISTRATIVE RECORD, PUBLIC COMMENT PERIOD, HEARING	16
	REQUESTS, AND PROCEDURES FOR FINAL DECISION	16
IX.	EPA & MassDEP CONTACTS	16
X.	ATTACHMENTS	17
	A. Site Map	17
	B. Summary of DMR Data	17
	C. EFH Designation	17

I. PROPOSED ACTION

The above named applicant has applied to the U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) for the re-issuance of a National Pollutant Discharge Elimination System (NPDES) permit to discharge boiler blowdown, house service water cooling tower blowdown, floor drains, demineralizer wastewater, and storm water into the designated receiving water. The permit, which was issued to Braintree Electric Light Department (BELD) – Potter Station on March 20, 2000 (the Current Permit), became effective on March 20, 2000, and expired on March 20, 2005. EPA received a permit renewal application from BELD on

October 29, 2004. Since the permit renewal application was deemed complete by EPA, the permit has been administratively continued.

II. TYPE OF FACILITY

BELD is engaged in the generation and distribution of electric power. The facility generates electricity by means of a natural gas-fired combined cycle unit having overall nominal capacity of 85 megawatts. Steam turbine condenser waste heat is rejected to the atmosphere by means of an air cooled condenser. The discharge effluent from BELD consists of four low volume waste streams discharged through a common outfall (Outfall 001): boiler blowdown, house service water cooling tower blowdown, floor drains, and demineralizer wastewater. Additionally, storm water runoff from the site is conveyed to storm drains which discharge through a separate common outfall (Outfall 002). See Attachment A, Site Map, for the location of the outfalls.

III. SUMMARY OF MONITORING DATA

A quantitative description of the discharges in terms of significant effluent parameters based on discharge monitoring reports (DMRs) submitted for Outfall 001 during the time period from April 2000 through July 2007 was reviewed and used in the development of the draft National Pollutant Discharge Elimination System (NPDES) permit (Draft Permit). A summary of the DMR data is provided in Attachment B to this Fact Sheet.

IV. PERMIT BASIS AND EXPLANATION OF EFFLUENT LIMIT DERIVATIONS

The effluent limitations, monitoring requirements, and any implementation schedule, if required, may be found in Part 1 (Effluent Limitations and Monitoring Requirements) of the Draft Permit. The permit re-application is part of the administrative file (Permit No. MA0005517).

A. General Requirements

The Clean Water Act (CWA) prohibits the discharge of pollutants to waters of the United States without a NPDES permit unless such a discharge is otherwise authorized by the CWA. 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 permit was developed in accordance with various statutory and regulatory requirements established pursuant to the CWA and applicable State regulations. During development, EPA considered the most recent technology-based treatment requirements, water quality-based requirements, and all limitations and requirements in the current/existing permit. The regulations governing the EPA NPDES permit program are generally found at 40 CFR Parts 122, 124, 125, and 136. The general conditions of the draft permit are based on 40 CFR §122.41 and consist primarily of management requirements common to all permits. The effluent monitoring requirements have been established to yield data representative of the discharge under authority of

Section 308(a) of the CWA in accordance with 40 CFR §122.41(j), §122.44(i), and §122.48.

1. Technology-Based Requirements

Subpart A of 40 CFR §125 establishes criteria and standards for the imposition of technology-based treatment requirements in permits under Section 301(b) of the CWA, including the application of EPA promulgated effluent limitations and case-by-case determinations of effluent limitations under Section 402(a)(1) of the CWA.

Technology-based treatment requirements represent the minimum level of control that must be imposed under Sections 301(b) and 402 of the CWA (see 40 CFR §125 Subpart A) to meet best practicable control technology currently available (BPT) for conventional pollutants and some metals, best conventional control technology (BCT) for conventional pollutants, and best available technology economically achievable (BAT) for toxic and non-conventional pollutants. In general, technology-based effluent guidelines for non-POTW facilities must have been complied with as expeditiously as practicable but in no case later than three years after the date such limitations were established and in no case later than March 31, 1989 [See 40 CFR §125.3(a)(2)]. Compliance schedules and deadlines not in accordance with the statutory provisions of the CWA cannot be authorized by a NPDES permit.

EPA has promulgated technology-based National Effluent Limitation Guidelines (ELGs) for the Steam Electric Power Generating Category (40 CFR §423), which contain effluent limitation guidelines (ELGs) for total suspended solids (TSS) and oil and grease (O&G). According to these ELGs, the discharge of pollutants from low volume waste sources [such as boiler blowdown] shall not exceed the quantity determined by multiplying the flow of low volume waste sources times the following concentrations: 100.0 mg/L daily maximum and 30.0 mg/L average monthly for TSS, and 20.0 mg/L maximum daily and 15.0 mg/L average monthly for oil and grease. Cooling tower blowdown also has an ELG for free available chlorine of 0.5 mg/L maximum concentration and 0.2 mg/L average concentration. Additionally, 40 CFR §423 requires that the discharge meet a pH range of 6.0 – 9.0 SU.

In the absence of technology-based effluent guidelines, the permit writer is authorized under Section 402(a)(1)(B) of the CWA to establish effluent limitations on a case-by-case basis using Best Professional Judgement (BPJ). The Standard Industrial Classification (SIC) code for Potter Station is 4911 (electric services). The 2000 Multi-Sector General Permit (MSGP) for storm water discharges from industrial sources was reviewed to determine technology-based limitations for this facility. Although Sector O of the MSGP (Steam Electric Generating Facilities) for SIC code 4911 does not include effluent limitations, it does include a benchmark monitoring cutoff concentration for total recoverable iron of 1.0 mg/L and SWPPP requirements for SIC Code 4911. Therefore, SWPPP requirements consistent with Sector O of the MSGP have been included in this permit. Additionally, Sector O of the proposed 2006 Multi-Sector General Permit

includes a proposed benchmark monitoring cutoff concentration for total suspended solids of 100 mg/L.

2. Water Quality-Based Requirements

Water quality-based criteria are required in NPDES permits when EPA and the State determine that effluent limits more stringent than technology-based limits are necessary to maintain or achieve state or federal water-quality standards (See Section 301(b) (1)(C) of the CWA). Water quality-based criteria consist of three (3) parts: 1) beneficial designated uses for a water body or a segment of a water body; 2) numeric and/or narrative water quality criteria sufficient to protect the assigned designated use(s) of the water body; and 3) anti-degradation requirements to ensure that once a use is attained it will not be degraded. The Massachusetts State Water Quality Standards, found at 314 CMR 4.00, include these elements. The State Water Quality Regulations limit or prohibit discharges of pollutants to surface waters and thereby assure that the surface water quality standards of the receiving water are protected, maintained, and/or attained. These standards also include requirements for the regulation and control of toxic constituents and require that EPA criteria, established pursuant to Section 304(a) of the CWA, be used unless site-specific criteria are established. EPA regulations pertaining to permit limits based upon water quality standards and state requirements are contained in 40 CFR §122.44(d).

Section 101(a)(3) of the CWA specifically prohibits the discharge of toxic pollutants in toxic amounts. The Commonwealth of Massachusetts (State) has a similar narrative criterion in their water quality regulations that prohibits such discharges [See Massachusetts Title 314 CMR 4.05(5)(e)]. The effluent limits established in the Draft Permit assure that the surface water quality standards of the receiving water are protected, maintained, and/or attained.

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 (TMDL).

According to the Final Massachusetts Year 2006 Integrated List of Waters, Weymouth Fore River is not attaining water quality standards due to pathogens. According to the *Boston Harbor Watershed 1999 Water Quality Assessment Report*, aquatic life is assessed as support, shellfishing is assessed as partial support and non-support in designated areas, and primary and secondary contact are assessed as partial support in Weymouth Fore River. According to DMF, shellfishing resources in the vicinity of the discharge have not been impacted to date and are not expected to be impacted, given the low volume and infrequent discharge from Potter Station.¹

3. Anti-Backsliding

¹ Telephone communication between Nicole Kowalski, EPA and Jack Schwartz, DMF, July 21, 2008.

EPA's anti-backsliding provision as identified in Section 402(o) of the Clean Water Act and at 40 CFR §122.44(l) prohibits the relaxation of permit limits, standards, and conditions unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued. Anti-backsliding provisions apply to effluent limits based on technology, water quality, BPJ and State Certification requirements. Relief from anti-backsliding provisions can only be granted under one of the defined exceptions [See 40 CFR §122.44(l)(i)]. Since none of these exceptions apply to this facility, the effluent limits in the Draft Permit must be as stringent as those in the Current Permit.

4. Anti-Degradation

Federal regulations found at 40 CFR Section 131.12 require states to develop and adopt a statewide anti-degradation policy which maintains and protects existing instream water uses and the level of water quality necessary to protect the existing uses, and maintains the quality of waters which exceed levels necessary to support propagation of fish, shellfish, and wildlife and to support recreation in and on the water. The Massachusetts Anti-Degradation Regulation is found at Title 314 CMR 4.04. All existing uses of the Weymouth Fore River must be protected.

B. Description of the Facility

Braintree Electric Light Department Potter Station operates one generating unit, Unit #2. Unit #2 is a natural gas-fired combined-cycle electric generator that relies on air cooled condensers for waste heat rejection. The gas turbine is capable of producing approximately 65 megawatts (MW) of electricity and the steam turbine is capable of producing approximately 20 MW, for a total of 85 MW. Following expansion in the steam turbine, steam is condensed in air cooled condensers.

Because this power plant relies on air cooled condensers to reject steam cycle waste heat, process water requirements and discharge are minimal relative to other power plant designs. Four process waste streams from Unit #2 are combined and treated in a waste neutralization tank prior to discharge through one outfall (Outfall 001).

BELD verified that they failed to submit an NOI to discharge under the MSGP-2000 after expiration of the MSGP-1995. Therefore, the discharge of storm water from the facility shall be included in this individual permit.

Several small storage tanks with secondary containment are located outside and store No. 2 fuel oil, lubricating oil, and sulfuric acid. BELD is in the process of building an additional outdoor storage tank and secondary containment area for ultra low sulfur diesel fuel. Additionally, BELD has an emergency generator located outside the office building, within a secondary containment area. The storm water which collects in the secondary containment areas for fuel oil, lubricating oil, ultra low sulfur diesel fuel, and the emergency generator shall be visually inspected, as specified in the SWPPP of the draft permit, prior to discharge to the storm water drainage area. The exposure of the sulfuric acid storage tank and secondary containment area to storm water shall be limited,

as specified in the SWPPP of the draft permit and in the description of the SWPPP in this fact sheet, below.

C. Description of Discharges

1. Outfall 001

BELD estimated that the plant has only run about 20 days in 2007, and therefore, the plant has only discharged through Outfall 001 a few times per month. The discharge through Outfall 001 consists of process waste streams of 1) floor drains at approximately 5,000 gallons per day (GPD), 2) demineralizer wastes at approximately 20,000 GPD, 3) boiler blowdown at approximately 10,000 GPD, and 4) blowdown from a cooling tower used for house service water at approximately 5,000 GPD. Metal cleaning wastewater is hauled offsite for treatment and disposal.

The discharge through the floor drains is not a routine discharge, however, on occasion; the discharge consists of wash water from equipment (without soap) and condensate leak-off from pumps. The floor drains discharge through a collection sump to an oil/water separator, prior to commingling with the other wastewater in the demineralizer area sump.

The waste streams commingle in the demineralizer area sump for addition of acid/caustic (sulfuric acid/sodium hydroxide) as necessary to neutralize the wastewater. These pollutants and their associated salts are likely to be found in the demineralizer wastewater. The wastewater then discharges to the wastewater neutralization tank, where air is bubbled through the water for additional mixing, prior to batch discharge through Outfall 001 by way of the seal weir. The water is tested prior to discharge from the wastewater neutralization tank by either the grab line or the batch tank. Water from the batch tank is re-circulated through the demineralizer area sump prior to discharge.

Boiler treatment chemicals include di- and tri-phosphates, sodium hydroxide for pH control, sodium sulfite as an oxygen scavenger, sodium sulfate to suspend particulate matter, and morpholine (an emulsifier) to elevate pH of the steam thereby preventing corrosion. These components and their breakdown products are likely to be present in the boiler blowdown.

The house service cooling water is used in various heat exchangers such as the gas turbine oil cooler, steam turbine oil cooler, generator hydrogen cooler, and generator air cooler. The house service cooling tower uses fans to dissipate heat from the cooling water through the atmosphere. The source of the cooling water is municipal water. The cooling water is reused and replenished with municipal water, as needed. This is the only cooling water used onsite. All other cooling at the site, including cooling of steam in the condenser, is done by air. Sodium hydroxide, sodium molybdate, and sodium nitrate are occasionally added to the house service cooling water to prevent corrosion. Chlorine bleach (sodium hypochlorite) is added a few times a year to control biofouling. These chemicals are likely to be present in the cooling tower blowdown.

Because all four waste streams are classified as “low volume wastes” in 40 CFR 423 they may be combined before sampling and monitoring. In the waste neutralization tank the combined low volume wastes are occasionally treated with sodium carbonate or sodium bicarbonate for pH adjustment prior to discharge. Following mixing and neutralization, the combined waste stream is discharged from the tank as a batch rather than continuously. The discharge flows through a seal weir, to the Weymouth Fore River. On a site visit conducted December 7, 2007, EPA observed the presence of fish in the seal weir at low tide.

2. Outfall 002

All storm water from the site flows via catch basins containing Stormceptors to one outfall pipe. Activities exposed to storm water include fuel and chemical storage, dumpster storage, turbine washing, and vehicle parking.

D. Description of Receiving Water

The Weymouth Fore River is classified as a Class SB water body by the Commonwealth of Massachusetts and as such, is designated as a habitat for fish, other aquatic life and wildlife and for primary (e.g., wading and swimming) and secondary (e.g., fishing and boating) contact recreation. In approved areas they shall be suitable for shellfish harvesting with depuration (Restricted Shellfish Areas). These waters shall have consistently good aesthetic value. This Draft Permit is being reissued with allowable effluent limits as stringent as or more stringent than the Current Permit and accordingly will continue to protect the existing uses of the receiving water.

E. Proposed Permit Effluent Limitations and Conditions

Regulations for “Steam Electric Power Generating Point Source Category” are found at 40 CFR §423. The Massachusetts State Water-Quality Standards are found at 314 CMR 4.00.

1. Outfall 001

a. Flow

The flow limitations in the previous permit of 40,000 GPD average monthly and 80,000 GPD maximum daily have been retained in the draft permit based on anti-backsliding requirements found in 40 CFR §122.44(l). Review of DMR data from April 2000 through July 2007 shows that the facility has not had any exceedences of the flow limitations. These flow limitations shall apply to the total flow for the day, as recorded by the flow totalizer.

Additionally, a requirement for the maximum instantaneous flow rate to not exceed 250 gpm has been included in the draft permit, in order to meet the Massachusetts Surface Water Quality Standards Implementation Policy for Mixing Zones (January 8, 1993), as discussed in detail, below. Although 250 gpm appears to be less stringent than the

80,000 GPD, the facility does not discharge continuously, thus both limits are necessary in order to ensure that both the anti-backsliding requirements found in 40 CFR §122.44(1) and the State Surface Water Quality Standards Implementation Policy for Mixing Zones are met.

b. Temperature

The Massachusetts Surface Water Quality Standards state that for Class SB waters, the temperature of the discharge “shall not exceed 85°F (29.4°C) nor a maximum daily mean of 80°F (26.7°C), and the rise in temperature due to a discharge shall not exceed 1.5°F (0.8°C) during the summer months (July through September) nor 4°F (2.2°C) during the winter months (October through June).”

The discharge from the facility flows through the seal weir chamber prior to transport to Outfall 001. Data submitted with the permit re-application shows discharge temperatures ranging from 112°F to 99°F, measured during the summer and winter, respectively. Since fish were observed within the seal weir chamber during a site visit by EPA on December 7, 2007, EPA is concerned that under current operating conditions the fish may be exposed to excessive temperature discharges.

However, the permittee has determined that an operational change is possible to limit the temperature of the discharge such that the temperature in the seal weir chamber is less than 85°F. This will preclude fish from exposure to excessive temperatures. Therefore, the draft permit requires a maximum daily temperature limitation, to be measured at the seal weir chamber, of 85°F.

Additionally, the Massachusetts Surface Water Quality Standards require that the discharge shall not cause a rise in temperature greater than 1.5°F (0.8°C) during the summer months (July through September) nor 4°F (2.2°C) during the winter months (October through June).

Based on draft modeling results presented in the *Braintree Electric Light Department (BELD) Thermal Discharge Mixing Zone Modeling Evaluation* (May 12, 2008) and email communication on June 16, 2008 with BELD’s consultant, CH2M Hill, at a flow rate of 320 gpm, the worst case mixing zone length required in order to meet these standards occurs during the winter, at a distance 500 feet downstream. The worst case mixing zone width required to meet these standards occurs during the winter, at 866 feet.

The Massachusetts Surface Water Quality Standards Implementation Policy for Mixing Zones (January 8, 1993) requires that a mixing zone shall not be a barrier to migration, thus no greater than half of the river width shall be allowed for a mixing zone. Since the width of the Weymouth Fore River at the point of discharge is approximately 1200 feet, the worst case mixing zone width required to meet the State temperature standards is approximately 72% of the river width. This violates the State Implementation Policy for Mixing Zones. However, review of the *Braintree Electric Light Department (BELD) Thermal Discharge Mixing Zone Modeling Evaluation* (July 18, 2008) shows that if the discharge flow rate is limited to 250 gpm, the width of the plume is not expected to

exceed 575 feet under winter conditions. Therefore, the worst case mixing zone width required to meet the State temperature standards is approximately 48% of the river width, when the discharge flow rate is limited to 250 gpm.

Therefore, the draft permit requires a maximum daily effluent limitation for the discharge to the seal weir chamber of 85°F, and monitoring of the monthly average temperature, both at a frequency of 1/week. Additionally, the discharge flow rate for Outfall 001 shall at no time exceed 250 gpm to ensure the State Water Quality Criteria for temperature and the Water Quality Standards Implementation Policy for Mixing Zones are met.

c. Total Residual Chlorine (TRC)

The limitations on TRC remain 0.1 mg/l for both average monthly and maximum daily, measured during blowdown of chlorinated cooling water, at a frequency of 1/week. These TRC limitations are based on anti-backsliding requirements found in 40 CFR §122.44(l). Review of DMR data shows that the facility has not detected chlorine in any samples. Consistent with the previous permit, the draft permit requires that the only biocide approved for use is chlorine (normally added as sodium hypochlorite). No other biocide can be used without written approval from the Regional Administrator and the Director.

The cooling tower blowdown waste stream from Unit #2 is for house service water cooling and not condenser cooling. For this reason, the cooling tower blowdown of this draft permit qualifies as a “low volume waste” and not condenser “cooling tower blowdown” as defined at 40 CFR §423.

d. pH

The draft permit requires pH limitations of 6.5 - 8.5 standards units (SU), consistent with current State Water Quality Standards for SB Waters and anti-backsliding requirements found in 40 CFR §122.44(l). This is more stringent than the range of 6.0 - 9.0 required for discharges from the Steam Electric Power Generating Category according to 40 CFR §423.

e. Total Suspended Solids (TSS)

40 CFR §423.12 limits the quantity of TSS that can be discharged from low volume waste streams “by multiplying the flow of low volume waste sources times the concentration listed in the following table,” which is 100.0 mg/l daily maximum and 30.0 mg/l monthly average. 40 CFR 423.12 (b)(11) states that the permitting authority has the discretion to express the limits as concentration-based as opposed to mass-based. Therefore, the draft permit includes concentration based limits for TSS based on 40 CFR §423.12 and anti-backsliding requirements found in 40 CFR §122.44(l). Review of DMR data shows that the facility has exceeded the monthly average TSS limitation on 4 occasions. However, all 4 occasions of exceedences were in 2000. Therefore, the monitoring frequency for TSS has been reduced from 1/week to 1/month.

f. Oil and Grease (O&G)

The derivation of the draft permit's limits for O&G is analogous to that of TSS, as described above and defined in 40 CFR §423.12. The limits in the draft permit O&G are 15 mg/l for both maximum daily and average monthly.

The average monthly limit is consistent with the previous permit requirements, in accordance with anti-backsliding requirements found in 40 CFR §122.44(l). The maximum daily limit is slightly more stringent than the previous permit requirement of 20 mg/L, based on the Massachusetts Surface Water Quality Standards. These standards under 314 Code of Massachusetts Regulations ("CMR") 4.05(4)(b)(7), state:

These waters shall be free from oil, grease and petrochemicals that produce a visible film in the surface of the water, to impart an oily taste to the water or an oily or other undesirable taste to the edible portions of aquatic life, coat the banks or bottom of the water course, or are deleterious or become toxic to aquatic life.

An effluent concentration of 15 mg/l is recognized as the concentration at which many oils produce a visible sheen and/or cause an undesirable taste in edible fish. Therefore the draft permit requires an O&G maximum daily effluent limitation of 15 mg/L to ensure compliance with State water quality standards.

Review of DMR data shows that the facility has not exceeded the previous O&G limitations on any occasion, nor has the data exceeded the slightly more stringent maximum daily limitation of 15 mg/L required in the draft permit. Therefore, the monitoring frequency for O&G has been reduced from 1/week to 1/month.

g. Other Parameters of Concern

Polychlorinated Biphenyl Compounds (PCBs)

Pursuant to 40 CFR §423.13(a), discharge of PCBs, such as those commonly used for transformer fluid, is prohibited and any PCB's at the facility must be disposed of in accordance with 40 CFR §761. The draft permit does not require monitoring for PCBs at this time.

2. Outfall 002

The discharge through Outfall 002 was previously covered under the MSGP-1995, and thus no monitoring requirements existed for Outfall 002 under the current individual permit.

a. Flow

The draft permit requires monitoring of both the average monthly flow value and the maximum daily flow value.

b. pH

The draft permit requires pH limitations of 6.5 - 8.5 standards units (su) to consistent with current State Water Quality Standards for Class SB Waters. The pH of the discharge shall be monitored 1/month.

c. TSS

TSS is a typical storm water pollutant and an indicator of chemical constituents in the discharge. Due to the overland flow of storm water, soil particles are expected to be in the discharge. Chemical constituents are readily adsorbed onto particulate matter and the release of these compounds can be controlled, to an extent, by regulating the amount of suspended solids released into the environment. The proposed 2006 Multi-Sector General Permit includes a proposed benchmark monitoring condition of 100 mg/L TSS. Therefore, based on BPJ, the draft permit requires the discharge through Outfall 002 to meet a 100 mg/L monthly average TSS limit, monitored at a frequency of 1/month.

d. O&G

The maximum daily limit for oil and grease is based on The Massachusetts Surface Water Quality Standards. These standards under 314 Code of Massachusetts Regulations ("CMR") 4.05(4)(b)(7), state:

These waters shall be free from oil, grease and petrochemicals that produce a visible film in the surface of the water, to impart an oily taste to the water or an oily or other undesirable taste to the edible portions of aquatic life, coat the banks or bottom of the water course, or are deleterious or become toxic to aquatic life.

An effluent concentration of 15 mg/l is recognized as the concentration at which many oils produce a visible sheen and/or cause an undesirable taste in edible fish. The draft permit shall require a maximum daily effluent limitation of 15 mg/L and average monthly monitoring, sampled 1/month, to ensure compliance with State water quality standards.

e. BTEX

Monitoring for BTEX compounds is required in the draft permit based on fuel storage and handling that occurs onsite. Low sulfur diesel fuel and No. 2 Fuel Oil are stored onsite in above ground storage tanks. Refined petroleum products contain numerous types of hydrocarbons. Individual components partition to environmental media on the basis of their physical/chemical properties (e.g., solubility, vapor pressure). Rather than attempt to establish effluent limits for every compound found in a petroleum release, limits are typically established for the compounds that would be most difficult to remove as well as demonstrate the greatest degree of toxicity. Generally, the higher the solubility of a volatile organic compound (VOC) in water, the more difficult it is to remove.

VOCs such as benzene, toluene, ethylbenzene, and the three xylene compounds (BTEX) are normally found at relatively high concentrations in gasoline and light distillate products (e.g., diesel fuel). The traditional approach for limiting effluents contaminated with gasoline or other light distillates is to place limits on the individual BTEX compounds and/or the sum of total BTEX compounds. This approach stems from the petroleum-industry practice of determining the quality of fuels by measuring BTEX, which are highly variable among gasoline products. Another reason for limiting BTEX is that EPA and the State have promulgated water quality criteria for BTEX.

To better regulate the “potential” for gasoline and/or light distillates to come in contact with storm water via product spills during fueling operations, EPA included a monitoring requirement for each BTEX compound (benzene, toluene, ethylbenzene, and total xylenes) in the draft permit as well as a monitoring requirement for total BTEX. The monitoring frequency shall be once per month.

f. Total Recoverable Iron

Sector O of the MSGP (Steam Electric Generating Facilities) for SIC Code 4911 contains a benchmark monitoring cutoff concentration of 1.0 mg/L for total recoverable iron. Therefore, the permittee shall be required to monitor the discharge for total recoverable iron. If monitoring shows that this benchmark monitoring cutoff concentration is exceeded, the permit may be modified to require effluent limitations for iron, and/or development of BMPs, pursuant to the SWPPP, to reduce the level of iron in the discharge from the facility. Monitoring for total recoverable iron shall be required at a frequency of 1/month.

3. Storm Water Pollution Prevention Plan (SWPPP)

This facility engages in activities which could result in the discharge of pollutants to waters of the United States either directly or indirectly through storm water runoff. These operations include at least one of the following in an area potentially exposed to precipitation or storm water: material storage, in-facility transfer, material processing, material handling, or loading and unloading. To control the activities/operations, which could contribute pollutants to waters of the United States, potentially violating the State’s Water Quality Standards, the Draft Permit requires the facility to develop, implement, and maintain a Storm Water Pollution Prevention Plan (SWPPP) containing best management practices (BMPs) appropriate for this specific facility (See Sections 304(e) and 402(a)(1) of the CWA and 40 CFR §125.103(b)). Specifically, at this facility, storage and handling of No. 2 fuel oil, lubricating oil, sulfuric acid, and ultra low sulfur diesel fuel are examples of material storage and handling operations that shall be included in the SWPPP.

The goal of the SWPPP is to reduce, or prevent, the discharge of pollutants through the storm water system. The SWPPP requirements in the Draft Permit are intended to provide a systematic approach by which the permittee shall at all times, properly 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 SWPPP shall be prepared in accordance with good engineering practices and identify potential sources of pollutants, which may reasonably be expected to affect the quality of storm water discharges associated with industrial activity from the facility. The SWPPP, upon implementation, becomes a supporting element to any numerical effluent limitations in the Draft Permit. Consequently, the SWPPP is as equally enforceable as the numerical limits.

This process involves the following four main steps:

- (1) Forming a team of qualified facility personnel who will be responsible for developing and updating the SWPPP and assisting the plant manager in its implementation;
- (2) Assessing the potential storm water pollution sources;
- (3) Selecting and implementing appropriate management practices and controls for these potential pollution sources; and
- (4) Reevaluating, periodically, the effectiveness of the SWPPP in preventing storm water contamination and in complying with the various terms and conditions of the Draft Permit.

Additionally, the permittee shall develop and implement BMPs to limit exposure of stored chemicals and fuels to storm water (including the sulfuric acid storage tank and secondary containment area). The permittee shall visually inspect the storm water which collects in the fuel oil, lubricating oil, ultra low sulfur diesel fuel, and emergency generator secondary containment areas for sheen prior to discharge to the storm water drainage area. In the event that sheen is observed, the permittee shall eliminate the sheen prior to discharging the water from the containment area.

The SWPPP shall be consistent with the SWPPP requirements defined in Sector O of the MSGP-2000 (65 FR 64839 - 64840), applicable to the SIC for this facility (4911).

4. Additional Requirements and Conditions

These 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 draft permit are based on the NPDES regulations, Part 122 through 125 and consist primarily of management requirements common to all permits

V. **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) typically administer Section 7 consultations for bird, terrestrial, and freshwater aquatic species. The National Marine Fisheries Service (NMFS) typically administers Section 7 consultations for marine species and anadromous fish.

EPA has reviewed the federal endangered or threatened species of fish and wildlife to see if any such listed species might potentially be impacted by the re-issuance of this NPDES permit. The review has focused on marine species and anadromous fish since the discharge is into Weymouth Fore River. Based on the low volume and infrequency of discharge from the facility, along with the permit conditions, especially those for temperature, EPA has determined that there will be no effects on the listed species (North Atlantic Right Whale, Humpback Whale, Fin Whale, Green Sea Turtle, Kemp's (Atlantic) Ridley Sea Turtle, Leatherback Sea Turtle, Loggerhead Sea Turtle) in the vicinity of the facility's discharge.

EPA is coordinating a review of this finding with NMFS and USFWS through the Draft Permit and Fact Sheet and further consultation under Section 7 of the ESA with NMFS and USFWS is not required.

VI. 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 Service (NMFS) if EPA's action or proposed actions that it funds, permits, or undertakes, "may adversely impact any essential fish habitat." 16 U.S.C. § 1855(b). The Amendments broadly define "essential fish habitat" (EFH) 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. *Id.*

Essential fish habitat is only designated for fish 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 Weymouth Fore River in the vicinity of Potter Station is designated essential fish habitat (EFH) for 24 species of finfish and mollusks (see Attachment C). Based on the amount and frequency of discharge, as well as effluent limitations and other permit requirements identified in this Fact Sheet that are designed to be protective of all aquatic species, including those with designated EFH, EPA has determined that 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 conclusion.

VII. STATE CERTIFICATION REQUIREMENTS

EPA may not issue a permit unless the MassDEP 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 Surface Water Quality Standards or unless state certification is waived. The staff of the MassDEP has reviewed the draft permit and advised EPA that the limitations are adequate to protect water quality. EPA has requested permit certification by the State pursuant to 40 CFR §124.53 and expects that the draft permit will be certified.

VIII. ADMINISTRATIVE RECORD, PUBLIC COMMENT PERIOD, HEARING REQUESTS, 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 comment period, to the U.S. EPA, Office of Ecosystem Protection Attn: Nicole Kowalski, 1 Congress Street, Suite 1100 (CIP), Boston, Massachusetts 02114-2023 or via email to kowalski.nicole@epa.gov. The comments should reference the name and permit number of the facility for which they are being provided.

Any person, prior to such date, may submit a request in writing to EPA and the States Agency 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. Within thirty (30) days following the notice of final permit decision, permits may be appealed to the Environmental Appeals Board in the manner described at 40 CFR § 124.19.

IX. EPA & MassDEP 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 the EPA and MassDEP contacts below:

Nicole Kowalski, EPA New England – Region 1
1 Congress Street, Suit 1100 (CIP)
Boston, Massachusetts 02114-2023
Telephone: (617) 918-1746 FAX: (617) 918-0746
email: kowalski.nicole@epa.gov

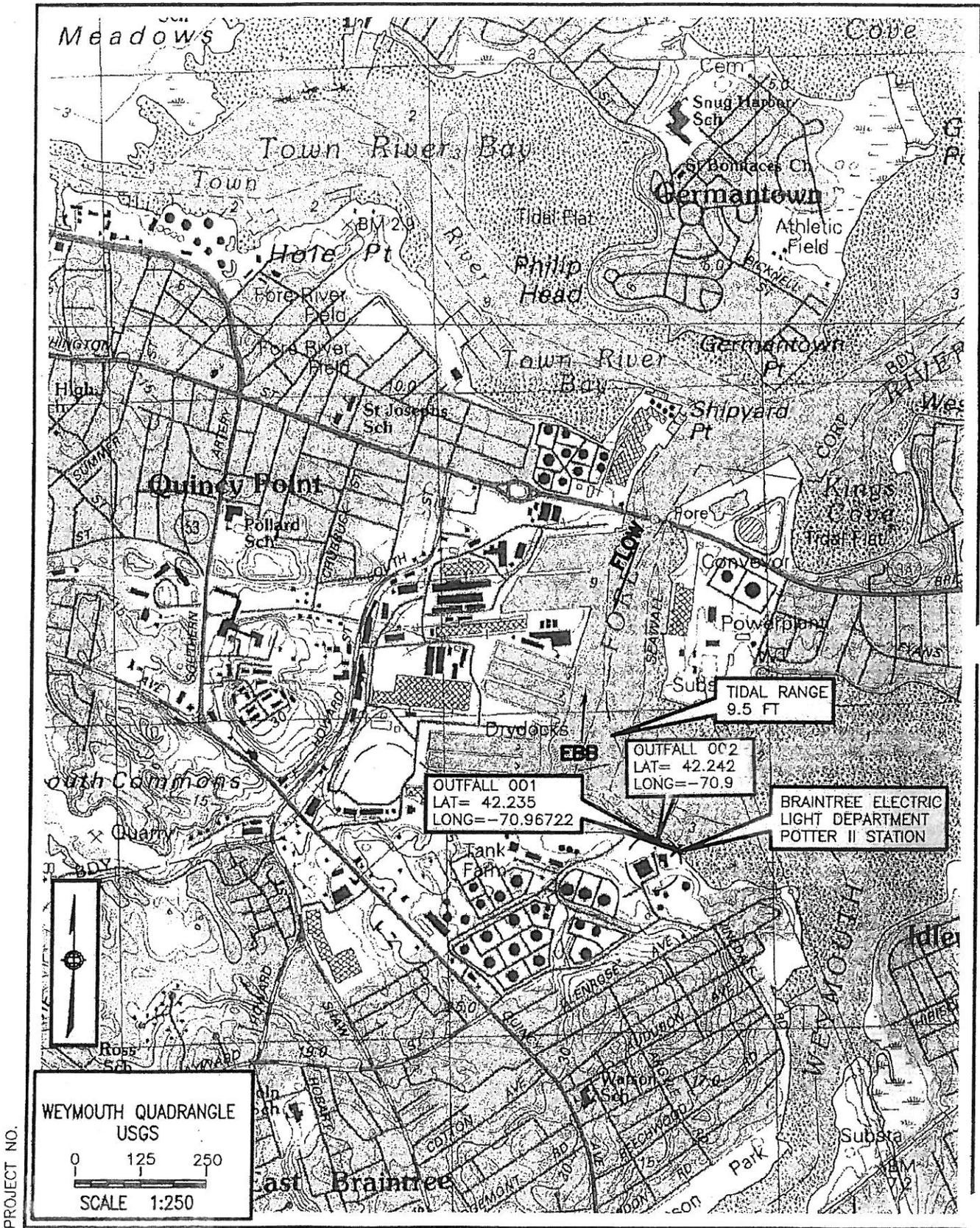
Paul Hogan, Massachusetts Department of Environmental Protection
Division of Watershed Management, Surface Water Discharge Permit Program
627 Main Street, 2nd Floor
Worcester, Massachusetts 01608
Telephone: (508) 767-2796 FAX: (508) 791-4131
email: paul.hogan@state.ma.us

Date

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

X. ATTACHMENTS

- A. Site Map**
- B. Summary of DMR Data**
- C. EFH Designation**



PROJECT NO.



TOPOGRAPH MAP – BELD POTTER II STATION
NPDES PERMIT RENEWAL APPLICATION

Attachment B - Summary of DMR Data
 MA005517

OUTFALL 001 MP Date	Parameter	Chlorine	Chlorine	Flow	Flow	O&G	O&G	pH	pH	TSS	TSS
	Rec'd Date	MO AVG	DAILY MX	MO AVG	DAILY MX	MO AVG	DAILY MX	MINIMUM	MAXIMUM	MO AVG	DAILY MX
4/30/2000	8/31/2000	0	0	11614	23230	0.2	0.2	6.8	8.3	39	46.2
5/31/2000	8/31/2000	0	0	15416	23842	0	0	6.8	8.5	39.6	66.7
6/30/2000	8/31/2000	0	0	12799	32107	0	0	6.8	8.2	41.8	50.7
7/31/2000	8/31/2000	0	0	12487	16191	0	0	7.2	8.4	34	43.9
8/31/2000	9/14/2000	0	0	16136	27602	0.9	1.6	7.6	8.4	26.5	29.5
9/30/2000	10/16/2000	0	0	12256	15598	0.4	0.4	6.9	8.5	10.72	13.38
10/31/2000	11/13/2000	0	0	20922	32528	2.1	3.2	7.1	8.4	14.6	22.2
11/30/2000	12/13/2000	0	0	16645	20772	1.88	4	7.2	8.3	9.12	17
12/31/2000	1/11/2001	0	0	16465	33920	1.56	5.2	6.9	8.4	6.86	14
1/31/2001	2/15/2001	0	0	22561	36785	2.93	7.2	6.7	8.4	8.3	13.1
2/28/2001	3/15/2001	0	0	15205	28528	0.4	0.6	7.3	8.4	7.9	9
3/31/2001	4/13/2001	0	0	20752	36229	0.85	1.8	7.1	8.1	6.49	11.6
4/30/2001	5/16/2001	0	0	14380	19712	1.15	1.6	7.3	8.4	4.8	9.3
5/31/2001	6/13/2001	0	0	17072	50949	1.67	3.4	7	8.4	3.83	7.2
6/30/2001	7/13/2001	0	0	17774	21418	1.2	2	7.1	8.5	16	18.8
7/31/2001	8/16/2001	0	0	20504	54518	0.4	0.6	7.2	8.4	29	50
8/31/2001	9/18/2001	0	0	24689	45673	2.24	2.9	6.7	8.4	13.7	20.6
9/30/2001	10/15/2001	0	0	18175	39103	0.65	2	6.6	8.3	17.65	27.3
10/31/2001	11/19/2001	0	0	18393	24342	0.6	1	6.9	8.2	8	20.4
11/30/2001	12/14/2001	0	0	16755	29914	1.7	2.6	6.9	8.1	7.5	16
12/31/2001	1/17/2002	0	0	11942	21325	0.7	0.8	6.7	7.8	1.03	1.76
1/31/2002	2/15/2002	0	0	11369	19305	0.7	0.8	7.2	8.4	3.26	4.2
2/28/2002	3/5/2002	0	0	4224	4224	0	0	6.7	6.8	0.6	0.6
3/31/2002	4/11/2002	0	0	15752	20823	0.3	0.8	6.7	8.3	2.35	3
4/30/2002	5/14/2002	0	0	22133	28039	0.2	0.2	7	7.6	5.14	5.14
5/31/2002	6/14/2002	0	0	23512	30405	0.48	1.2	6.8	8.3	5.97	14
6/30/2002	7/15/2002	0	0	14500	25652	1.58	2	6.5	8.2	3.06	5.8
7/31/2002	8/12/2002	0	0	21478	42207	2.76	9.8	6.8	8.5	5.2	13
8/31/2002	9/11/2002	0	0	24587	41640	1.15	2.2	6.6	8.3	8.77	19
9/30/2002	10/16/2002	0	0	27095	44040	0.45	0.8	6.5	8.3	3.37	9.6
10/31/2002	11/18/2002	0	0	14187	25276	1.5	3.4	6.6	8.3	1.85	2.8
11/30/2002	12/12/2002	0	0	5825	5825	3.4	3.4	6.9	6.9	1.64	1.64
12/31/2002	1/16/2003	0	0	19362	21855	1.4	1.4	6.8	7.8	4.23	5.4
1/31/2003	2/19/2003	0	0	19565	36930	0.13	0.4	6.7	8	8.37	12.9
2/28/2003	3/14/2003	0	0	21196	52273	2.3	3.4	6.6	8.4	4	4.8
3/31/2003	4/14/2003	0	0	19716	34045	0.4	0.8	6.7	8.4	2.45	3.1
4/30/2003	5/8/2003	0	0	10162	14327	0	0	6.6	8.1	6.6	6.6
5/31/2003	6/16/2003	0	0	16654	21107	0.7	0.8	6.5	7.2	3.25	3.7
6/30/2003	7/17/2003	0	0	13398	16707	0.2	0.4	7.1	7.4	3.3	4.5
7/31/2003	8/11/2003	0	0	28397	44832	0.53	1	6.8	8.2	2.5	6
8/31/2003	9/9/2003	0	0	21810	24242	0.4	0.4	7.1	8	1.7	1.7
9/30/2003	10/8/2003	0	0	14178	18135	4	7.4	6.8	7.6	2.97	4
10/31/2003											
11/30/2003	12/12/2003	0	0	13437	21031	1.8	1.8	6.9	7.4	2.5	2.5
12/31/2003	1/16/2004	0	0	11848	16338	0.25	0.4	6.9	8.2	2	3
1/31/2004	2/12/2004	0	0	34849	45628	1.25	3.2	6.8	8.4	9.4	14.7
2/29/2004	3/15/2004	0	0	22039	40841	0.87	1.2	7	8	6.5	9.8
3/31/2004	4/12/2004	0	0	18213	30003	0.7	0.8	6.9	7.9	5.75	7.6
4/30/2004	5/14/2004										
5/31/2004	6/7/2004										
6/30/2004	7/15/2004	0	0	17342	23317	5	7.4	7.2	8.2	9.2	10.7
7/31/2004	8/10/2004	0	0	21182	21182	0.6	0.6	6.9	7.8	4.8	4.8
8/31/2004	9/15/2004	0	0	16921	28501	0.6	1	7.1	8.3	11.3	21
9/30/2004	10/15/2004	0	0	6981	8221	0.7	0.8	7	7.8	4	5.2
10/31/2004	11/15/2004	0	0	10465	13778	0.1	0.2	7	7.5	0.9	1.6
11/30/2004	12/9/2004	0	0	10465	13778	0.1	0.2	7	7.5	0.9	1.6
12/31/2004	1/13/2005	0	0	20290	20711	0	0	6.9	7.9	0.74	0.74
1/31/2005	4/5/2005	0	0	24134	27842	0	0	6.7	7.8	1.9	3.6
2/28/2005	3/14/2005										
3/31/2005	4/15/2005	0	0	21508	40038	0.1	0.2	6.8	8.2	2.76	5.6
4/30/2005	5/10/2005										
5/31/2005	6/13/2005	0	0	5499	6380	0.2	0.4	7.5	7.8	0.5	1.2
6/30/2005	7/11/2005	0	0	11798	19635	1.33	2	6.8	8.3	7.37	13.2
7/31/2005	8/17/2005	0	0	15596	31060	0.33	0.6	6.6	8.5	8.93	13
8/31/2005	9/14/2005	0	0	15359	28415	3.1	6	6.9	8.3	14.5	45
9/30/2005	10/19/2005	0	0	10684	11895	0.4	0.4	7	8	7.15	13
10/31/2005	11/18/2005	0	0	1159	23480	0	0	7.2	7.9	0.1	21
11/30/2005				8616	8860	0.2	0.4	7.3	7.4	1.1	1.39
12/31/2005	1/13/2006	0	0	9540	12060	0.7	0.8	7.4	7.4	1.28	1.28

Summary of Essential Fish Habitat (EFH) Designation

10' x 10' Square Coordinates:

Boundary	North	East	South	West
Coordinate	42° 20.0' N	70° 50.0' W	42° 10.0' N	71° 00.0' W

Square Description (i.e. habitat, landmarks, coastline markers): Waters within the Atlantic Ocean within Massachusetts Bay and within Boston Harbor within the square affecting from north of Black Rock Beach in Cohasset, MA., to Long Island Bridge in Quincy, MA., and including off of Quincy, MA., Hull, MA. These waters also affect the following islands: Peddocks, Long, Gallops, Spectacle, Lovell, Georges, Hangman, Rainsford, southern Great Brewster, and the northwest tip of Thompson, along with Quincy Bay. Also affected include: Worlds End, Planters Hill, Bumkin I., Sheep I., Nantasket Beach, Strawberry Ledge, Harding Ledge, Thieves Ledge, Ultonia Ledge, Pt. Allerton, Spinnaker I., Grape I., Slate I., Hingham Harbor, Hingham MA., Back River, Weymouth, MA., N. Weymouth, MA., Weymouth Fore River, Quincy Pt., Town River Bay, Houghs Neck, and Moon Head.

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
offshore hake (<i>Merluccius albidus</i>)				
red hake (<i>Urophycis chuss</i>)	X	X	X	X
white hake (<i>Urophycis tenuis</i>)	X	X	X	X
redfish (<i>Sebastes fasciatus</i>)	n/a			
witch flounder (<i>Glyptocephalus cynoglossus</i>)				
winter flounder (<i>Pleuronectes americanus</i>)	X	X	X	X
yellowtail flounder (<i>Pleuronectes ferruginea</i>)	X	X	X	X
windowpane flounder (<i>Scopthalmus 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

monkfish (<i>Lophius americanus</i>)				
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
ocean quahog (<i>Artica islandica</i>)	n/a	n/a		
spiny dogfish (<i>Squalus acanthias</i>)	n/a	n/a		
tilefish (<i>Lopholatilus chamaeleonticeps</i>)				
bluefin tuna (<i>Thunnus thynnus</i>)			X	X