

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 Corporation

is authorized to discharge from a facility located at

**Central Wharf
Boston, MA 02110**

to the receiving water named Boston Inner Harbor, a class SB water, in accordance with effluent limitations, monitoring requirements, and other conditions set forth herein.

This permit shall become effective on October 1, 2007.

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 supersedes the permit issued on November 13, 2001.

This permit consists of 6 pages in Part I including effluent limitations, monitoring requirements, and state permit conditions, Attachment A, Marine Acute Toxicity Test Protocol and 25 pages in Part II, Standard Conditions.

Signed this 31st day of July, 2007

/S/ SIGNATURE ON FILE

Director
Office of Ecosystem Protection
Environmental Protection Agency
Boston, MA

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:				
<u>EFFLUENT CHARACTERISTIC</u>		<u>EFFLUENT LIMITS</u>		<u>MONITORING REQUIREMENTS</u>
<u>PARAMETER</u>	<u>AVERAGE MONTHLY</u>	<u>MAXIMUM DAILY</u>	<u>MEASUREMENT FREQUENCY</u>	<u>SAMPLE¹ TYPE</u>
Flow	150,000 GPD	Report GPD	Continuous	Recorder ²
pH Range ³	6.5 – 8.5 s.u.		1/Week	Grab
Total Suspended Solids	30 mg/l	60 mg/l	2/Month	24-Hour Composite ⁴
Total Suspended Solids	38 lbs/day	75 lbs/day	2/Month	24-Hour Composite ⁴
Total Residual Chlorine	1.0 mg/l	1.0 mg/l	1/Week	Grab
Fecal coliform bacteria ^{3,5}	200 cfu/100 ml	400 cfu/100 ml	1/Month	Grab
Enterococcus bacteria ⁵	Report cfu/100 ml	Report 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 permittee shall minimize the use of chlorine while maintaining adequate bacterial control.
- f. 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 150,000 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 monitoring will be conducted year round. Fecal coliform discharges shall not exceed a monthly geometric mean of 200 colony forming units (cfu) per 100 ml, nor shall they exceed 400 cfu per 100 ml as a daily maximum. Sampling for fecal coliform and enterococcus shall be conducted on the same day.
6. The permittee shall conduct an 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 be 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 has been sent to all permittees with their annual set of DMRs and Revised Updated Instructions for Completing EPA's Pre- Printed NPDES Discharge Monitoring Report (DMR) Form 3320-1 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 in dosages and combinations that are appropriate to control short term outbreaks of disease and non-native organisms.
- 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.
- 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 evaluate alternatives to using copper containing compounds in some of its tanks and minimizing or eliminating the use of these compounds. The permittee shall evaluate alternative chemicals and methods to achieve similar parasite control results currently obtained by the use of copper containing compounds. A description of this evaluation and resulting changes that affect the discharge of copper shall be submitted to EPA with the permittee's next permit application, which is due no later than six (6) months before the expiration date.

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. 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:

Environmental Protection Agency
Water Technical Unit (SEW)
P.O. Box 8127
Boston, Massachusetts 02114

The State Agency is:

Massachusetts Department of Environmental Protection
Bureau of Waste Prevention
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

D. STATE PERMIT CONDITIONS

This discharge permit is issued jointly by the U. S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) under Federal and State law, respectively. As such, all the terms and conditions of this permit are hereby incorporated into and constitute a discharge permit issued by the Commissioner of the MassDEP pursuant to M.G.L. Chapter 21, §43.

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.