AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Clean Water Act as amended, (33 U.S.C. §§1251 et seq.; the "CWA"), and the Massachusetts Clean Waters Act, as amended, (M.G.L. Chap. 21, §§26-53),

New England Aquarium Off-Site Holding Facility

is authorized to discharge from a facility located at

549 South Street
Quincy, MA 02169

to the receiving water named (Weymouth) Fore River, a class SB water, in accordance with effluent limitations, monitoring requirements, and other conditions set forth herein.

This permit shall become effective on the first day of the calendar month following thirty (30) days after the date of signature.

This permit and the authorization to discharge expire at midnight, five (5) years from the last day of the month preceding the effective date.

This permit consists of 7 pages in Part I including effluent limitations, monitoring requirements, and state permit conditions, Attachment A - Marine Acute Toxicity Test Protocol, Table 1 – Medications and Chemicals List, the Massachusetts Department of Environmental Protection's Antidegradation Review and Determination, and 25 pages in Part II, Standard Conditions.

Signed this day of

/S/ SIGNATURE ON FILE

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

Glenn Haas, Director
Division of Watershed Management
Department of Environmental Protection
Commonwealth of Massachusetts
Boston, MA

PART I.A. **Effluent Limitations and Monitoring Requirements**

1. During the period beginning the effective date and lasting through the expiration date, the permittee is authorized to discharge disinfected tank and aquaria waters from outfall serial number **001**. Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	EFFLUENT LIMITS		MONITORING REQUIREMENTS	
PARAMETER	**AVERAGE MONTHLY**	**MAXIMUM DAILY**	**MEASUREMENT FREQUENCY**	**SAMPLE[1] TYPE**
Flow	12,000 GPD	30,000 GPD	Continuous	Recorder[2]
pH Range[3]	6.5 – 8.5 s.u.		1/Week	Grab
Total Suspended Solids	Report mg/l	30 mg/l	2/Month	24-Hour Composite[4]
Fecal coliform bacteria[3,5]	88 cfu/100 ml	260 cfu/100 ml	1/Month	Grab
Enterococcus bacteria[3,5]	35 cfu/100 ml	276 cfu/100 ml	1/Month	Grab
Copper, Total	Report ug/l	Report ug/l	1/Month	24-Hour Composite[4]
Whole Effluent Toxicity[6,7,8,9]	LC_{50} 100% ; Report A-NOEC %		1/Year	24-Hour Composite[4]

a. The discharge shall not cause a violation of the water quality standards of the receiving waters.

b. The pH of the effluent shall be in the range of 6.5 to 8.5 standard units and not more than 0.2 s.u.outside of the naturally occurring range.

c. The discharge shall not cause objectionable discoloration of the receiving waters.

d. The effluent shall contain neither a visible oil sheen, foam, nor floating solids at any time.

e. The results of sampling for any parameter above its required frequency must also be reported.

(Footnotes are listed on Page 3)

Footnotes:

1. Sampling shall be conducted at a point prior to discharge to Outfall 001 and prior to mixing with any other stream. Any change in sampling location must be reviewed and approved in writing by EPA and MassDEP. All samples shall be tested using the analytical methods found in 40 CFR §136, or alternative methods approved by EPA in accordance with the procedures in 40 CFR 136.

2. For flow, report maximum and minimum daily rates and total flow for each operating date. Attach this data to each DMR form. The limit of 12,000 GPD is a monthly average limit.

3. Requirement for State Certification.

4. A 24-hour composite sample will be comprised of at least twenty four (24) grab samples taken during a consecutive 24 hour period (e.g. 7:00 A.M. Monday to 7:00 A.M Tuesday).

5. Fecal coliform and enterococcus monitoring shall be conducted year round. Fecal coliform discharges shall not exceed a monthly geometric mean of 88 colony forming units (cfu) per 100 ml, nor shall more than 10% of the samples exceed 260 cfu per 100 ml as a daily maximum. Enterococcus shall not exceed a monthly geometric mean of 35 colony forming units (cfu) per 100 ml, nor shall it exceed 276 cfu per 100 ml as a daily maximum.

6. The permittee shall conduct one acute toxicity test once per year. The acute test may be used to calculate the acute LC50 at the 48 hour exposure interval. The permittee shall test the Mysid shrimp, Mysidopsis bahia and the Inland silverside, Menidia beryllina. Toxicity test samples shall be collected during the calendar quarter ending September 30. The test results shall be submitted no later than October 31. The test must be performed in accordance with test procedures and protocols specified in **Attachment A** of this permit and conducted during normal operating conditions.

7. The LC50 is the concentration of effluent which causes mortality to 50% of the test organisms.

8. The A-NOEC (acute-no observed effect concentration) is defined as the highest effluent concentration at which there is no statistically-significant adverse effect on the survival of the test organisms when compared with the diluent control survival at the time of observation.

9. If toxicity test(s) using receiving water as diluent show the receiving water to be toxic or unreliable, the permittee shall follow procedures outlined in **Attachment A, Section IV,** of this permit in order to obtain permission to use an alternate dilution water. In lieu of individual approvals for alternate dilution water required **in Attachment A**, the permittee may use the EPA New England guidance document entitled Self-Implementing Alternative Dilution Water Guidance ("Guidance Document") to obtain automatic approval of an alternate dilution water, including the appropriate species for use with that water. If the Guidance Document is revoked, the permittee shall revert to obtaining approval as outlined in **Attachment A.** The Guidance Document is included as Attachment G of the DMR Instructions on the EPA website at http://www.epa.gov/region1/enforcementandassistance/dmr.html and is not intended as a direct attachment to this permit. Any modification or revocation to the Guidance Document will be transmitted to the permittees as part of the annual DMR instruction package. However, at any time, the permittee may choose to contact EPA New England directly using the approach outlined in **Attachment A.**

Part I.A.

2. Toxics Control

   a. The permittee shall not discharge any pollutant or combination of pollutants in toxic amounts.

   b. Any toxic components of the effluent shall not result in any demonstrable harm to aquatic life or violate any state or federal water quality standard which has been or may be promulgated. Upon promulgation of any such standard, this permit may be revised or amended in accordance with such standards.

3. Numerical Effluent Limitations for Toxicants

   EPA or MassDEP may use the results of the chemical analyses conducted pursuant to this permit, as well as national water quality criteria developed pursuant to Section 304(a)(1) of the Clean Water Act (CWA), state water quality criteria, and any other appropriate information or data, to develop numerical effluent limitations for any pollutants, including but not limited to those pollutants listed in Appendix D of 40 CFR Part 122.

4. Medications

   a. The permittee shall use only medications and disease control chemicals listed in Table 1 of the permit and in dosages and combinations that are appropriate to prevent outbreaks of diseases.

   b. Annually, upon the anniversary of the effective date of the permit, the permittee shall provide to EPA and MassDEP the current list of all medications and chemicals that are used in all tanks and aquaria. For each medication or chemical, the permittee shall identify:

      1. The product name and chemical formulation of the medication or chemical
      2. The purpose of the chemical
      3. The dosage rate, frequency of application (hourly, daily, etc.), and the duration of treatment
      4. The method of application
      5. The method or methods used to detoxify the wastewater prior to discharge, if necessary
      6. Information on the persistence and toxicity of each medication or chemical such as may be found on a Material Safety Data Sheet (MSDS)
      7. Information on the U.S. Food and Drug Administration (FDA) approval for use of the medication or chemical for human consumption, if applicable.
      8. The amount used at this facility for the preceding twelve (12) months.

   c. The permittee must ensure the proper storage of medications and disease control chemicals in a manner designed to prevent spills that may result in the discharges of these

items to the receiving water. The permittee shall implement procedures for properly containing, cleaning, and disposing of any spilled material.

d. The permittee shall notify within 24 hours by telephone and within 5 working days in writing the Regional Administrator at EPA and the Commissioner of the MassDEP of the emergency use or the immediate intended use of any medication and/or chemical not specifically identified in Table 1.

e. EPA will notify the permittee when the use of a specific chemical described in Part I.A.4.d, immediately above, is unacceptable or that the dosage concentration or frequency level must be modified to protect the aquatic community in the receiving water.

f. During the first full calendar year of the permit, the permittee shall sample the effluent twice per year for each of the chemicals and medications that it uses, or the active ingredient of these chemicals and medications, for which test methods are available. See footnote 1 on Page 3 regarding applicable test methods. This sampling shall be conducted the same day that such medications are administered, to the extent practicable. The results of this sampling shall be submitted with the January DMR of the following year.

5. All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:

a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

(1) One hundred micrograms per liter (100 ug/l);
(2) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
(3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R. §122.21(g)(7); or
(4) Any other notification level established by the Director in accordance with 40 C.F.R. §122.44(f).

b. That any activity has occurred or will occur which would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

(1) Five hundred micrograms per liter (500 ug/l);

(2) One milligram per liter (1 mg/l) for antimony;

(3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R. §122.21(g)(7); or

(4) Any other notification level established by the Director in accordance with 40 C.F.R. §122.44(f).

c. That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the permit application.

6. This permit may be modified, or revoked and reissued, on the basis of new information in accordance with 40 CFR §122.62.

B. UNAUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with the terms and conditions of this permit and only from the outfall listed in Part I A.1. of this permit. Discharges of wastewater from any other point sources are not authorized by this permit and shall be reported in accordance with Section D.1.e. (1) of the General Requirements (Part II) of this permit (Twenty-four hour reporting).

C. INTAKE STRUCTURE REQUIREMENTS

The permittee shall include a screen on both of its proposed intake structures and will also design these intakes so that the intake velocity is no greater than 0.5 feet per second to protect the rainbow smelt in the vicinity of the discharge.

D. MONITORING AND REPORTING

1. Reporting

Monitoring results obtained during each calendar month shall be summarized and reported on Discharge Monitoring Report (DMR) Forms postmarked no later than the 15th day of the following month.

Signed and dated originals of these, and all other reports required herein, shall be submitted to the Director and the State at the following addresses:

U.S. Environmental Protection Agency
Water Technical Unit (OES04-SMR)
5 Post Office Square - Suite 100
Boston, MA 02109-3912

The State Agency is:

Massachusetts Department of Environmental Protection
Bureau of Resource Protection
Northeast Regional Office
205B Lowell Street
Wilmington, MA 01887

Signed and dated DMR Forms and whole effluent toxicity test reports required by this permit shall also be submitted to the State at:

Massachusetts Department of Environmental Protection
Division of Watershed Management
Surface Water Discharge Permit Program
627 Main Street, 2nd Floor
Worcester, Massachusetts 01608

E. STATE PERMIT CONDITIONS

This authorization to discharge includes two separate and independent permit authorizations. The two permit authorizations are (i) a federal National Pollutant Discharge Elimination System permit issued by the U.S. Environmental Protection Agency (EPA) pursuant to the Federal Clean Water Act, 33 U.S.C. §§1251 et seq.; and (ii) an identical state surface water discharge permit issued by the Commissioner of the Massachusetts Department of Environmental Protection (MassDEP) pursuant to the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26-53, and 314 C.M.R. 3.00. All of the requirements contained in this authorization, as well as the standard conditions contained in 314 CMR 3.19, are hereby incorporated by reference into this state surface water discharge permit.

This authorization also incorporates the state water quality certification issued by MassDEP under § 401(a) of the Federal Clean Water Act, 40 C.F.R. 124.53, M.G.L. c. 21, § 27 and 314 CMR 3.07. All of the requirements (if any) contained in MassDEP's water quality certification for the permit are hereby incorporated by reference into this state surface water discharge permit as special conditions pursuant to 314 CMR 3.11.

Each Agency shall have the independent right to enforce the terms and conditions of this permit. Any modification, suspension or revocation of this permit shall be effective only with respect to the Agency taking such action, and shall not affect the validity or status of this permit as issued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation. In the event any portion of this permit is declared, invalid, illegal or otherwise issued in violation of State law such permit shall remain in full force and effect under Federal law as an NPDES permit issued by the U.S. Environmental Protection Agency. In the event this permit is declared invalid, illegal or otherwise issued in violation of Federal law, this permit shall remain in full force and effect under State law as a permit issued by the Commonwealth of Massachusetts.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND - REGION I
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MASSACHUSETTS 02109-3912

FACT SHEET

DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES PURSUANT TO THE CLEAN WATER ACT (CWA)

NPDES PERMIT NUMBER: MA0040380

PUBLIC NOTICE START AND END DATES: February 26, 2010 – March 27, 2010

NAME AND MAILING ADDRESS OF APPLICANT:

New England Aquarium Corporation
Central Wharf
Boston, MA 02110

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

New England Aquarium Off-Site Holding Facility
549 South Street
Quincy, MA 02169

RECEIVING WATER(S): Weymouth Fore River
{USGS Hydrologic Code #01090001 – Boston Harbor Watershed (70)}

RECEIVING WATER CLASSIFICATION(S): Class SB, Shellfishing (Restricted)

SIC CODES: 8422 - Botanical & Zoological Gardens
0279 - Animal Specialties
0921 - Fish Hatcheries & Preserves

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Figure 1 - Facility Location – Satellite View
Figure 2 - Facility Location – Map View
Figure 3 - Water Flow Schematic

I. Proposed Action, Type of Facility and Discharge Location

The New England Aquarium (NEA) Off-Site Holding Facility is a proposed site which will be operated by the New England Aquarium Corporation (NEAQ), the permittee. This site is owned by another entity and will be leased to NEAQ to operate this holding facility for aquatic animals. This facility will provide (1) alternative storage of aquatic animals for when NEAQ needs to empty existing tanks at its Boston location for cleaning or renovations, (2) aquatic animal rehabilitation, and (3) serve to quarantine new animals coming into the aquarium's collection. This will be a new permit for the discharge of tank and aquaria water at an average monthly rate of up to 12,000 gallons per day (GPD) through Outfall 001 to the Weymouth Fore River. The permittee proposes a maximum discharge flow of 30,000 GPD. See **Figures 1 and 2** for satellite and map views of the facility, intake, and outfall locations and **Figure 3** for a water flow schematic.

Before proceeding with the permitting of this proposed discharge, EPA must determine whether this is a "new source" or a "new discharger". Regulations for determining whether a facility constitutes a new source are set forth in 40 CFR Part 122. For a new source, EPA NPDES permitting for such Facility would be subject to environmental review under the National Environmental Policy Act (NEPA). A "new source," as defined at 40 CFR § 122.2, is "any building, structure, facility, or installation from which there is or may be a 'discharge of pollutants,' the construction of which commenced . . . after promulgation of standards of performance under section 306 of CWA which are applicable to such source," or, in certain instances, which commenced after the proposal of an applicable standard of performance. Pursuant to 40 CFR § 122.29(b)(2), if there is no independently applicable standard, the source is not subject to NEPA review (but is still subject to NPDES permitting requirements). This would instead be classified as a "new discharger". As described below, EPA has determined that this proposed facility is not a Concentrated Aquatic Animal Production (CAAP) facility for which effluent guidelines have been promulgated. There are no other effluent guidelines which would be applicable to this discharge. Therefore, EPA has made the determination that this proposed project does not constitute a new source under 40 CFR §§ 122.2 and 122.29 and is not subject to NEPA review. This project is considered a "new discharger" under 40 CFR §122.2

II. Description of Treatment System and Discharges

Outfall 001

The permittee will install two PVC intake pipes which will be situated about one (1) meter off the bottom of the Weymouth Fore River at the intake location shown in **Figures 1 and 2** to draw water for use in this facility's holding tanks. Each intake pipe will be sized to limit the intake velocity of water to no more than 0.5 feet per second. Water will be withdrawn with a submersible pump with one pipe being used with the other providing a backup. Stainless steel perforated screens will be used on these intakes to prevent large objects from entering them. This intake water will undergo mechanical filtration via bag filters and temperature adjustment prior to being used in at least 13

round tanks of various diameters as well as some rectangular systems and aquatic bird swimming pools.

Water from these tanks will be periodically pumped or drained to a main sump as aquatic animals are transported between this facility and the main aquarium in Boston. The facility will be managed so that the daily maximum flow of 30,000 GPD is not exceeded. This water may contain low levels of medicines and other chemicals, as shown in **Table 1**. These chemicals and medications are required to maintain healthy animals, to prevent and control the spread of disease in these exhibits, and to control the presence of non-native organisms that could be pathogenic to the fishery resources of the receiving water.

The proposed effluent treatment system will include mechanical filtration for removal of particulate matter (suspended solids), an activated carbon system for removal of metals and certain chemicals and an ozone system for disinfection. The solids that are removed from the sump will be disposed of off site. This sump discharges water through a 6 inch PVC pipe to an existing catch basin which discharges to an existing outfall at the bottom of the receiving water column. There will be a level sensor to activate the discharge system so that the sump does not overflow. Flow through the system will be managed so that the capacity of the system will not be exceeded.

III. Receiving Water Description

Under the Massachusetts water use classification system, the Massachusetts Department of Environmental Protection (MassDEP) has designated the Weymouth Fore River as a Class SB water (314 CMR 4.00), with Shellfishing (Restricted). Class SB waters are designated as a habitat for fish, other aquatic life and wildlife and for primary and secondary 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 water segment, #MA74-14, is on the MassDEP's 2008 303(d) list of impaired waters for pathogens.

The water in the vicinity of the facility is a tidal estuarine waterbody that is subject to semidiurnal tidal flows with a mean tidal range of 9.49 feet. This general area is a designated port area which is heavily used by recreational boat traffic during the summer. Operations in the area include petroleum offloading/storage, wastewater treatment, manufacturing, power generation, MBTA ferry service, and hazardous waste processing. Due to the large amount of industrial activity in the area, the Weymouth Fore River has been significantly modified from its natural state. Large portions of the shoreline are covered by a bulkhead of granite block, steel sheet pile, or stone riprap. In the Weymouth Fore River there is also a dredged shipping channel with a depth of approximately 33 feet at mean lower low water (MLLW) to allow the passage of deep draft vessels.

IV. Limitations and Conditions

The effluent limitations and all other requirements described in Part VI of this Fact Sheet may be found in the draft permit.

V. Permit Basis: Statutory and Regulatory Authority

General Requirements

The Clean Water Act (CWA) prohibits the discharge of pollutants to waters of the United States without a National Pollutant Discharge Elimination System (NPDES) permit unless such a discharge is otherwise authorized by the CWA. The NPDES permit is the mechanism used to implement technology and water quality-based effluent limitations and other requirements including monitoring and reporting. This draft NPDES permit was developed in accordance with various statutory and regulatory requirements established pursuant to the CWA and any applicable State regulations. The regulations governing the EPA NPDES permit program are generally found at 40 CFR Parts 122, 124, 125, and 136.

When developing permit limits, EPA must consider the most recent technology-based treatment and water quality-based requirements. Subpart A of 40 CFR Part 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. EPA is required to consider technology and water quality-based requirements as well as all limitations and requirements in the existing permit when developing permit limits.

Technology-Based Requirements

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, the statutory deadline for non-POTW, technology-based effluent limitations must be complied with as expeditiously as practicable but in no case later than three years after the date such limitations are 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 can not be authorized by a NPDES permit.

In the absence of published 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 judgment (BPJ).

The effluent monitoring requirements have been established to yield data representative of the discharges under the authority of Section 308(a) of the Clean Water Act, according to regulations set forth at 40 CFR § 122.41(j), 122.44(i) and 122.48. The monitoring program in the permit specifies routine sampling and analysis which will provide continuous information on the reliability and effectiveness of the installed pollution abatement equipment. The approved analytical procedures are to be found in 40 CFR 136 unless other procedures are explicitly required in the permit.

As defined at 40 CFR §122.24 and Appendix C of 40 CFR Part 122, a hatchery, fish farm, or other facility is a Concentrated Aquatic Animal Production (CAAP) facility for purposes of 40 CFR §122.24 and is subject to NPDES permitting if it contains grows, or holds aquatic animals in ponds, raceways, or other similar structures **and** produces either (1) more than 9,090 harvest weight kilograms (about 20,000 pounds) of cold water species per year, but not including facilities which feed less than 2,272 kilograms (about 5,000 pounds) of feed during the calendar month of maximum feeding or (2) more than 45,454 kilograms (about 100,000 pounds) of warm water species per calendar year. At this proposed facility, NEA will hold approximately 600 pounds of turtles in its Rescue/Rehabilitation program as well as about 1200 pounds of other aquatic animals. During the highest feeding month of any calendar year, the permittee has estimated that it will use up to 1830 pounds of feed. Neither weight threshold is expected to be reached, nor is the 5,000 pounds of feed threshold expected to be reached. In addition, although this facility will hold aquatic animals it will not **produce** aquatic animals. Therefore, it does not fall into the definition of a CAAP provided above.

However, as provided by Section 402(a)(1)(B) of the CWA, EPA may establish effluent limitations on a case-by-case basis using best professional judgment (BPJ). This determination may be made after considering the location and quality of the receiving water, the quantity and nature of the pollutants discharged and other factors. Since this facility is expected to have a discharge of pollutants, such as copper and bacteria, associated with the chemicals to be used and the receiving water is in non-attainment for pathogens, EPA has determined that an NPDES permit is required for this discharge.

On August 23, 2004, the EPA promulgated new Effluent Limitation Guidelines (ELGs) and New Source Performance Standards (NSPS) for CAAP facilities at 40 CFR Part 451. Typically, ELGs express effluent limitations in the form of numeric standards for specific pollutants, but these ELGs express effluent limitations in the form of narrative standards in order to achieve reduced discharges of TSS and other materials that are associated with the raising of aquatic animals. Although EPA has determined that this facility will not be characterized as a CAAP, these ELGs have been reviewed to determine whether any of its requirements would be applicable to this facility. Accordingly, there have been chemical storage and spill control measures established in Part I.A.4.c of this permit

which are derived from these guidelines. EPA has established this requirement based on BPJ due to the variety of chemicals and medications which will be used at this site.

Water Quality-Based Requirements

Water quality-based limitations 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 (WQS). See Section 301(b)(1)(C) of the CWA.

Receiving water requirements are established according to numerical and narrative standards adopted under state law for each water quality classification. When using chemical-specific numeric criteria to develop permit limits, both the acute and chronic aquatic-life criteria, expressed in terms of maximum allowable in-stream pollutant concentration, are used. Acute aquatic-life criteria are considered applicable to daily time periods (maximum daily limit) and chronic aquatic-life criteria are considered applicable to monthly time periods (average monthly limit). Chemical-specific limits are allowed under 40 CFR § 122.44(d)(1) and are implemented under 40 CFR § 122.45(d). The Region has established, pursuant to 40 CFR 122.45(d)(2), a maximum daily limit and average monthly discharge limits for specific chemical pollutants.

A facility's design flow is used when deriving constituent limits for daily and monthly time periods as well as weekly periods where appropriate. Also, the dilution provided by the receiving water is factored into this process where appropriate. Narrative criteria from the state's WQS are often used to limit toxicity in discharges where (a) a specific pollutant can be identified as causing or contributing to the toxicity but the state has no numeric standard; or (b) toxicity cannot be traced to a specific pollutant.

EPA regulations require NPDES permits to contain effluent limits more stringent than technology-based limits where more stringent limits are necessary to maintain or achieve state or federal WQS. The permit must address any pollutant or pollutant parameter (conventional, non-conventional, toxic and whole effluent toxicity) that is or may be discharged at a level that causes or has "reasonable potential" to cause or contribute to an excursion above any water quality criterion. See 40 CFR Section 122.44(d)(1). An excursion occurs if the projected or actual in-stream concentration exceeds the applicable criterion. In determining reasonable potential, EPA considers (a) existing controls on point and non-point sources of pollution; (b) pollutant concentration and variability in the effluent and receiving water as determined from the permit application, Monthly Discharge Monitoring Reports (DMRs), and State and Federal Water Quality Reports; (c) sensitivity of the species to toxicity testing; (d) known water quality impacts of processes on wastewater; and, where appropriate, (e) dilution of the effluent in the receiving water.

Water quality standards consist of three parts: (a) beneficial designated uses for a water body or a segment of a water body; (b) numeric and/or narrative water quality criteria sufficient to protect the assigned designated use(s); and (c) antidegradation requirements to ensure that once a use is attained it will not be degraded. The Massachusetts Surface

Water Quality Standards (MA SWQS), found at 314 CMR 4.00, include these elements. The state will limit or prohibit discharges of pollutants to surface waters to assure that surface WQS of the receiving waters are protected and maintained 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, shall be used unless a site-specific criterion is established. The conditions of the permit reflect the goal of the CWA and EPA to achieve and then to maintain water quality standards.

Consistent with the MA SWQS promulgated at 314 CMR 4.03(2) and MassDEP guidance documents, MassDEP may set water quality based discharge limits based on a "mixing zone". Generally, mixing zones are areas in which exceedances of numeric WQS are allowed, provided that, among other things, these exceedances do not result in acute toxicity and that the mixing zone will still be protective of the narrative requirements of the WQS. In addition, mixing zones cannot be disproportionately large so as to interfere with the attainment of the designated uses assigned to the water body segment. All applicable numeric water quality criteria must be met at the edge of the mixing zone, and the other requirements of the state mixing zone must also be satisfied.

Antibacksliding

A permit may not be renewed, reissued or modified with less stringent limitations or conditions than those contained in the previous permit unless in compliance with the anti-backsliding requirements of the CWA [see Sections 402(o) and 303(d)(4) of the CWA and 40 CFR §122.44(l)(1 and 2)]. EPA's antibacksliding provisions prohibit the relaxation of permit limits, standards, and conditions except under certain circumstances. Effluent limits based on BPJ, water quality, and state certification requirements must also meet the antibacksliding provisions found at Section 402(o) and 303(d)(4) of the CWA. Since this is a proposed facility with a new discharge, the antibacksliding regulations do not apply.

Antidegradation

Federal regulations found at 40 CFR Section 131.12 require states to develop and adopt a statewide antidegradation 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 Antidegradation Regulations are found at 314 CMR 4.04. The MassDEP has conducted an anti-degradation review for this discharge, the findings of which have been made available during the public comment period along with the draft permit.

State Certification

Under Section 401 of the CWA, EPA is required to obtain certification from the state in which the discharge is located that all water quality standards or other applicable requirements of state law, in accordance with Section 301(b)(1)(C) of the CWA, are

satisfied. EPA permits are to include any conditions required in the state's certification as being necessary to ensure compliance with state water quality standards or other applicable requirements of state law. [See CWA Section 401(a) and 40 CFR §124.53(e).] Regulations governing state certification are set out at 40 CFR §124.53 and §124.55. EPA regulations pertaining to permit limits based upon water quality standards and state requirements are contained in 40 CFR §122.44(d).

VI. Explanation of Permit's Effluent Limitations

Outfall 001

Flow

The permittee expects to discharge an average of 12,000 GPD and a maximum daily discharge of 30,000 GPD. Therefore, these have been set as the permitted flow limits.

pH

The pH range is limited to the Class SB range of 6.5 to 8.5 standard units which is the range required by state WQS and which can be found at 314 CMR 4.05. If necessary, the permittee will use soda ash to adjust the effluent pH.

Total Suspended Solids (TSS)

Total suspended solids are expected to be present in the holding tanks which will be discharged to the sump pump. In order to comply with the State WQS which require that waters be free from floating, suspended or settleable solids in concentrations that would impair any use assigned to this Class SB water, the NEA Boston facility's NPDES permit limited TSS to a monthly average of 30 mg/l and a daily maximum of 60 mg/l. Since this new facility will likewise discharge solids-containing water from its various tanks and employ similar filtration for its sump pump water, it should also have TSS limits. However, in addition to mechanical filtration (which is also used at the Boston site), this facility will also include an activated carbon filter for additional treatment prior to discharge. Therefore, this should result in lower TSS levels than are discharged at the Boston site. From 2004 to 2008, the Boston facility's TSS effluent values ranged from 4 to 52 mg/l.

On September 9, 2005, EPA Region 1 issued a Remediation General Permit (RGP), mainly for discharges of treated groundwater. In the fact sheet to the RGP, it was concluded that a maximum value of 30 mg/l was appropriate for TSS for these groundwater treatment systems. The fact sheet cited ELGs which limited TSS to the range of 30 mg/l to 45 mg/l. Therefore, in consideration of the treatment that will be provided to this discharge and the technology based standards that have been previously cited by EPA, this permit has established a daily maximum TSS limit of 30 mg/l.

The monitoring frequency for TSS has been established at twice per month to assure that this limit is met on a consistent basis and to more quickly detect sudden increases in TSS levels which may indicate a need to pump solids out of the sump or change out filters.

Bacteria

Since there will be fecal matter in the various tanks that will be discharged to the sump, this permit needs to limit the discharge of bacteria. In addition, the receiving water is currently impaired for pathogens and also has restricted shellfishing use. The State's water quality standards (WQS) for Class SB waters have different indicator bacteria for recreational uses and for shellfishing use. See 314 CMR 4.05(4)(b).

For Class SB waters, fecal coliform is the applicable standard for shellfishing uses. The State WQS limit fecal coliform to a geometric mean MPN (most probable number) of 88 organisms per 100 ml and to not more than 10% of the samples exceeding an MPN of 260 organisms per 100 ml. Sampling for fecal coliform bacteria shall be conducted monthly and applies year round. The receiving water on the Quincy shoreline where the outfall is located is a prohibited shellfishing area, within the shellfish growing area designated GBH1.0 by the Massachusetts Division of Marine Fisheries (MA DMF). However, the MA DMF has recently opened up two Conditionally Restricted areas on the Weymouth shore at Kings Cove, northeast of the discharge (GBH1.20) and at the Mill Cove tidal flats, southeast of the discharge (GBH1.21).

The enterococcus bacteria criteria replaced the former fecal coliform criteria as the preferred indicator for recreational uses. For Class SB waters, the Commonwealth of Massachusetts criteria for enterococcus are expressed as "no single enterococci sample shall exceed 104 colony forming units (cfu) per 100 ml and the geometric mean of all of the samples taken during the most recent six months typically based on a minimum of five samples shall not exceed 35 cfu per 100 ml." In this permit, these numbers are expressed as a monthly average of 35 cfu/100 ml and a daily maximum of 276 cfu/100 ml, as this figure represents the 90% confidence level (distribution) of the geometric mean of 104 cfu/100 ml. The MassDEP has determined that the 90% confidence level is appropriate for setting the maximum daily bacteria limit. These bacteria criteria were promulgated by the Commonwealth on December 29, 2006 and the EPA approved these criteria on September 19, 2007. Sampling for enterococcus shall be conducted monthly and applies year round.

Copper

The permittee intends to use two copper containing compounds for anti-parasite purposes. For the period of 2004 to 2008, total effluent copper from the New England Aquarium Boston facility, which uses the same two compounds, ranged from below detection limits to 53 ug/l, averaging 15 ug/l. However, the Boston facility does not provide carbon treatment as this facility has proposed. Since carbon treatment will remove copper, the effluent levels for the Quincy facility are expected to be lower than

those of the Boston facility and often not detected. The marine water quality criteria for total copper are 3.1 ug/l (chronic) and 4.8 ug/l (acute).

The levels of copper that are in the various tanks will be diluted in the sump and then further diluted by the Weymouth Fore River. The Weymouth Fore River is a tidally influenced waterbody and there is no modeling data available to determine an approximate dilution that is available to the discharge. However, since the discharge volume of 30,000 gallons per day is a small fraction of the millions of gallons of water in the Weymouth Fore River, there does not appear to be a reasonable potential for the discharge of copper to violate the instream water quality standards. In order to assess the levels of copper in the discharge, this permit has established a monthly monitoring requirement for total copper.

The NEA Boston permit requires that the permittee evaluate its use of copper containing compounds and consider ways to reduce the discharge of copper to the receiving water, including treatment to remove copper. Since this new facility is expected to have much lower and often non-detectable levels of copper due to the carbon filtration of the effluent, this requirement is not established for this permit. However, if copper levels are found to be similar to those of the Boston facility, this permit may be reopened to include such a requirement.

Treatment Chemicals and Medications

The permittee is required to annually provide the total amount of medications and chemicals listed in Table 1 that it administers in all of its tanks. In addition, to assess whether the treatment system is effectively removing these chemicals, the permittee will be required to sample the effluent twice during the first full calendar year for all of the Table 1 chemicals and medications or their active ingredients for which there are test methods available.

Whole Effluent Toxicity

Whole effluent toxicity (WET) testing is conducted to assess whether certain effluents, often containing potentially toxic pollutants, are discharged in a combination which produces a toxic amount of pollutants in a receiving water. Therefore, toxicity testing is being used in conjunction with pollutant specific control procedures to control the discharge of toxic pollutants.

There are two specific sources of legal authority which explain how regulatory authorities have the legal basis for establishing toxicity testing requirements and toxicity-based permit limits in NPDES permits. Sections 402(a)(2) and 308(a) of the Clean Water Act provide EPA and States with the authority to require toxicity testing data. Section 308 specifically describes biological monitoring methods as techniques which may be used to carry out objectives of the Act. Under certain State narrative water quality standards, and Sections 301, 303 and 402 of the Clean Water Act, EPA and the States may establish toxicity-based limits to implement the narrative "no toxics in toxic amounts". The EPA

and MassDEP believe that the complexity of this effluent is such that toxicity testing and limitations are required to evaluate and address any water quality impacts.

Twice per year WET testing with an LC50 limit of 100% was included in the 2001 permit for the New England Aquarium in Boston. "LC50" is the concentration of effluent which causes mortality to 50% of the test organisms. In 5 years of WET testing, there were violations of the LC50 limit for the shrimp species on 2 occasions with LC50 values of 34.8% and of less than 6.25%. This permit has established a once per year WET testing requirement with an LC50 limit of 100% in order to ensure that there are no effects to organisms in the vicinity of the discharge. The permittee shall also report the acute no effect concentration level (A-NOEC) for both species. The WET testing will use the Mysid Shrimp, Mysidopsis bahia and the Inland Silverside, Menidia beryllina in accordance with EPA Region I protocol. See Permit **Attachment A** in the draft permit for a description of toxicity testing requirements.

VII. Essential Fish Habitat Determination (EFH)

Under the 1996 Amendments (PL 104-267) to the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. § 1801 et seq. (1998)), EPA is required to consult with the National Marine Fisheries Services (NMFS) if EPA's action or proposed actions that it funds, permits, or undertakes, may adversely impact any EFH such 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.

As described in Section I of this Fact Sheet, NEAQ has applied for issuance of this new NPDES Permit on July 21, 2009. With limitations, the permit allows NEA to discharge tank and aquaria water to the Weymouth Fore River. EPA intends to issue the facility's NPDES permit for this discharge. This outfall's characteristics are described earlier in this Fact Sheet.

EFH is only designated for species for which federal fisheries management plans exist (16 U.S.C. § 1855(b) (1) (A)). EFH designations for New England were approved by the U.S. Department of Commerce on March 3, 1999. The following is a list of the EFH species and applicable lifestage(s) for Massachusetts Bay, which includes Weymouth Fore River:

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 (*Pseudopleuronectes 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
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
bluefin tuna (*Thunnus thynnus*)			X	X

A review of the relevant essential fish habitat information provided by NMFS indicates that EFH has been designated for 23 managed species within the NMFS boundaries encompassing Massachusetts Bay. It is possible that a number of these species utilize these receiving waters for spawning, while others are present seasonally.

Based on the relevant information examined, EPA finds that adoption of the draft permit will satisfy EFH requirements. The discharge of this tank and aquaria water is not expected to adversely impact the EFH directly or indirectly. As described in Section VI of this Fact Sheet, the dilution available to this discharge along with the effluent limits are expected to be protective of the aquatic species in the receiving water and to result in compliance with applicable Federal and State water quality standards. During the public

comment period, EPA has provided a copy of the Draft Permit and Fact Sheet to NMFS for consultation with NMFS under Section 305(b)(2) of the Magnuson-Stevens Act for EFH.

VIII. Endangered Species Act

Section 7(a) of the Endangered Species Act (ESA) of 1973, as amended 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 U.S. Fish and Wildlife Service (USFWS) typically administers 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 and threatened species of fish, wildlife, and plants to see if any such listed species might potentially be impacted by the reissuance of this NPDES permit. The review has focused primarily on marine species of mammals and sea turtles present in this region of the Atlantic Ocean. Based on the normal distribution of these species, it is highly unlikely that they would be present in the vicinity of this discharge. Furthermore, effluent limitations and other permit conditions which are in place in this draft permit should preclude any adverse effects should there be any incidental contact with any other listed species.

While not an endangered species, the rainbow smelt is present in the vicinity of the discharge and the receiving water is a spawning habitat for this species. Rainbow smelt are currently being studied by the United States Fish and Wildlife Service (USFWS) for inclusion on its endangered species list and is also considered a species of concern for the National Marine Fisheries Service (NMFS) due to declining landings through the 1990's. In order to protect the rainbow smelt, the draft permit has required the permittee to limit the intake velocity to no more than 0.5 feet per second and also to provide a screen on its intake pipes. See Part I.C. of the draft permit.

The proposed effluent limits in the draft permit are sufficiently stringent to assure that WQS will be met for aquatic life protection and for all species, including endangered and threatened species. During the public comment period, EPA has provided a copy of the Draft Permit and Fact Sheet to both NMFS and USFWS.

Other Conditions

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

IX. State Certification Requirements

EPA may not issue a permit unless the State Water Pollution Control Agency with jurisdiction over the receiving waters certifies that the effluent limitations contained in the permit are stringent enough to assure that the discharge will not cause the receiving water to violate State Water Quality Standards. The staff of 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.

X. Public Comment Period, Public Hearing, and Procedures for Final Decision

All persons, including applicants, who believe any condition of the draft permit is inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by the close of the public comment period, to the U.S. EPA, Industrial Permits Branch, Mailcode OEP 06-1, 5 Post Office Square, Suite 100, Boston, Massachusetts 02109-3912. 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 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 30 days following the notice of the final permit decision, any interested person may submit a request for a formal hearing to reconsider or contest the final decision. Requests for formal hearings must satisfy the requirements of 40 CFR 124.74, 48 Fed. Reg. 14279-14280 (April 1, 1983).

XI. 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:

George Papadopoulos, Industrial Permits Branch
5 Post Office Square - Suite 100 - Mailcode OEP 06-1
Boston, MA 02109-3912
Telephone: (617) 918-1579 FAX: (617) 918-1505

Kathleen Keohane, Massachusetts Department of Environmental Protection
Division of Watershed Management, Surface Water Discharge Permit Program
627 Main Street, 2nd Floor, Worcester, Massachusetts 01608
Telephone: (508) 767-2856 FAX: (508) 791-4131

February 22, 2010
Date

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

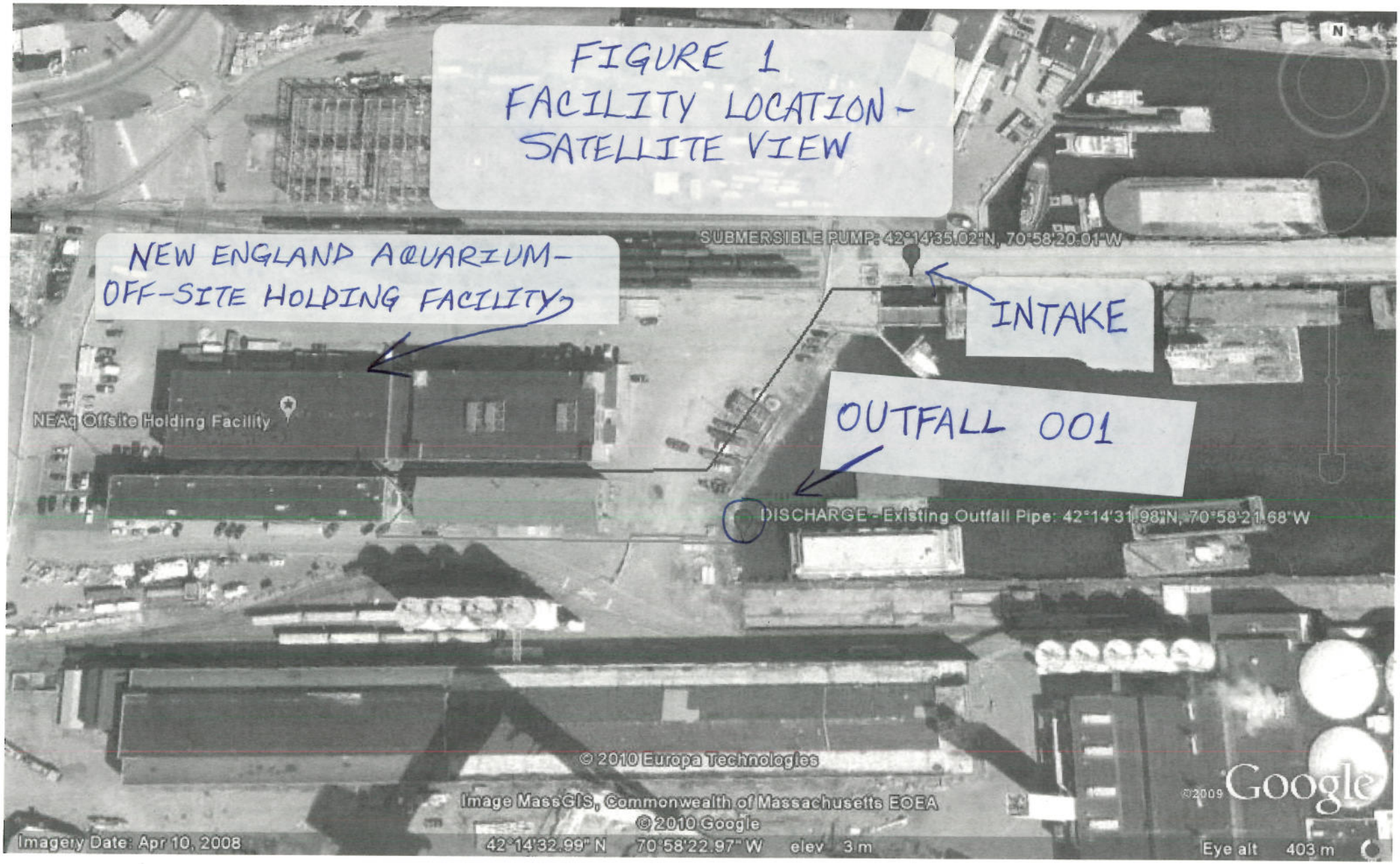
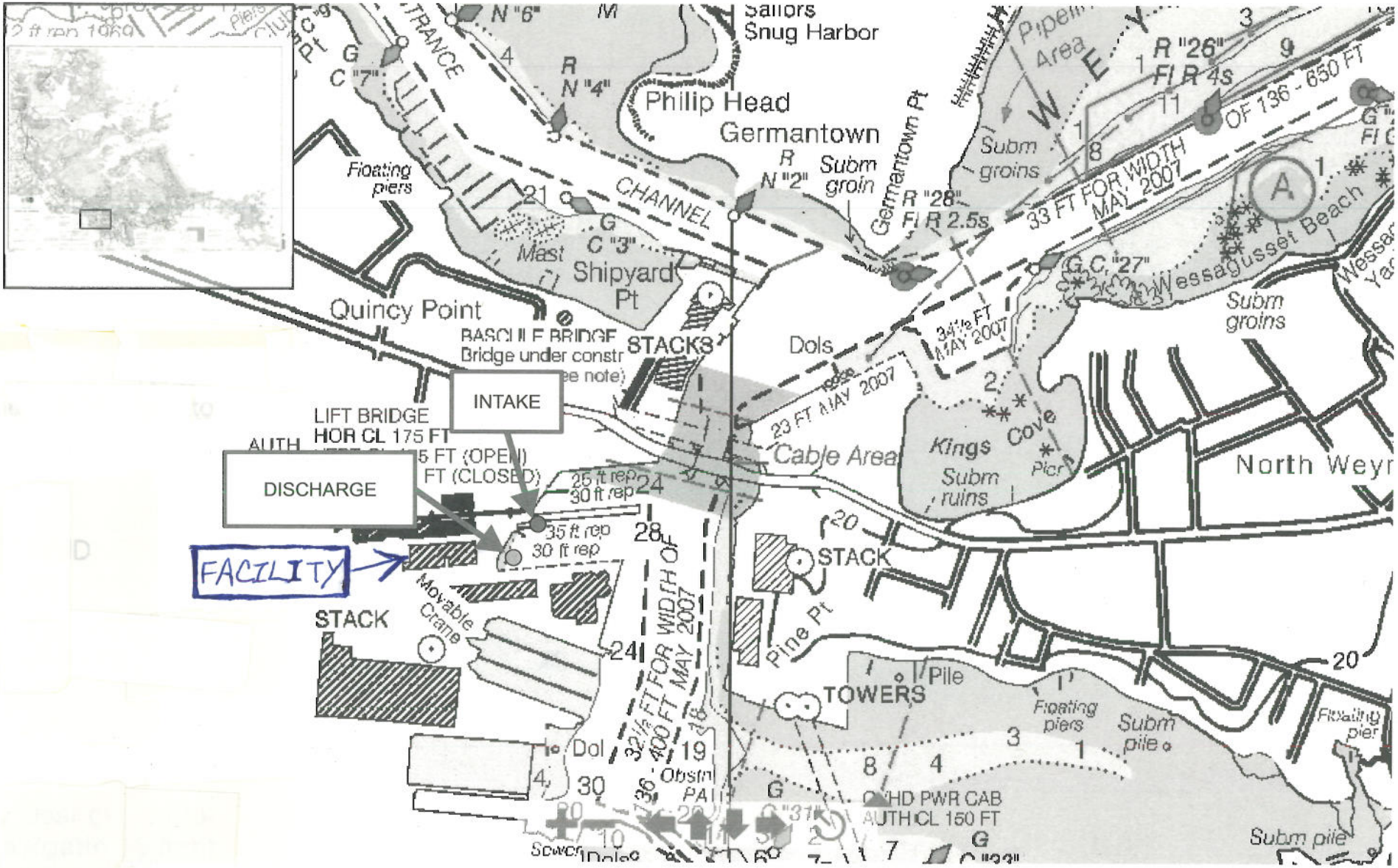


FIGURE 1
FACILITY LOCATION -
SATELLITE VIEW
NEW ENGLAND AQUARIUM -
OFF-SITE HOLDING FACILITY
SUBMERSIBLE PUMP: 42°14'35.02"N, 70°58'20.01"W
INTAKE
OUTFALL 001
NEAq Offsite Holding Facility
DISCHARGE - Existing Outfall Pipe: 42°14'31.98"N, 70°58'21.68"W
© 2010 Europa Technologies
Image MassGIS, Commonwealth of Massachusetts EOEA
© 2010 Google
Imagery Date: Apr 10, 2008
42°14'32.99" N 70°58'22.97" W elev 3 m
Eye alt 403 m
© 2009 Google

FIGURE 2

Portion of Weymouth Fore River
Showing Locations of Discharge
and Intake for New England Aquarium
Offsite Facility



Response to Public Comments

From February 26, 2010 to March 27, 2010, the United States Environmental Protection Agency ("EPA") and the Massachusetts Department of Environmental Protection ("MassDEP") (together, the "Agencies") solicited public comments on a draft NPDES permit developed pursuant to a permit application from the New England Aquarium Corporation for the issuance of a National Pollutant Discharge Elimination System ("NPDES") permit to discharge disinfected tank and aquaria waters from Outfall 001 to the Weymouth Fore River in Quincy, Massachusetts.

After a review of the comments received, EPA and MassDEP have made a final decision to issue this permit authorizing these discharges.

Copies of the final permit may be obtained by writing or calling EPA's NPDES Industrial Permits Branch (OEP 06-1), Office of Ecosystem Protection, 5 Post Office Square, Suite 100, Boston, MA 02109-3912; Telephone: (617) 918-1579.

Comments submitted by John Dayton, on behalf of the permittee:

Comment A1:

The engineers of the New England Aquarium Quincy project have made a change to the discharge plan. Instead of discharging to a storm drain on the north side of the building, they are (will be) discharging to a storm drain on the south side of the building. The result is that the location of our discharge where it enters the Fore River has moved slightly from the northwest corner of the basin to the southwest corner of the basin. I have attached a two page PDF document that reflects this change.

Response to Comment A1:

EPA acknowledges this change in the location of Outfall 001 and has included revised versions of fact sheet Figures 1 and 2 to this document. Therefore, these revised Figures show the outfall location that is authorized in the final permit.

Comments submitted by Paul J. Diodati of the Massachusetts Division of Marine Fisheries:

Comment B1:

We acknowledge the inclusion of monitoring for fecal coliform and the inclusion of effluent limitations to SB water quality standards. This will support our efforts to manage shellfish resources that are currently harvested in growing areas adjacent to the immediate location receiving the effluent.

Response to Comment B1:

EPA agrees that it is important that the discharge of fecal coliform in this discharge is minimized due to the nearby Conditionally Restricted shellfish beds. EPA believes that the permittee's fecal coliform limits and ozone disinfection system should be effective in minimizing any fecal coliform discharges.

Comment B2:

We further acknowledge the inclusion of WET testing for the effluent since some, but not all, medications and other additives listed in the Fact Sheet will bypass carbon filtration before leaving the holding system to the discharge sump.

Response to Comment B2:

EPA agrees with the importance of assessing the degree to which any of these medications or chemicals contribute to the toxicity of the discharge and the monitoring established in the permit is expected to characterize the discharge in this regard.

Comment B3:

We acknowledge reference to rainbow smelt as a species of concern regarding impacts from the water withdrawal intake. We are currently examining smelt populations and sampling in the river. While rainbow smelt is referenced, ichthyoplankton of other important fish species such as winter flounder, cunner, and Atlantic tomcod are indigenous to the Fore River system. We appreciate the specified through screen velocity limit of 0.5 feet per second (fps) at the intake pipe to help mitigate impacts from impingement. We note that the permit is without a specified dimension for the intake screen opening to protect fishery resources and recommend a screen opening size of no more than 0.25 inch to mitigate impacts to ichthyoplankton. This size will help protect yolk-sac and post yolk-sac larvae from entrainment.

Response to Comment B3:

EPA acknowledges the presence of rainbow smelt and other species of fish in the vicinity of the proposed intake. In this comment and Comment C3 below, MADMF and MACZM express their appreciation for the draft permit requirement that the intakes be designed with screened covers and an intake velocity no greater than 0.5 fps. MADMF further suggests that the permit also require a screen opening size of no more than 0.25 inches to mitigate impacts to ichthyoplankton. EPA is not changing the draft permit to specify a specific screen opening size because such a final permit requirement is beyond EPA's authority in this case. EPA understands that the permittee is consulting with these resource agencies regarding a screen size that will afford further protection to fish and EPA encourages this collaboration.

Comments submitted by Deerin Babb-Brott of the Massachusetts Coastal Zone Management Office of the MA Executive Office of Energy and Environmental Affairs:

Comment C1:

We are pleased to see that the draft permit includes year-round limits for fecal coliform, as these indicator bacteria are necessary for shellfish bed evaluation and public health protection. There are shellfish beds in the Fore River adjacent to this proposed facility. While these beds are not currently open for shellfishing, efforts to reopen these beds can only be achieved if all sources of fecal coliform bacteria in the area are known and monitored. Conditionally Restricted shellfish beds have recently reopened on the Weymouth side of the Fore River, adjacent to this discharge, underscoring the importance of monitoring fecal coliforms at this facility.

Response to Comment C1:

See Response to Comment B1.

Comment C2:

Given that there will be up to 15 medications and other chemicals used at this facility, we believe that the requirement for reporting the annual use of these chemicals is an important aspect of this permit. In addition, we support the required first year of operation monitoring to demonstrate the facility's ability to minimize or eliminate these chemicals in the effluent and the annual effluent toxicity monitoring.

Response to Comment C2:

EPA acknowledges and appreciates the comment.

Comment C3:

We agree that limiting the intake flow rate to 0.5 feet per second and requiring a screen on the intake are appropriate. CZM recommends that the USEPA consider requiring a minimum slot width on the intake. A suggested slot width based upon that of the adjacent, permitted facility with an intake is 100 millimeters, however, CZM will defer to the Massachusetts Division of Marine fisheries on the appropriate slot width at this specific site.

Response to Comment C3:

See Response to Comment B3.

May 19, 2010