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

NPDES PERMIT NO: **MA0101231**

NAME AND ADDRESS OF APPLICANT:

Hull Permanent Sewer Commission
1111 Nantasket Aveneue
Hull, MA 02045

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Hull Water Pollution Control Facility (WPCF)
1111 Nantasket Avenue
Hull, MA 02045

RECEIVING WATERS: **Massachusetts Bay/Atlantic Ocean**
Nantasket Roads - Boston Harbor Watershed (70-1)

CLASSIFICATION: **SB**

I. PROPOSED ACTION

The above named applicant has applied to the U.S. Environmental Protection Agency for the re-issuance of its National Pollutant Discharge Elimination System (NPDES) permit to discharge into the designated receiving water. The current permit was issued May 6, 2002 and became effective 60 days after the date of signature. The current permit expired July 5, 2006 and has been administratively continued. A timely re-application was received. The proposed term of this draft permit is five years.

The Towns of Cohasset and Hingham are co-permittees for PART 1.D. UNAUTHORIZED DISCHARGES, PART 1.E. OPERATION AND MAINTENANCE OF THE SEWER SYSTEM, and PART 1.F. ALTERNATIVE POWER SOURCE, which include conditions regarding the operation and maintenance of the portions of the collection systems owned and operated by the towns which discharge to the Hull WPCF. The responsible town authorities are:

Cohasset Sewer Commission Cohasset Town Hall 41 Highland Avenue Cohasset, MA 02025	Hingham Sewer Commission 210 Central Street Hingham, MA 02043-2759

TYPE OF FACILITY AND DISCHARGE LOCATION

The facility is a 3.07 million gallon per day secondary wastewater treatment plant. The current annual average effluent flow is 1.93 mgd and the maximum daily flow is 8.3 mgd (source 2006 NPDES Application 2A). The WPCF was built in 1974 and underwent an upgrade in 2001. The facility discharges through outfall 001, 2700 feet offshore at a depth of 35 feet into the Nantasket Roads which is part of Massachusetts Bay/Atlantic Ocean (See Figure 1). This facility serves a population of more than 12,000 in Hull. The treatment plant also serves 143 homes in Cohasset, 175 homes in Hingham, and also treats 20,000-24,000 gallons per day of leachate from the Cohasset landfill. The collection system is a separate sewer system with no combined sewers. Wastewater is composed of domestic sewage. Sludge is trucked off site for incineration at the Synagro Northeast Facility in Woonsocket, RI. The plant is operated under contract by Aquarion Operating Service Company (a division of United Water).

II. DESCRIPTION OF DISCHARGE

A quantitative description of the discharge in terms of significant effluent parameters based on recent discharge monitoring reports (DMRs), July 1, 2006 through December 31, 2008, is shown in Attachment A of this fact sheet.

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

A. PROCESS DESCRIPTION

The Hull WPCF is engaged in the collection and treatment of municipal wastewater including inflow and infiltration. The system provides secondary treatment. The wastewater treatment (See Figure 2) is as follows:

At the headworks, influent passes through a mechanical bar screen to the aerated grit chamber. The grit is disposed of at the town landfill. From the grit chamber, the influent flows to an influent wet well, where it is pumped to the two primary clarifiers and then the four aeration tanks. The flow continues on to the two secondary clarifiers. The overflow from the secondary clarifiers goes to the effluent wet well, where it is then pumped to the chlorine contact chamber. Sodium hypochlorite is injected into the discharge pipe of the effluent pumps and the chlorine residual is measured in the chlorine contact tank. Chlorine is flow-paced through the SCADA system. The effluent flows out of the contact tank and discharges through a diffused outfall 2700 feet offshore at a depth of 35 feet below mean sea level.

B. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. Overview of Federal and State Regulations

Under Section 301(b)(1) of the Clean Water Act ("CWA"), publicly owned treatment works ("POTWs") must achieve effluent limitations based upon Secondary Treatment by July 1, 1977. The secondary treatment requirements are set forth at 40 C.F.R. Part 133.102.

In addition, Section 301(b)(1)(c) of the CWA requires that effluent limitations based on water quality considerations be established for point source discharges when such limitations are necessary to meet state or federal water quality standards that are applicable to the designated receiving water.

Pursuant to 40 C.F.R. § 122.44 (d), permittees must achieve water quality standards established under Section 303 of the Clean Water Act (CWA), including state narrative criteria for water quality. Additionally, under 40 C.F.R. § 122.44 (d)(1)(i), "Limitations must control all pollutants or pollutant parameters which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard." When determining whether a discharge causes, or has the reasonable potential to cause or contribute to an in-stream excursion above a narrative or numeric criterion, the permitting authority shall use procedures which account for existing controls on point and non-point sources of pollution, and where appropriate, consider the dilution of the effluent in the receiving water.

2. Water Quality Standards; Designated Use; Outfall 001

Nantasket Roads is part of the Boston Harbor Drainage Area. The outfall lies inside a line from the southerly tip of Deer Island to Boston Lighthouse to Point Allerton in Hull. This area which is classified as Class SB (Shellfishing) water in the Massachusetts Surface Water Quality Standards (314 CMR 4.06 – Table 15). Class SB waters are designated as a 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 with depuration (Restricted Shellfish Areas). The waters shall have consistently good aesthetic value (314 CMR 4.05(b)).

The objective of the Federal Clean Water Act (CWA) is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. To meet this goal the CWA requires states to develop information on the quality of their water resources and report this information to the U.S. Environmental Protection Agency (EPA), the U.S. Congress, and the public. To this end the EPA released guidance on November 19, 2001, for the preparation of an integrated "List of Waters" that could combine reporting elements of both §305 (b) and 303(d) of the CWA. The integrated list format allows the states to provide the status of all their assessed waters in one list. States choosing this option must list each water body or segment in one of the following five categories:

1)Unimpaired and not threatened for all designated uses; 2) Unimpaired waters for some uses and not assessed for others; 3) Insufficient information to make assessments for any uses; 4) Impaired or threatened for one or more uses but not requiring the calculation of a Total Maximum Daily Load (TMDL); and 5) impaired or threatened for one or more uses and requiring a TMDL.

The Massachusetts Year 2006 Integrated List of Waters (and the 2008 Draft List) states that Boston Harbor Segment MA 70-01, which includes Nantasket Roads, falls within category 5 because it is not attaining water quality standards for pathogens and priority organics, thus requiring a TMDL. Based on the stringent bacteria limits in the draft permit and the application data for priority organics, it appears that the WPCF is not a significant source of either pollutant.

Available Dilution The US Food and Drug Administration determined a dilution ratio of 94:1 based on the outfall design and location, using the Cornell University Mixing Zone Model (CORMIX). The dilution was calculated at the time the new outfall was designed prior to the last permit.

At the request of the Massachusetts Division of Marine Fisheries (MADMF), the current permit required the permittee to perform an extensive dye study to track the dispersion of the effluent in proximity to shellfish beds. The study was submitted to MADMF, MassDEP, and EPA on October 27, 2004. The dye study demonstrates that the plant effluent has no adverse effect on the surf clam habitat and that there is no perceptible influence from the discharge on water quality in Boston Harbor and the adjacent waters.

OUTFALL 001 - POLLUTANTS

Biochemical Oxygen Demand (BOD_5) - The draft permit carries forward the average monthly, average weekly and maximum daily limits in the previous permit. The limits are based on the requirements set forth at 40 CFR 133.102 (b)(1), (2) and 40 CFR 122.45 (f). The secondary treatment limitations are monthly average BOD_5 concentrations of 30 mg/l, and weekly average concentrations of 45 mg/l. A maximum daily BOD_5 concentration of 50 mg/l has also been carried forward. The mass limitations for BOD are based on a 3.07 MGD design flow. The calculations of the mass limits are shown below.

Total Suspended Solids (TSS) - The draft permit carries forward the average monthly, average weekly and maximum daily limits in the previous permit. The limits are based on the requirements set forth at 40 CFR 133.102 (b)(1), (2) and 40 CFR 122.45 (f). The secondary treatment limitations are monthly average TSS concentrations of 30 mg/l, and weekly average concentrations of 45 mg/l. A maximum daily TSS concentration of 50 mg/l has also been carried forward. The mass limitations for TSS are based on a 3.07 MGD design flow. The calculations of the mass limits are shown below.

BOD_5 and TSS Mass Loading Calculations:

Calculations of maximum allowable loads for maximum daily, average weekly and average monthly BOD_5 and TSS are based on the following equation:

L = C x DF x 8.34 or L = C x DF x 3.79 where:

L = Maximum allowable load in lbs/day.
C = Maximum allowable effluent concentration for reporting period in mg/l. Reporting periods are average monthly and weekly and daily maximum.
DF = Design flow of facility in MGD.
8.34 = Factor to convert effluent concentration in mg/l and design flow in MGD to lbs/day.
3.79 = Factor to convert effluent concentration in mg/l and design flow in MGD to kgs/day.

(Concentration limit) [50] X 8.34 (Constant) X 3.07 (design flow) = 1280 lb/day

(Concentration limit) [50] X 3.79 (Constant) X 3.07 (design flow) = 581 kg/day

(Concentration limit) [45] X 8.34 (Constant) X 3.07 (design flow) = 1152 lb/day

(Concentration limit) [45] X 3.79 (Constant) X 3.07 (design flow) = 523 kg/day

(Concentration limit) [30] X 8.34 (Constant) X 3.07 (design flow) = 768 lb/day

(Concentration limit) [30] X 3.79 (Constant) X 3.07 (design flow) = 349 kg/day

Eighty-Five Percent (85%) BOD_5 and TSS Removal Requirement - the provisions of 40 CFR §133.102(3) require that the 30 day average percent removal for BOD and TSS be not less than 85%. These limits are carried forward from the previous permit.

Settleable Solids - The limitations for setteable solids have been removed from the draft permit as it is no longer required for state certification.

pH - The draft permit includes pH limitations which are required by state water quality standards, and are at least as stringent as pH limitations set forth at 40 C.F.R. §133.102(c). Class SB waters shall be in a range of 6.5 through 8.5 standard units and not more than 0.2 standard units outside of the normally occurring range (314 CMR 4.0 (4)(a)3. There shall be no change from background conditions that would impair any use assigned to this class.

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 (b)(4). The limits are in effect year-round.

Enterococci Bacteria -The Enterococci limits are based on State Water Quality Standards for Class SB waters (314 CMR 4.05(4)(b)). The State of Massachusetts recently (December 29, 2006) promulgated new bacteria criteria in the Surface Water Quality Standards (314 CMR 4.00). Fecal coliform bacteria requirements have been augmented with Enterococci criteria to protect bathing waters in those standards. These new bacteria criteria were approved by EPA on September 19, 2007. Consequently, the draft permit contains Enterococci limits.
The effluent limits are 35 cfu/100 ml geometric monthly mean and 276 cfu/100 ml maximum daily value (this is the 90% distribution of the geometric mean of 126 cfu/100 ml). The draft permit includes a requirement that the Enterococci samples shall be taken at the same time as the daily total chlorine residual sample is collected. Once per week sampling is required.

Total Residual Chlorine (TRC) - The draft permit includes total residual chlorine limitations. Chlorine compounds produced by the chlorination of wastewater can be extremely toxic to aquatic life. The water quality standards established for chlorine are 13 ug/l daily maximum and 7.5 ug/l monthly average in marine water. Given the dilution factor of 94, the total residual chlorine limits have been calculated as 1.22 mg/l maximum daily and 0.705 mg/l average monthly.

Total Residual Chlorine Limitations Calculations:

(acute criteria * dilution factor) = Acute (Maximum Daily)
(13 ug/l x 94)= 1222 ug/l = 1.22 mg/l

(chronic criteria * dilution factor) = Chronic (Monthly Average)
(7.5 ug/l x 94) = 705 ug/l ≈ 0.70 mg/l

However, the State's Implementation Policy for the Control of Toxic Pollutants in Surface Waters, February 23, 1990, limits the maximum effluent concentration of total residual chlorine to 1 mg/l. Therefore, a limit of 1 mg/l is included as the maximum daily limit.

Whole Effluent Toxicity (WET) 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 include the following narrative statement and requires that 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 domestic sources contribute toxic constituents to POTWs. These constituents include metals, chlorinated solvents, aromatic hydrocarbons and others. Based on the potential for toxicity from domestic sources, the state narrative water quality criterion, the level of dilution at the discharge location, and in accordance with EPA national and regional policy and 40 C.F.R. § 122.44(d), the draft permit includes a whole effluent acute toxicity (LC50) limitation. (See also "Policy for the Development of Water Quality-Based Permit Limitations for Toxic Pollutants", 49 Fed. Reg. 9016 March 9, 1984, and EPA's "Technical Support Document for Water Quality-Based Toxics Control", September, 1991.)

The Massachusetts Department of Environmental Protection's Division of Watershed Management has a current toxics policy which requires toxicity testing for all major dischargers such as the Town of Hull WPCF. In addition, EPA recognizes that toxicity testing is required to assure that the synergistic effect of the pollutants in the discharge does not cause toxicity, even though the pollutants may be at low concentrations in the effluent. Thus, the draft permit includes a whole effluent toxicity limitation requirement for the 001 outfall, to assure that the facility does not discharge combinations of toxic compounds into Massachusetts Bay/Atlantic Ocean in amounts which would affect aquatic or human life.

The draft permit carries forward a requirement for quarterly acute toxicity tests using the specie Menidia Beryllina. The tests must be performed in accordance with the test procedures and protocols specified in **Permit Attachment A**.

The LC_{50} of $\geq 100\%$ is established by EPA/MassDEP policy for facilities with less than 100:1 dilution.

As a condition of this permit, the testing requirements may be reduced if certain conditions are met. The permit provision anticipates that the permittee may wish to request a reduction in the WET testing. After four 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 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 letter from the EPA indicating a change in the permit conditions.

V. OPERATION AND MAINTENANCE OF THE COLLECTION SYSTEM

Section 212(2)(A) of the Clean Water Act defines "treatment works" to include "any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage or industrial wastes of a liquid nature...including...intercepting sewers, outfall sewers, sewage collection systems..."

EPA regulations define the term "publicly owned treatment works" similarly at 40 CFR §122.2 and § 403.1. As such, the entire collection system, including the systems owned and/or operated by each of the municipalities served by the treatment plant are part of the "treatment works".

40 CFR §122.41 contains conditions that apply to all permits. Among these conditions is a requirement for "Proper Operation and Maintenance", found at 40 CFR §122.41(e). This condition requires permittees to "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 this permit.

Pursuant to 40 CFR §122.41 (d) NPDES permittees also have a "duty to mitigate", requiring permittees to take all reasonable steps to minimize or prevent any discharge in violation of the permit that has a reasonable likelihood of adversely affecting human health or the environment.

Historically, EPA Region I has issued NPDES permits only to the legal entity owning and operating the wastewater treatment plant, which is only a portion of the "treatment works", but the Region now provides a more comprehensive approach to permitting to ensure proper operation and maintenance of the entire treatment works.

Accordingly the permit includes the Towns of Hingham and Cohasset as co-permittees for certain provisions of the permit, including Parts I.D. (Unauthorized Discharges) I. E. (Operation and Maintenance of the Sewer System) and I.F. (Alternative Power Source).

Among the provisions of Part I.E is the requirement that the permittee and each co-permittee develop and implement an infiltration and inflow (I/I) control program for the sewer systems it owns and operates. Infiltration is groundwater that enters the collection system through physica l defects such as cracked pipes, or deteriorated joints. Inflow is extraneous flow entering the collection system though point sources such as roof leaders, yard and area drains, sump pumps, manhole covers, tide gates, and cross connections from storm water systems. Significant I/I in a collection system may displace sanitary flow, reducing the capacity and the efficiency of the treatment works and may cause bypasses of the full treatment process. It greatly increases the potential for sanitary sewer overflows (SSOs) in separate systems, and combined sewer overflows in combined systems.

EPA and MassDEP maintain that an I/I control program is an integral component of ensuring permit compliance. MassDEP has required that I/I conditions be included in NPDES permits for POTWs as a condition for receiving State Certification under Section 401 of the Clean Water Act and 40 CFR §124.55(b).

V. SLUDGE INFORMATION AND REQUIREMENTS

Section 405(d) of the Clean Water Act requires that sludge conditions be included in all POTW permits. The Hull WPCF has its sludge hauled off-site for treatment. The facility produces 321 dry metric tons of sludge per year which is taken for incineration under contract with a private sludge treatment firm, Synagro Northeast in Woonsocket, RI. Sludge requirements for the facility are outlined in the permit and defined in the sludge attachment. If the ultimate sludge disposal method changes, the permit requirements pertaining to sludge monitoring and other conditions would change accordingly.

VII. ANTI-BACKSLIDING

Anti-backsliding as defined at 402(o) of the CWA and 40 CFR §122.44(l)(1) requires reissued permits to contain limitations as stringent or more stringent than those of the previous permit except under certain circumstances including those defined Section 402 and 303(d) of the CWA and 40 CFR § 122.44 (l).

VIII. ANTI-DEGRADATION

The Massachusetts Anti-degradation Policy is found at Title 314 CMR 4.04. All existing uses of Massachusetts Bay/Atlantic Ocean must be protected.

This draft permit is being reissued with allowable discharge limits as or more stringent than the current permit with the same parameter coverage and no change in outfall location and is consistent with the state anti-degradation policy

IX. UNAUTHORIZED DISCHARGES

The permittee is not authorized to discharge wastewater from any pump station emergency overflow. Overflows must be reported in accordance with reporting requirements found in Section D.1.e. of Part II of the permit (24-hour reporting). If a discharge does occur, the permittee must notify the EPA, the MassDEP, and others, as appropriate (i.e. local Public Health Department), both orally and in writing as specified in the draft permit.

X. 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 Fisheries Services (NOAA Fisheries) if EPA's action or proposed action that it funds, permits, or undertakes, may adversely impact any essential fish habitat (EFH). The Amendments broadly define 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.

As the federal agency charged with authorizing the discharge from this facility, EPA will provide a copy of the Draft Permit and this Fact Sheet to NOAA Fisheries Habitat Division to satisfy EPA's consultation responsibilities regarding EFH.

The following is a list of the EFH species and applicable life stage(s) for the area that includes Atlantic Ocean waters around Hull, MA.

Species	Eggs	Larvae	Juveniles	Adults
Atlantic cod *(Gadus morhua)*	X	X	X	X
haddock *(Melanogrammus aeglefinus)*	X	X		
pollock *(Pollachius virens)*	X	X	X	X

whiting *(Merluccius bilinearis)*	X	X	X	X
red hake *(Urophycis chuss)*	X	X	X	X
white hake *(Urophycis tenuis)*	X	X	X	X
winter flounder *(Pleuronectes americanus)*	X	X	X	X
yellowtail flounder *(Pleuronectes ferruginea)*	X	X	X	X
windowpane flounder *(Scopthalmus aquosus)*	X	X	X	X
American plaice *(Hippoglossoides platessoides)*	X	X	X	X
ocean pout *(Macrozoarces americanus)*	X	X	X	X
Atlantic halibut *(Hippoglossus hippoglossus)*	X	X	X	X
Atlantic sea scallop *(Placopecten magellanicus)*	X	X	X	X
Atlantic sea herring *(Clupea harengus)*		X	X	X
bluefish *(Pomatomus saltatrix)*			X	X
long finned squid *(Loligo pealei)*	n/a	n/a	X	X
short finned squid *(Illex illecebrosus)*	n/a	n/a	X	X
Atlantic butterfish *(Peprilus triacanthus)*	X	X	X	X
Atlantic mackerel *(Scomber scombrus)*	X	X	X	X
summer flounder *(Paralicthys dentatus)*				X
scup *(Stenotomus chrysops)*	n/a	n/a	X	X
black sea bass *(Centropristus striata)*	n/a		X	X
surf clam *(Spisula solidissima)*	n/a	n/a	X	X
ocean quahog *(Artica islandica)*	n/a	n/a		
spiny dogfish *(Squalus acanthias)*	n/a	n/a		
bluefin tuna *(Thunnus thynnus)*			X	X

The species in the table above are the only managed species believed to be present during one or more life stages within the area which encompasses the discharge site. No "habitat areas of particular concern", as defined under §600.815(a)(9) of the Magnuson-Stevens Act, have been designated for this site.

The facility is a 3.07 million gallon per day wastewater treatment plant which provides secondary treatment. The facility discharges 2700 feet offshore at a depth of 35 feet into Massachusetts Bay/Atlantic Ocean. This facility serves a population of more than 12,000. The system is a separate sanitary sewer system with no combined sewers. Wastewater is composed of domestic sewage. The available dilution is 94:1

The facility withdraws no water from Massachusetts Bay and therefore has no water intake structure in operation. No impingement or entrainment impacts to EFH species are associated with this proposed permit action.

It is EPA's opinion that the operation of this facility, as governed by this permit action, is not likely to adversely affect the species of concern or its habitat for the following reasons:

- All permitted limits in the draft permit are as or more stringent than those in the current permit.
- The discharge is to 35 feet of water with strong currents which provide rapid dilution. Biochemical oxygen demanding effluent will be rapidly dispersed having almost no measurable effect on dissolved oxygen in the area of discharge.

- Total suspended solids (TSS) are in low concentrations and are not likely to concentrate or settle in the swift moving water.

- The draft permit includes pH limitations of 6.5-8.5 standard units which are protective state water quality standards found at 314 CMR 4.05.b.3. The pH limits are carried forward from the current permit.

- The draft permit includes both enterococci and fecal coliform bacteria limits, based on recently modified water quality standards, found at 314 CMR 4.05.(4)(b)(4). Enterococci bacteria limits shall be added to the existing fecal coliform bacteria requirements.

- The permit contains requirements to comply with all state water quality standards for the protection of fish and fish habitat.

EPA Finding

EPA believes that the draft permit limits adequately protect the EFH 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, NOAA Fisheries will be notified and an EFH consultation will be reinitiated.

XI. ENDANGERED SPECIES ACT

Section 7(a) of the Endangered Species Act of 1973, as amended (ESA) 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 the Interior or Commerce, as appropriate, 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 & Wildlife Service (USFWS) administers Section 7 consultations for freshwater species. The National Oceanic and Atmospheric Administration (NOAA) administers Section 7 consultations for marine species and anadromous fish.

As the federal agency charged with authorizing the discharges 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. The following federally listed species are known to inhabit (seasonally) Massachusetts Bay in the area of the facility discharge: North Atlantic right whale, blue whale, humpback whale, fin whale, sei whale, Kemp's ridley sea turtle, leatherback sea turtle, loggerhead sea turtle, hawksbill sea turtle and green sea turtle.

The federal action being considered is the renewal of the NPDES discharge permit for the Hull WPCF. This facility is a 3.07 million gallon per day wastewater treatment plant which provides secondary tre feet offshore at a depth of 35 feet into Massachusetts Bay/Atlantic Ocean. This facility serves a population of more than 12,000. The system is a separate sewer system with no combined sewers. Wastewater is composed of domestic sewage. The available dilution is 94:1
The POTW withdraws no water from Massachusetts Bay and therefore has no water intake structure in operation. No impingement or entrainment impacts to EFH species are associated with this proposed permit action.

It is EPA's opinion that the operation of this facility, as governed by this permit action, is not likely to adversely affect the listed species occurring in the vicinity of the receiving water for the following reasons:

- All permitted limits in the draft permit are as or more stringent than those in the current permit.
- The discharge occurs at a depth of 35 feet with strong currents which provide rapid dilution. Biochemical oxygen demanding effluent will be rapidly dispersed, having almost no measurable effect on dissolved oxygen in the area of discharge.
- The discharge pipe is not associated with any potential obstructions or entanglements that may adversely affect listed species in the area.
- Total suspended solids (TSS) are in low concentrations and are not likely to concentrate or settle in the swift moving water.
- The draft permit includes pH limitations of 6.5-8.5 standard units which are protective state water quality standards found at 314 CMR 4.05.b.3. The pH limits are carried forward from the current permit.
- The draft permit includes both enterococci and fecal coliform bacteria limits, based on recently modified water quality standards, found at 314 CMR 4.05(4)(b)(4).
- The permit contains requirements to comply with all state water quality standards for the protection of fish and fish habitat.

EPA Finding

Based on the relevant information examined, EPA finds that the draft permit limits adequately protect the ESA species. Reissuance of the draft permit is not likely to adversely affect threatened or endangered species or their critical habitat in the vicinity of the discharge. EPA has submitted the draft permit and fact sheet, along with an ESA letter, to NOAA Fisheries Protected Resources for review and comment as part of the Section 7 consultation process.

XII. COASTAL ZONE MANAGEMENT (CZM) CONSISTENCY REVIEW

40CFR §122.49 (d) states: *The Coastal Zone Management Act, 16 U.S.C. 1451 et seq. section 307(c) of the Act 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 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 CZM boundaries. The permittee shall submit a letter to the Massachusetts Coastal Zone Management Program stating their 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 certification.

XIII. STATE PERMIT CONDITIONS

The NPDES Permit is issued jointly by the U. S. Environmental Protection Agency and the Massachusetts Department of Environmental Protection under federal and state law, respectively. As such, all the terms and conditions of the permit are, therefore, incorporated into and constitute a discharge permit issued by the MassDEP.

XIV. GENERAL CONDITIONS

The general conditions of the permit are based primarily on the NPDES regulations 40 CFR 122 through 125 and consist primarily of management requirements common to all permits.

XV. 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.

XVI. 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 Doug Corb, U.S. EPA, Office of Ecosystem Protection, Municipal Permits Branch, 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 hearing may be held if the criteria stated in 40 C.F.R. § 124.12 are met. 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.

XVII. 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:

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Date: June 10, 2009

Ken Moraff, Acting Director*
Office of Ecosystem Protection
U.S. Environmental Protection Agency
* Please address all comments to Doug Corb and Paul Hogan at the addresses above

MA0101231 HULL W P C F Attachment A

00310 - BOD, 5-day, 20 deg. C

		768 lb/d	1152 lb/d	30 mg/L	45 mg/L	50 mg/L
MP Date	Rec Date	MO AVG	WKLY AV	MO AVG	WKLY AV	DAILY MX
7/31/2006	8/11/2006	130	159	9	11	11
8/31/2006	9/15/2006	49	61	4	5	5
9/30/2006	10/16/2006	57	80	5	7	7
10/31/2006	11/14/2006	84	132	7	11	11
11/30/2006	12/12/2006	173	449	10	26	26
12/31/2006	1/11/2007	83	150	7	12	12
1/31/2007	2/15/2007	199	424	15	32	32
2/28/2007	3/13/2007	153	305	13	26	26
3/31/2007	4/13/2007	149	405	9	25	25
4/30/2007	5/15/2007	319	739	14.7	34	34
5/31/2007	6/13/2007	194	443	14	32	32
6/30/2007	7/11/2007	135	245	11	20	20
7/31/2007	8/10/2007	14	199	13	18	18
8/31/2007	9/12/2007	156	319	14	29	29
9/30/2007	10/11/2007	74		7	16	16
10/31/2007	11/13/2007	113	295	11	28	28
11/30/2007	12/10/2007	87	139	8	13	13
12/31/2007	1/8/2007	165	308	12	22	22
1/31/2008	2/11/2008	70	148	5	10	10
2/29/2008	3/10/2008	93	167	5	9	9
3/31/2008	4/9/2008	192	393	11	22	22
4/30/2008	5/8/2008	62	135	5	11	11
5/31/2008	6/11/2008	142	241	11	19	19
6/30/2008	7/10/2008	183	374	17	34	34
7/31/2008	8/12/2008	312	364	24	28	28
8/31/2008	9/10/2008	171	282	13	22	22
9/30/2008	10/10/2008	432	738	32	54	54
10/31/2008	11/10/2008	161	565	13	44	44
11/30/2008	12/9/2008	151	200	12	16	16

00530 - Solids, total suspended

		768 lb/d	1152 lb/d	30 mg/L	45 mg/L	50 mg/L
MP Date	Rec Date	MO AVG	WKLY AVG	MO AVG	WKLY AV	DAILY MX
7/31/2006	8/11/2006	231	317	16	22	22
8/31/2006	9/15/2006	144	220	12	18	18
9/30/2006	10/16/2006	171	205	15	18	18
10/31/2006	11/14/2006	132	264	11	22	22
11/30/2006	12/12/2006	130	173	8	10	10
12/31/2006	1/11/2007	228	551	18	44	44
1/31/2007	2/15/2007	293	1153	22	87	87
2/28/2007	3/13/2007	94	176	8	9	15
3/31/2007	4/13/2007	197	340	12	21	21
4/30/2007	5/15/2007	426	696	20	30	32
5/31/2007	6/13/2007	197	318	14	23	23
6/30/2007	7/11/2007	166	269	14	22	22
7/31/2007	8/10/2007	205	266	19	24	24
8/31/2007	9/12/2007	238	474	22	43	43
9/30/2007	10/11/2007	117	255	12	25	25
10/31/2007	11/13/2007	137	274	13	26	26
11/30/2007	12/10/2007	185	330	17	31	31
12/31/2007	1/8/2007	126	196	9	14	14
1/31/2008	2/11/2008	114	148	8	10	10
2/29/2008	3/10/2008	187	255	10	14	14
3/31/2008	4/9/2008	304	518	17	29	29
4/30/2008	5/8/2008	274	541	22	44	44
5/31/2008	6/11/2008	226	330	18	26	26
6/30/2008	7/10/2008	327	440	30	40	40
7/31/2008	8/12/2008	380	571	29	44	44
8/31/2008	9/10/2008	173	205	14	16	16
9/30/2008	10/10/2008	395	549	30	41	41
10/31/2008	11/10/2008	385	565	30	44	44
11/30/2008	12/9/2008	345	537	28	43	43

50060 - Chlorine, total residual (SNC Grou

		.705 mg/L	1 mg/L
MP Date	Rec Date	MO AVG	DAILY MX
7/31/2006	8/11/2006	0.128	0.25
8/31/2006	9/15/2006	0.172	0.33
9/30/2006	10/16/2006	0.19	0.96
10/31/2006	11/14/2006	0.23	0.65
11/30/2006	12/12/2006	0.252	0.62
12/31/2006	1/11/2007	0.29	0.88
1/31/2007	2/15/2007	0.21	0.6
2/28/2007	3/13/2007	0.23	0.59
3/31/2007	4/13/2007	0.234	0.53
4/30/2007	5/15/2007	0.232	0.75
5/31/2007	6/13/2007	0.19	0.56
6/30/2007	7/11/2007	0.1	0.64
7/31/2007	8/10/2007	0.11	0.49
8/31/2007	9/12/2007	0.09	0.28
9/30/2007	10/11/2007	0.1	0.1
10/31/2007	11/13/2007	0.37	0.99
11/30/2007	12/10/2007	0.34	0.95
12/31/2007	1/8/2007	0.38	0.92
1/31/2008	2/11/2008	0.51	0.98
2/29/2008	3/10/2008	0.26	0.88
3/31/2008	4/9/2008	0.25	0.63
4/30/2008	5/8/2008	0.26	0.85
5/31/2008	6/11/2008	0.32	0.72
6/30/2008	7/10/2008	0.17	0.98
7/31/2008	8/12/2008	0.23	0.94
8/31/2008	9/10/2008	0.38	0.96
9/30/2008	10/10/2008	0.15	0.83
10/31/2008	11/10/2008	0.28	0.98
11/30/2008	12/9/2008	0.15	0.67

74055 - Coliform, fecal general

		88 #/100mL	260 #/100mL
MP Date	Rec Date	MO GEO	DAILY MX
7/31/2006	8/11/2006	8	12
8/31/2006	9/15/2006	16	33
9/30/2006	10/16/2006	24	34
10/31/2006	11/14/2006	15	33
11/30/2006	12/12/2006	19	34
12/31/2006	1/11/2007	17	34
1/31/2007	2/15/2007	15	34
2/28/2007	3/13/2007	31.55	34
3/31/2007	4/13/2007	12	34
4/30/2007	5/15/2007	4	53
5/31/2007	6/13/2007	4	122
6/30/2007	7/11/2007	13	34
7/31/2007	8/10/2007	9	16
8/31/2007	9/12/2007	29	72
9/30/2007	10/11/2007	17	26
10/31/2007	11/13/2007	11	47
11/30/2007	12/10/2007	9	36
12/31/2007	1/8/2007	3	11
1/31/2008	2/11/2008	17	84
2/29/2008	3/10/2008	11	56
3/31/2008	4/9/2008	23	116
4/30/2008	5/8/2008	88	104
5/31/2008	6/11/2008	38	104
6/30/2008	7/10/2008	88	104
7/31/2008	8/12/2008	87	230
8/31/2008	9/10/2008	12	90
9/30/2008	10/10/2008	75	138
10/31/2008	11/10/2008	52	91
11/30/2008	12/9/2008	27	165

50050 - Flow, in conduit or thru treatment

MP Date	Rec Date	12MO AVG (3.07 Mgal/d)	DAILY MX (1. Mon. Mgal/d)
7/31/2006	8/11/2006	1.95	2.41
8/31/2006	9/15/2006	1.95	1.688
9/30/2006	10/16/2006	1.93	1.638
10/31/2006	11/14/2006	1.84	3.74
11/30/2006	12/12/2006	1.84	4.5
12/31/2006	1/11/2007	1.81	1.94
1/31/2007	2/15/2007	1.77	2.122
2/28/2007	3/13/2007	1.74	2.674
3/31/2007	4/13/2007	1.79	5.246
4/30/2007	5/15/2007	1.91	6.735
5/31/2007	6/13/2007	1.81	2.844
6/30/2007	7/11/2007	1.69	2.14
7/31/2007	8/10/2007	1.65	1.54
8/31/2007	9/12/2007	1.64	1.497
9/30/2007	10/11/2007	1.63	1.502
10/31/2007	11/13/2007	1.62	1.559
11/30/2007	12/10/2007	1.55	1.77
12/31/2007	1/8/2007	1.56	3.126
1/31/2008	2/11/2008	1.58	2.71
2/29/2008	3/10/2008	1.64	5.22
3/31/2008	4/9/2008	1.66	5.069
4/30/2008	5/8/2008	1.57	2.04
5/31/2008	6/11/2008	1.55	1.85
6/30/2008	7/10/2008	1.54	4.56
7/31/2008	8/12/2008	1.56	2.56
8/31/2008	9/10/2008	1.58	1.89
9/30/2008	10/10/2008	1.61	3.745
10/31/2008	11/10/2008	1.3	2.605
11/30/2008	12/9/2008	1.65	2.476

00400 - pH

MP Date	Rec Date	MINIMUM (6.5 SU)	MAXIMUM (8.5 SU)
7/31/2006	8/11/2006	6.7	7.92
8/31/2006	9/15/2006	6.8	8.28
9/30/2006	10/16/2006	6.79	8.25
10/31/2006	11/14/2006	6.7	8.37
11/30/2006	12/12/2006	6.73	8.48
12/31/2006	1/11/2007	6.98	8.41
1/31/2007	2/15/2007	6.8	8.06
2/28/2007	3/13/2007	6.8	7.51
3/31/2007	4/13/2007	6.8	8.16
4/30/2007	5/15/2007	6.7	7.68
5/31/2007	6/13/2007	6.5	8.1
6/30/2007	7/11/2007	6.52	7.7
7/31/2007	8/10/2007	6.6	7.9
8/31/2007	9/12/2007	6.8	7.8
9/30/2007	10/11/2007	6.8	7.23
10/31/2007	11/13/2007	6.99	7.2
11/30/2007	12/10/2007	6.8	7.25
12/31/2007	1/8/2007	6.8	7.58
1/31/2008	2/11/2008	6.9	7.38
2/29/2008	3/10/2008	6.8	7.6
3/31/2008	4/9/2008	6.5	7.2
4/30/2008	5/8/2008	6.7	7.2
5/31/2008	6/11/2008	6.6	7.26
6/30/2008	7/10/2008	6.7	7.3
7/31/2008	8/12/2008	6.8	7.4
8/31/2008	9/10/2008	6.68	7.23
9/30/2008	10/10/2008	6.6	7.4
10/31/2008	11/10/2008	6.8	7.74
11/30/2008	12/9/2008	6.6	7.14

00310 - BOD, 5-day, 20 deg. C (SNC Grou

		Req. Mon. lb/	Req. Mon. mg/L
MP Date	Rec Date	MO AVG	MO AVG
7/31/2006	8/11/2006	2640	183
8/31/2006	9/15/2006	2636	215
9/30/2006	10/16/2006	2948	258
10/31/2006	11/14/2006	2378	198
11/30/2006	12/12/2006	4061	235
12/31/2006	1/11/2007	1878	150
1/31/2007	2/15/2007	1299	98
2/28/2007	3/13/2007	1999	170
3/31/2007	4/13/2007	2428	150
4/30/2007	5/15/2007	2.318	107
5/31/2007	6/13/2007	2629	190
6/30/2007	7/11/2007	2421	198
7/31/2007	8/10/2007	2133	193
8/31/2007	9/12/2007	2.358	214
9/30/2007	10/11/2007	1543	151
10/31/2007	11/13/2007	2187	208
11/30/2007	12/10/2007	1961	184
12/31/2007	1/8/2007	3374	241
1/31/2008	2/11/2008	2177	148
2/29/2008	3/10/2008	2957	163
3/31/2008	4/9/2008	2484	139
4/30/2008	5/8/2008	2398	195
5/31/2008	6/11/2008	2309	182
6/30/2008	7/10/2008	1787	163
7/31/2008	8/12/2008	2500	193
8/31/2008	9/10/2008	2182	170
9/30/2008	10/10/2008	3481	260
10/31/2008	11/10/2008	3307	258
11/30/2008	12/9/2008	1480	119

00530 - Solids, total suspended (SNC Group =

		Req. Mon. lb/	Req. Mon. mg/L
MP Date	Rec Date	MO AVG	MO AVG
7/31/2006	8/11/2006	3573	245
8/31/2006	9/15/2006	3960	323
9/30/2006	10/16/2006	3313	290
10/31/2006	11/14/2006	3363	280
11/30/2006	12/12/2006	3646	211
12/31/2006	1/11/2007	1903	152
1/31/2007	2/15/2007	1418	107
2/28/2007	3/13/2007	1329	113
3/31/2007	4/13/2007	2088	129
4/30/2007	5/15/2007	4861	223.6
5/31/2007	6/13/2007	1497	108
6/30/2007	7/11/2007	1319	108
7/31/2007	8/10/2007	1800	163
8/31/2007	9/12/2007	1829	166
9/30/2007	10/11/2007	17502	1713
10/31/2007	11/13/2007	4002	380
11/30/2007	12/10/2007	1420	133
12/31/2007	1/8/2007	5756	411
1/31/2008	2/11/2008	2561	174
2/29/2008	3/10/2008	1306	72
3/31/2008	4/9/2008	2533	142
4/30/2008	5/8/2008	5005	407
5/31/2008	6/11/2008	3882	306
6/30/2008	7/10/2008	4881	444
7/31/2008	8/12/2008	5328	410
8/31/2008	9/10/2008	4476	349
9/30/2008	10/10/2008	5.037	376
10/31/2008	11/10/2008	3445	268
11/30/2008	12/9/2008	3123	250

81010 - BOD, 5-day, percent removal (SNC

85 %

MP Date	Rec Date	DAILY MN
7/31/2006	8/11/2006	95
8/31/2006	9/15/2006	98
9/30/2006	10/16/2006	98
10/31/2006	11/14/2006	97
11/30/2006	12/12/2006	96
12/31/2006	1/11/2007	95
1/31/2007	2/15/2007	85
2/28/2007	3/13/2007	92
3/31/2007	4/13/2007	94
4/30/2007	5/15/2007	86
5/31/2007	6/13/2007	93
6/30/2007	7/11/2007	94
7/31/2007	8/10/2007	93
8/31/2007	9/12/2007	94
9/30/2007	10/11/2007	95
10/31/2007	11/13/2007	95
11/30/2007	12/10/2007	96
12/31/2007	1/8/2007	95
1/31/2008	2/11/2008	97
2/29/2008	3/10/2008	97
3/31/2008	4/9/2008	92
4/30/2008	5/8/2008	97
5/31/2008	6/11/2008	94
6/30/2008	7/10/2008	90
7/31/2008	8/12/2008	88
8/31/2008	9/10/2008	92
9/30/2008	10/10/2008	88
10/31/2008	11/10/2008	95
11/30/2008	12/9/2008	90

81011 - Solids, suspended percent removal (SN

85 %

MP Date	Rec Date	DAILY MN
7/31/2006	8/11/2006	93
8/31/2006	9/15/2006	96
9/30/2006	10/16/2006	95
10/31/2006	11/14/2006	96
11/30/2006	12/12/2006	96
12/31/2006	1/11/2007	88
1/31/2007	2/15/2007	79
2/28/2007	3/13/2007	93
3/31/2007	4/13/2007	91
4/30/2007	5/15/2007	91
5/31/2007	6/13/2007	87
6/30/2007	7/11/2007	87
7/31/2007	8/10/2007	89
8/31/2007	9/12/2007	87
9/30/2007	10/11/2007	99
10/31/2007	11/13/2007	97
11/30/2007	12/10/2007	87
12/31/2007	1/8/2007	98
1/31/2008	2/11/2008	96
2/29/2008	3/10/2008	86
3/31/2008	4/9/2008	88
4/30/2008	5/8/2008	95
5/31/2008	6/11/2008	94
6/30/2008	7/10/2008	93
7/31/2008	8/12/2008	93
8/31/2008	9/10/2008	96
9/30/2008	10/10/2008	92
10/31/2008	11/10/2008	89
11/30/2008	12/9/2008	89

TAA6B - LC50 Static 48Hr Acute Menidia

		100 %
MP Date	Rec Date	DAILY MN
8/31/2006	9/15/2006	100
11/30/2006	12/12/2006	100
2/28/2007	3/13/2007	100
5/31/2007	6/13/2007	100
8/31/2007	9/12/2007	100
11/30/2007	12/10/2007	100
2/29/2008	3/10/2008	100
5/31/2008	6/11/2008	100
8/31/2008	9/10/2008	100
11/30/2008	12/9/2008	100

Scheduled Submissions for Hull WPCF - NPDES Permit: MA0101231

Due Date	Submission
Postmarked no later than the 15th day of the following month.	Monitoring results obtained during each calendar month shall be summarized and reported on Discharge Monitoring Report (DMR) Form(s).
March 31st, June 30th, September 30th and December 31st	Acute whole effluent toxicity (WET) tests four times each year
Within six months of the effective date of this permit	A plan to control infiltration and inflow (I/I) to their own sewerage systems
By March 31 of each year	A summary report of all actions taken to minimize I/I during the previous calendar year.
By February 19 of each year	Submit an annual sludge report

Note: There are other requirements such as emergency notifications, high flow plans, etc. not listed herein.
This list is for convenience only; in case of a discrepancy, the permittee shall follow the requirements in the permit.