

## **NPDES PERMIT RENEWAL**

**issued to**

University of Connecticut  
Marine Sciences and Technology Center  
1080 Shennecossett Road  
Groton, CT 06340

**Location Address:** Avery Point, Groton, CT

**Facility ID:** 059-010

**Permit ID:** CT0028631

**Receiving Stream:** Long Island Sound

**Permit Expires:** **June 28, 2016**

### **SECTION 1: GENERAL PROVISIONS**

- (A) This permit is reissued in accordance with section 22a-430 of Chapter 446k, Connecticut General Statutes ("CGS"), and Regulations of Connecticut State Agencies ("RCSA") adopted thereunder, as amended, and section 402(b) of the Clean Water Act, as amended, 33 USC 1251, *et. seq.*, and pursuant to an approval dated September 26, 1973, by the Administrator of the United States Environmental Protection Agency for the State of Connecticut to administer an N.P.D.E.S. permit program.
- (B) University of Connecticut, Marine Sciences and Technology Center, ("Permittee"), shall comply with all conditions of this permit including the following sections of the RCSA which have been adopted pursuant to section 22a-430 of the CGS and are hereby incorporated into this permit. Your attention is especially drawn to the notification requirements of subsection (i)(2), (i)(3), (j)(1), (j)(6), (j)(8), (j)(9)(C), (j)(10)(C), (j)(11)(C), (D), (E), and (F), (k)(3) and (4) and (l)(2) of section 22a-430-3.

#### Section 22a-430-3 General Conditions

- (a) Definitions
- (b) General
- (c) Inspection and Entry
- (d) Effect of a Permit
- (e) Duty
- (f) Proper Operation and Maintenance
- (g) Sludge Disposal
- (h) Duty to Mitigate
- (i) Facility Modifications; Notification
- (j) Monitoring, Records and Reporting Requirements
- (k) Bypass
- (l) Conditions Applicable to POTWs
- (m) Effluent Limitation Violations (Upsets)
- (n) Enforcement
- (o) Resource Conservation
- (p) Spill Prevention and Control
- (q) Instrumentation, Alarms, Flow Recorders
- (r) Equalization

Section 22a-430-4 Procedures and Criteria

- (a) Duty to Apply
  - (b) Duty to Reapply
  - (c) Application Requirements
  - (d) Preliminary Review
  - (e) Tentative Determination
  - (f) Draft Permits, Fact Sheets
  - (g) Public Notice, Notice of Hearing
  - (h) Public Comments
  - (i) Final Determination
  - (j) Public Hearings
  - (k) Submission of Plans and Specifications. Approval.
  - (l) Establishing Effluent Limitations and Conditions
  - (m) Case by Case Determinations
  - (n) Permit issuance or renewal
  - (o) Permit Transfer
  - (p) Permit revocation, denial or modification
  - (q) Variances
  - (r) Secondary Treatment Requirements
  - (s) Treatment Requirements for Metals and Cyanide
  - (t) Discharges to POTWs - Prohibitions
- (C) Violations of any of the terms, conditions, or limitations contained in this permit may subject the Permittee to enforcement action including, but not limited to, seeking penalties, injunctions and/or forfeitures pursuant to applicable sections of the CGS and RCSA.
- (D) Any false statement in any information submitted pursuant to this permit may be punishable as a criminal offense under section 22a-438 or 22a-131a of the CGS or in accordance with section 22a-6, under section 53a-157b of the CGS.
- (E) The authorization to discharge under this permit may not be transferred without prior written approval of the Commissioner of Environmental Protection ("Commissioner"). To request such approval, the Permittee and proposed transferee shall register such proposed transfer with the Commissioner, at least 30 days prior to the transferee becoming legally responsible for creating or maintaining any discharge which is the subject of the permit transfer. Failure, by the transferee, to obtain the Commissioner's approval prior to commencing such discharge(s) may subject the transferee to enforcement action for discharging without a permit pursuant to applicable sections of the CGS and RCSA.
- (F) No provision of this permit and no action or inaction by the Commissioner shall be construed to constitute an assurance by the Commissioner that the actions taken by the Permittee pursuant to this permit will result in compliance or prevent or abate pollution.
- (G) Nothing in this permit shall relieve the Permittee of other obligations under applicable federal, state and local law.
- (H) An annual fee shall be paid for each year this permit is in effect as set forth in section 22a-430-7 of the Regulations of Connecticut State Agencies.
- (I) This permitted discharge is consistent with the applicable goals and policies of the Connecticut Coastal Management Act (section 22a-92 of the Connecticut General Statutes).

## SECTION 2: DEFINITIONS

(A) The definitions of the terms used in this permit shall be the same as the definitions contained in section 22a-423 of the CGS and section 22a-430-3(a) and 22a-430-6 of the RCSA, except for "No Observable Acute Effect Level (NOAEL)" which is redefined below.

(B) In addition to the above, the following definitions shall apply to this permit:

"-----" in the limits column on the monitoring table means a limit is not specified but a value must be reported on the DMR.

"Annual" in the context of any sampling frequency found in Section 5, shall mean the sample must be collected in the month of July.

"Average Monthly Limit"; means the maximum allowable "Average Monthly Concentration" as defined in section 22a-430-3(a) of the RCSA when expressed as a concentration (e.g. mg/l); otherwise, it means "Average Monthly Discharge Limitation" as defined in section 22a-430-3(a) of the RCSA.

"Daily Concentration" means the concentration of a substance as measured in a daily composite sample, or the arithmetic average of all grab sample results defining a grab sample average.

"Daily Quantity" means the quantity of waste discharged during an operating day.

"Instantaneous Limit" means the highest allowable concentration of a substance as measured by a grab sample, or the highest allowable measurement of a parameter as obtained through instantaneous monitoring.

"Maximum Daily Limit", means the maximum allowable "Daily Concentration" (defined above) when expressed as a concentration (e.g. mg/l); otherwise, it means the maximum allowable "Daily Quantity" as defined above, unless it is expressed as a flow quantity. If expressed as a flow quantity it means "Maximum Daily Flow" as defined in section 22a-430-3(a) of the RCSA.

"NA" as a Monitoring Table abbreviation means "not applicable".

"NR" as a Monitoring Table abbreviation means "not required".

"No Observable Acute Effect Level (NOAEL)" means any concentration equal to or less than the critical test concentration in a single concentration (pass/fail) toxicity test conducted pursuant to section 22a-430-3(j)(7)(A)(i) RCSA demonstrating greater than 50% survival of test organisms in 100% (undiluted) effluent and 90% or greater survival of test organisms at the CTC.

"Range During Month" ("RDM"), as a sample type, means the lowest and the highest values of all of the monitoring data for the reporting month.

"Range During Sampling" ("RDS"), as a sample type, means the maximum and minimum of all values recorded as a result of analyzing each grab sample of; 1) a Composite Sample, or, 2) a Grab Sample Average. For those Permittees with continuous monitoring and recording pH meters, Range During Sampling means the maximum and minimum readings recorded with the continuous monitoring device during the Composite or Grab Sample Average sample collection.

"Semi-Annual" in the context of a sampling frequency, means the sample must be collected in the months of July and October.

"ug/l" means micrograms per liter.

### **SECTION 3: COMMISSIONER'S DECISION**

- (A) The Commissioner has issued a final determination and found that continuance of the existing discharge will not cause pollution of the waters of the state. The Commissioner's decision is based on Application No. 201006630 for permit reissuance received on December 13, 2010 and the administrative record established in the processing of that application.
- (B) The Commissioner hereby authorizes the Permittee to discharge in accordance with the provisions of this permit, the above referenced application, and all approvals issued by the Commissioner or the Commissioner's authorized agent for the discharges and/or activities authorized by, or associated with, this permit.
- (C) The Commissioner reserves the right to make appropriate revisions to the permit in order to establish any appropriate effluent limitations, schedules of compliance, or other provisions which may be authorized under the Federal Clean Water Act or the CGS or regulations adopted thereunder, as amended. The permit as modified or renewed under this paragraph may also contain any other requirements of the Federal Clean Water Act or CGS or regulations adopted thereunder which are then applicable.

### **SECTION 4: GENERAL EFFLUENT LIMITATIONS**

- (A) No discharge shall contain, or cause in the receiving stream, a visible oil sheen or floating solids; or, cause visible discoloration or foaming in the receiving stream.
- (B) No discharge shall cause acute or chronic toxicity in the receiving water body beyond any zone of influence specifically allocated to that discharge in this permit.
- (C) The temperature of any discharge shall not increase the temperature of the receiving stream above 83°F, or, in any case, raise the temperature of the receiving stream by more than 4°F. The incremental temperature increase in coastal and marine waters is limited to 1.5°F during the period including July, August and September.

### **SECTION 5: SPECIFIC EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

- (A) The discharges shall not exceed and shall otherwise conform to the specific terms and conditions listed below. The discharges are restricted by, and shall be monitored in accordance with, the tables below:

**Table A**

**Discharge Serial Number:** DSN 001-1

**Monitoring Location:** 1

**Wastewater Description:** Aquarium sea water, aquarium maintenance rinse sea water, sand filter backflush and seawater bypass.

**Monitoring Location Description:** 15" P.V.C drain outside building.

**Discharge is to:** Long Island Sound

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level Test
		Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency <sup>1</sup>	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample/ Reporting Frequency	Sample Type or measurement to be reported	
Biochemical Oxygen Demand (BOD <sub>5</sub> )	mg/l	NA	NA	NR	NA	-----	Semi – Annual	Grab	
Copper, Total	mg/l	NA	NA	NR	NA	-----	Semi – Annual	Grab	<sup>3</sup>
Flow, Maximum during a 24 hour period <sup>2</sup>	gpd	NA	720,000	Monthly	Total Daily Flow	NA	NR	NA	
Flow (Day of Sampling) <sup>2</sup>	gpd	NA	720,000	Monthly	Total Daily Flow	NA	NR	NA	
Lead, Total	mg/l	NA	NA	NR	NA	-----	Semi – Annual	Grab	<sup>3</sup>
Nitrogen, Ammonia (Total N)	mg/l	NA	NA	NR	NA	-----	Semi – Annual	Grab	
Nitrogen, Nitrate (Total N)	mg/l	NA	NA	NR	NA	-----	Semi – Annual	Grab	
Nitrogen, Nitrite (Total N)	mg/l	NA	NA	NR	NA	-----	Semi – Annual	Grab	
pH, Maximum	S.U.	NA	NA	NR	NA	9.0	Continuous/Monthly	Continuous	
pH, Minimum	S.U.	NA	NA	NR	NA	6.0	Continuous/Monthly	Continuous	
pH (Day of Sampling)	S.U.	NA	NA	NR	NA	6.0 – 9.0	Monthly	RDS	
Phosphorus, Total as P	mg/l	NA	NA	NR	NA	-----	Semi – Annual	Grab	
Sulfates	mg/l	NA	NA	NR	NA	-----	Semi – Annual	Grab	
Temperature	°F	NA	NA	NR	NA	-----	Monthly	Grab	
Total Residual Chlorine	mg/l	NA	NA	NR	NA	-----	Semi – Annual	Grab	<sup>3</sup>
Total Suspended Solids	mg/l	NA	NA	NR	NA	-----	Semi – Annual	Grab	
Zinc, Total	mg/l	NA	NA	NR	NA	-----	Semi – Annual	Grab	<sup>3</sup>

**Table Footnotes and Remarks:**

**Footnotes:**

Note: All analysis shall be on the same sample.

<sup>1</sup> The first entry in this column is the 'Sample Frequency'. If a 'Reporting Frequency' does not follow this entry and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

<sup>2</sup> For this parameter the Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Maximum Daily Flow for each month.

<sup>3</sup> See Section 6(A).

**Remarks:**

1. The Permittee shall record and report the maximum and minimum pH values for each month. All daily pH results shall be kept on-site.

2. The Permittee shall not discharge any wastewaters associated with floor washing to Long Island Sound. This wastewater shall be collected and discharged to the sanitary sewer.

**Table B**

**Discharge Serial Number:** DSN 002-1 **Monitoring Location:** 1

**Wastewater Description:** Aquarium sea water and aquarium maintenance rinse sea water.

**Monitoring Location Description:** Effluent pipe discharging directly to the Long Island Sound.

**Discharge is to:** Long Island Sound

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level Test
		Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency <sup>1</sup>	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample/ Reporting Frequency	Sample Type or measurement to be reported	
Biochemical Oxygen Demand (BOD <sub>5</sub> )	mg/l	NA	NA	NR	NA	-----	Semi – Annual <sup>4</sup>	Grab	
Copper, Total	mg/l	NA	NA	NR	NA	-----	Semi – Annual <sup>4</sup>	Grab	<sup>3</sup>
Flow, Maximum during a 24 hour period <sup>2</sup>	gpd	NA	54,600	Monthly	Total Daily Flow	NA	NR	NA	
Flow (Day of Sampling) <sup>2</sup>	gpd	NA	54,600	Monthly	Total Daily Flow	NA	NR	NA	
Lead, Total	mg/l	NA	NA	NR	NA	-----	Annual	Grab	<sup>3</sup>
Nitrogen, Ammonia (Total N)	mg/l	NA	NA	NR	NA	-----	Semi – Annual <sup>4</sup>	Grab	
Nitrogen, Nitrate (Total N)	mg/l	NA	NA	NR	NA	-----	Semi – Annual <sup>4</sup>	Grab	
Nitrogen, Nitrite (Total N)	mg/l	NA	NA	NR	NA	-----	Semi – Annual <sup>4</sup>	Grab	
pH (Day of Sampling)	S.U.	NA	NA	NR	NA	6.0 – 9.0	Monthly	RDS	
Phosphorus, Total as P	mg/l	NA	NA	NR	NA	-----	Semi – Annual <sup>4</sup>	Grab	
Sulfates	mg/l	NA	NA	NR	NA	-----	Semi – Annual <sup>4</sup>	Grab	
Temperature	°F	NA	NA	NR	NA	-----	Monthly	Grab	
Total Suspended Solids	mg/l	NA	NA	NR	NA	-----	Semi – Annual <sup>4</sup>	Grab	
Zinc, Total	mg/l	NA	NA	NR	NA	-----	Annual	Grab	<sup>3</sup>

**Table Footnotes and Remarks:**

**Footnotes:**

Note: All analysis shall be on the same sample.

<sup>1</sup> The first entry in this column is the 'Sample Frequency'. If a 'Reporting Frequency' does not follow this entry and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

<sup>2</sup> For this parameter the Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Maximum Daily Flow for each month.

<sup>3</sup> See Section 6(A).

<sup>4</sup> "Semi-Annual", in the context of this sampling frequency, means the sample must be collected in the months of July and October. If there is no discharge during either of these sampling months, the Permittee shall sample during the next month when discharge exists and submit the results in the monthly DMR. The Permittee shall always indicate, on each monthly DMR, whether this alternative sampling requirement has been triggered. Once the alternative sampling requirement is fulfilled, the Permittee shall indicate on subsequent DMR that monitoring is conditional for all semi-annual parameters.

**Remarks:**

1. The Permittee shall record and report the maximum and minimum pH values for each month. All daily pH results shall be kept on-site.

2. The Permittee shall not discharge any wastewaters associated with floor washing to the Long Island Sound. This wastewater shall be collected and discharged to the sanitary sewer.

3. The Permittee shall conduct semi-annual discharge monitoring during dry weather conditions only. Dry weather conditions are defined as times when the discharge is not commingled with precipitation, snow melt or ice melt.

- (1) All samples shall be comprised of only the wastewater described in this table. Samples shall be collected prior to combination with receiving waters or wastewater of any other type, and after all approved treatment units, if applicable. All samples collected shall be representative of the discharge during standard operating conditions.
- (2) In cases where limits and sample type are specified but sampling is not required by this permit, the limits specified shall apply to all samples which may be collected and analyzed by the Department of Environmental Protection personnel, the Permittee, or other parties.
- (3) The limits imposed on the discharges listed in this permit take effect on the issuance date of this permit, hence any sample taken after this date which, upon analysis, shows an exceedance of permit limits will be considered non-compliance.

The monitoring requirements begin on the date of issuance of this permit if the issuance date is on or before the 12th day of a month. For permits issued on or after the 13th day of a month, monitoring requirements begin the 1st day of the following month.

## SECTION 6: SAMPLE COLLECTION, HANDLING AND ANALYTICAL TECHNIQUES

### (A) Chemical Analysis

- (1) Chemical analyses to determine compliance with effluent limits and conditions established in this permit shall be performed using the methods approved pursuant to the 40 CFR 136 unless an alternative method has been approved in writing pursuant to 40 CFR 136.4 or as provided in section 22a-430-3(j)(7) of the RCSA. Chemicals which do not have methods of analysis defined in 40 CFR 136 shall be analyzed in accordance with methods specified in this permit.
- (2) All metals analyses identified in this permit shall refer to analyses for Total Recoverable Metal as defined in 40 CFR 136 unless otherwise specified.
- (3) The Minimum Levels specified below represent the concentrations at which quantification must be achieved and verified during the chemical analyses for the parameters identified in Section 5 Tables A and B. Analyses for these parameters must include check standards within ten percent of the specified Minimum Level or calibration points equal to or less than the specified Minimum Level.

<u>Parameter</u>	<u>Minimum Level</u>
Chlorine, total residual	20.0 ug/L
Copper	5.0 ug/L
Lead	5.0 ug/L
Zinc	10.0 ug/L

- (4) The value of each parameter for which monitoring is required under this permit shall be reported to the maximum level of accuracy and precision possible consistent with the requirements of this section of the permit.
- (5) Effluent analyses for which quantification was verified during the analysis at or below the minimum levels specified in this section and which indicate that a parameter was not detected shall be reported as "less than x" where 'x' is the numerical value equivalent to the analytical

method detection limit for that analysis.

- (6) Results of effluent analyses which indicate that a parameter was not present at a concentration greater than or equal to the Minimum Level specified for that analysis shall be considered equivalent to zero (0.0) for purposes of determining compliance with effluent limitations or conditions specified in this permit.

## **SECTION 7: REPORTING REQUIREMENTS**

- (A) The results of chemical analyses and any aquatic toxicity test required above shall be entered on the Discharge Monitoring Report (DMR), provided by this office, and reported to the Bureau of Materials Management and Compliance Assurance (Attn: DMR Processing) at the following address. The report shall also include a detailed explanation of any violations of the limitations specified. The DMR shall be received at this address by the last day of the month following the month in which samples are collected.

Bureau of Materials Management and Compliance Assurance  
Water Permitting and Enforcement Division (Attn: DMR Processing)  
Connecticut Department of Environmental Protection  
79 Elm Street  
Hartford, CT 06106-5127

- (B) Complete and accurate aquatic toxicity test data, including percent survival of test organisms in each replicate test chamber, LC50 values and 95% confidence intervals for definitive test protocols, and all supporting chemical/physical measurements performed in association with any aquatic toxicity test, including measured daily flow and hours of operation for the 30 consecutive operating days prior to sample collection if compliance with a limit on Aquatic Toxicity is based on toxicity limits based on actual flows described in Section 7, shall be entered on the Aquatic Toxicity Monitoring Report form (ATMR) and sent to the Bureau of Water Protection and Land Reuse at the following address. The ATMR shall be received at this address by the last day of the month following the month in which samples are collected.

Bureau of Water Protection and Land Reuse (Attn: Aquatic Toxicity)  
Connecticut Department of Environmental Protection  
79 Elm St.  
Hartford, CT 06106-5127

- (C) If this permit requires monitoring of a discharge on a calendar basis (e.g. Monthly, quarterly, etc.), but a discharge has not occurred within the frequency of sampling specified in the permit, the Permittee must submit the DMR and ATMR, as scheduled, indicating "NO DISCHARGE". For those Permittees whose required monitoring is discharge dependent (e.g. per batch), the minimum reporting frequency is monthly. Therefore, if there is no discharge during a calendar month for a batch discharge, a DMR must be submitted indicating such by the end of the following month.

## **SECTION 8: RECORDING AND REPORTING OF VIOLATIONS, ADDITIONAL TESTING REQUIREMENTS**

- (A) If any sample analysis indicates Toxicity, or that the test was invalid, another sample of the effluent shall be collected and tested for Aquatic Toxicity and associated chemical parameters, as described above in Section 5 and Section 6, and the results reported to the Bureau of Materials Management and Compliance Assurance (Attn: DMR Processing), at the address listed above, within 30 days of the exceedance or invalid

test. Results of all tests, whether valid or invalid, shall be reported.

- (B) The Permittee shall notify the Bureau of Materials Management and Compliance Assurance, Water Permitting and Enforcement Division, within 72 hours and in writing within thirty days of the discharge of any substance listed in the application but not listed in the permit if the concentration or quantity of that substance exceeds two times the level listed in the application.

This permit is hereby issued on June 29, 2011.

/s/ DANIEL C. ESTY  
Daniel C. Esty  
Commissioner