



**National Pollutant Discharge Elimination System Permit  
issued to**

**Permittee:**

University of Connecticut  
Department of Marine Sciences  
1080 Shennecossett Road  
Groton, CT 06340

**Location Address:**

Avery Point Campus, John S. Rankin Laboratory  
Department of Marine Sciences  
1080 Shennecossett Road  
Groton, CT 06340

**Permit ID:** CT0028631

**Issuance Date:** Date of Signature

**Receiving Water Body:** Long Island Sound  
EB Inner - Baker Cove, Groton

**Effective Date:** 1<sup>st</sup> of the month after Issuance Date

**Receiving Water Body ID:** CT-E1\_013

**Permit Expires:** 5 years from effective date

**SECTION 1: GENERAL PROVISIONS**

- 1.1 This permit is reissued in accordance with Section 22a-430 of Chapter 446k, Connecticut General Statutes (“Conn. Gen. Stat.”), and Regulations of Connecticut State Agencies (“Regs. Conn. State Agencies”) adopted thereunder, as amended, and Section 402(b) of the Clean Water Act (“CWA”), 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 a National Pollutant Discharge Elimination System (“NPDES”) permit program.
- 1.2 University of Connecticut, Marine Sciences and Technology Center (“Permittee”) shall comply with all conditions of this permit including the following sections of the Regs. Conn. State Agencies which have been adopted pursuant to Section 22a-430 of the Conn. Gen. Stat. and are hereby incorporated into this permit. Your attention is especially drawn to the notification requirements of subsections (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 to Comply
- (f) Proper Operation and Maintenance
- (g) Sludge Disposal
- (h) Duty to Mitigate
- (i) Facility Modifications; Notification
- (j) Monitoring, Records and Reporting Requirements
- (k) Bypass
- (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
- (s) Treatment Requirements

- 1.3 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 Conn. Gen. Stat. and Regs. Conn. State Agencies.
- 1.4 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 Conn. Gen. Stat. or in accordance with Section 22a-6, under Section 53a-157b of the Conn. Gen. Stat.
- 1.5 The authorization to discharge under this permit may not be transferred without prior written approval of the Commissioner of Energy and Environmental Protection ("Commissioner"). To request such approval, the Permittee and proposed transferee shall register such proposed transfer with the Commissioner, at least thirty (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 Conn. Gen. Stat and Regs. Conn. State Agencies.
- 1.6 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.
- 1.7 Nothing in this permit shall relieve the Permittee of other obligations under applicable federal, state and local law.
- 1.8 An annual fee shall be paid for each year this permit is in effect as set forth in Section 22a-430-7 of the Regs. Conn. State Agencies.
- 1.9 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).
- 1.10 The Permittee shall operate and maintain its collection and treatment system in accordance with its Operation and Maintenance Plan and with any approvals issued in accordance with Regs. Conn. State Agencies Section 22a-430-3(i)(3). The Permittee shall revise and maintain the Operation and Maintenance Plan upon the Commissioner's request or to address equipment or operational changes in accordance with Regs. Conn. State Agencies Section 22a-430-3(f)(2).

- 1.11 The Permittee shall implement its Spill Prevention and Control Plan in accordance with Regs. Conn. State Agencies Section 22a-430-3(p) and 22a-430-4(c)(10). The plan shall include practices, procedures and facilities designed to prevent, minimize and control spills, leaks or such other unplanned releases of all toxic or hazardous substances and any other substances to prevent pollution of the waters of the state. Such requirements shall, unless otherwise allowed by the Commissioner, apply to all facilities used for storing, handling, transferring, loading or unloading such substances, including manufacturing areas. The Permittee shall revise and maintain the Spill Prevention and Control Plan upon the Commissioner's request or to address equipment or operational changes.

## SECTION 2: DEFINITIONS

- 2.1 The definitions of the terms used in this permit shall be the same as the definitions contained in Section 22a-423 of the Conn. Gen. Stat. and Section 22a-430-3(a) and 22a-430-6 of the Regs. Conn. State Agencies.

- 2.2 In addition to the above, the following definitions shall apply to this permit:

“40 CFR” means Title 40 of the Code of Federal Regulations.

“Annually” when used as a sampling frequency in Tables B and D of this permit, means that sampling is required 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 Regs. Conn. State Agencies when expressed as concentration (e.g., mg/l). Otherwise, it means “Average Monthly Discharge Limitation” as defined in Section 22a-430-3(a) of the Regs. Conn. State Agencies.

*Connecticut Water Quality Standards* means the regulations adopted under Regs. Conn. State Agencies Sections 22a-426-1 through 22a-426-9, as amended.

“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.

“Dilution Factor” means the inverse of the “Instream Waste Concentration”.

“DMR” means Discharge Monitoring Report.

“IC” means “Inhibition Concentration”.

“IC<sub>25</sub>” means a point estimate of the toxicant concentration that would cause a twenty-five (25) percent reduction in a non-lethal biological measurement of the test organism, such as reproduction or growth.

“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.

“In-stream Waste Concentration” (“IWC%”) means the concentration (as a percent) of the effluent in the receiving water.

“LC” means Lethal Concentration

“LC<sub>50</sub>” means the concentration lethal to fifty (50) percent of the test organisms during a specific period.

“Lowest Observed Effect Concentration” (“LOEC”) means the lowest concentration of an effluent or toxicant to which organisms are exposed in a life cycle or partial life-cycle test, which causes adverse effects on the test organisms.

“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 Regs. Conn. State Agencies.

“No Observed Effect Concentration” (“NOEC”) means the highest concentration of an effluent or toxicant to which organisms are exposed in a life cycle or partial life-cycle test, that causes no observable adverse effects on the test organisms.

“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.

“Reporting Frequency” means the frequency at which monitoring results must be provided.

“Semiannual” when used as a sampling frequency in this permit, means that sampling is required in the months of July and October.

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

- 3.1 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. 202505184 for permit reissuance received on July 15, 2025, and the administrative record established in the processing of that application.
- 3.2 Upon the effective date of this permit and continuing until this permit expires or is modified or revoked, the Commissioner hereby authorizes the Permittee to discharge in accordance with the terms and conditions of this permit, the information provided in Application No. 202505184, received by the Commissioner on July 15, 2025, the administrative record established in the processing of that application, and all modifications and approvals issued by the Commissioner or the Commissioner’s authorized agent, for the discharge and/or activities authorized by, or associated with this Permit.
- 3.3 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 Conn. Gen. Stat. 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 the Conn. Gen. Stat. or regulations adopted thereunder which are then applicable.

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

- 4.1 The Permittee shall assure that the surface water affected by the subject discharge shall conform to the *Connecticut Water Quality Standards*.
- 4.2 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.
- 4.3 No discharge shall cause acute or chronic toxicity in the receiving waterbody beyond any zone of influence specifically allocated to that discharge in this permit.

- 4.4 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**

- 5.1 The discharge is restricted by and shall be monitored in accordance with the following tables in this section. The wastewater discharge shall not exceed the effluent limitations in these tables and shall otherwise conform to the specific terms and conditions listed in the tables. The Permittee shall comply with the “Footnotes” and “Remarks” noted in the tables that follow. Such footnotes and remarks are enforceable like any other term or condition of this permit.
- 5.2 The wastewaters authorized/approved by this permit shall be collected, treated, and discharged in accordance with this permit and with any approvals issued by the Commissioner or his/her authorized agent for the discharges and activities authorized by or associated with this permit. Any wastewater discharges not expressly identified in these tables or otherwise approved to be discharged by this permit shall not be authorized by this permit.
- 5.3 All samples shall be comprised of only the wastewater described in these tables. Samples shall be collected prior to combination with receiving waters or wastewater of any other type, and after all approved treatment units, if applicable. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. Collection of permit-required effluent samples in any location other than the authorized location noted in this permit shall be a violation of this permit.
- 5.4 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 Energy and Environmental Protection (“DEEP”) personnel, the Permittee, or other parties.

Table A										
Discharge Serial Number: DSN 001-1							Monitoring Location: 1 (External outfall)			
Wastewater Description: Aquarium sea water, aquarium experiment brackish water, aquarium maintenance rinse sea water, sand filter backflush, flow through seawater and floor rinse water										
Monitoring Location Description: Inside the fiberglass drain immediately before the 15-inch P.V.C drain outside the laboratory							Allocated Zone of Influence: 2,970,000 gph			
Discharge is to: LIS EB Inner - Baker Cove, Groton			Instream Waste Concentration: 1.0%				Outfall Location: Latitude 41° 18' 55" & Longitude -72° 03' 47"			
PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			MINIMUM LEVEL <sup>2</sup> (µg/l)
			Average Monthly Limit	Maximum Daily Limit	Sample/ Reporting Frequency <sup>1,3</sup>	Sample Type or Measurement to be Reported <sup>4,5</sup>	Instantaneous Limit or Required Range	Sample/ Reporting Frequency <sup>1</sup>	Sample Type or Measurement to be Reported	
Ammonia as N, Total	00610	mg/L	---	---	Semiannually	Daily Composite	NA	NR	NA	
Copper, Total	01042	mg/L	---	---	Semiannually	Daily Composite	NA	NR	NA	3.0
Flow Rate, Average daily <sup>3</sup>	00056	Gpd	---	NA	Continuous	Daily Flow	NA	NR	NA	
Flow, Maximum during 24-hour period <sup>3</sup>	50047	Gpd	NA	720,000	Continuous	Daily Flow	NA	NR	NA	
Kjeldahl Nitrogen, Total (as N)	00625	mg/L	---	---	Semiannually	Daily Composite	NA	NR	NA	
Lead, Total	01051	mg/L	---	---	Semiannually	Semiannually	NA	NR	NA	1.0
Nitrate (as N)	00620	mg/L	---	---	Semiannually	Semiannually	NA	NR	NA	
Nitrite (as N)	00615	mg/L	---	---	Semiannually	Semiannually	NA	NR	NA	
Nitrogen, Total [See Remark 5]	00600	mg/L	---	---	Semiannually	Semiannually	NA	NR	NA	
pH, Minimum <sup>3,6</sup>	61942	S.U.	NA	NA	NR	NA	6.8	Continuous	Continuous	
pH, Maximum <sup>3,6</sup>	61941	S.U.	NA	NA	NR	NA	8.5	Continuous	Continuous	
Phosphorus, Total	00665	mg/L	---	---	Semiannually	Daily Composite	NA	NR	NA	100.0
Temperature	00011	°F	NA	NA	NR	NA	---	Continuous	Continuous	
Total Residual Chlorine	50060	mg/L	---	---	Semiannually	Grab Sample Average	NA	NR	NA	20.0
Total Suspended Solids	00530	mg/L	---	---	Semiannually	Daily Composite	NA	NR	NA	
Zinc, Total	01092	mg/L	---	---	Semiannually	Daily Composite	NA	NR	NA	20.0

Table A										
Discharge Serial Number: DSN 001-1						Monitoring Location: 1 (External outfall)				
Wastewater Description: Aquarium sea water, aquarium experiment brackish water, aquarium maintenance rinse sea water, sand filter backflush, flow through seawater and floor rinse water										
Monitoring Location Description: Inside the fiberglass drain immediately before the 15-inch P.V.C drain outside the laboratory						Allocated Zone of Influence: 2,970,000 gph				
Discharge is to: LIS EB Inner - Baker Cove, Groton			Instream Waste Concentration: 1.0%			Outfall Location: Latitude 41° 18' 55" & Longitude -72° 03' 47"				
PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			MINIMUM LEVEL <sup>2</sup> (µg/l)
			Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency <sup>1,3</sup>	Sample Type or Measurement to be Reported <sup>4,5</sup>	Instantaneous Limit or Required Range	Sample/Reporting Frequency <sup>1</sup>	Sample Type or Measurement to be Reported	
<b>TABLE FOOTNOTES AND REMARKS</b>										
<b>Footnotes:</b>										
<sup>1</sup> The first entry in this column is the "Sample Frequency: If a "Reporting Frequency" does not follow this entry then the "Reporting Frequency" is monthly.										
<sup>2</sup> Refer to Section 6.3 of this permit. The minimum levels ("MLs") identified in this table represent the highest acceptable MLs that shall be achieved by the Permittee's analytical methods. Actual MLs reported by the laboratory must be reported as a comment on the DMR. Detected concentrations less than the laboratory ML shall be reported on the DMR in accordance with Section 6.5.										
<sup>3</sup> For this parameter, the Permittee shall maintain at the facility a record of the Total Daily Flow and pH range for each operating day. The Permittee shall report on its DMR the "Average Daily Flow", the "Maximum Daily Flow", the minimum pH and the maximum pH for each month and shall provide the record of the Total Daily Flow and pH range as an attachment to the DMR.										
<sup>4</sup> Daily composite sample shall consist of a minimum of three aliquots of equal volume, collected at the beginning, middle and end of the laboratory work shift hours.										
<sup>5</sup> Grab sample average means the arithmetic average of two grab sample analyses. Grab samples shall be collected at the beginning and end of the laboratory work shift hours.										
<sup>6</sup> The discharge pH shall be in the range of 6.8 – 8.5 S.U. unless the ambient receiving water is outside of this range and is not altered by the facility's permitted discharge or activities under this permit. If the Permittee's discharge pH is lower than 6.8 S.U., the Permittee may demonstrate compliance by showing that the discharge pH is either higher than, or no more than 0.5 S.U. lower than the intake pH readings. If the Permittee's discharge is higher than 8.5 S.U., the Permittee may demonstrate compliance by showing that the discharge pH is either lower than, or no more than 0.5 S.U. of the intake pH reading.										
For this demonstration, the intake water must be sampled within 15 minutes from when the effluent pH sample was analyzed from the DSN 001-1 discharge. If the discharge satisfies the paragraph above, the Permittee shall report no data indicator ("NODI") code – "3" (special report attached) and submit the intake and discharge pH data used in the analysis as an attachment to the DMR. If the discharge does not satisfy this provision, then the Permittee is in violation of the effluent limit and shall report and respond to the noncompliance consistent with Section 9 of the permit. The Permittee shall keep a record of the dates of all intake and discharge events on site.										
<b>Remarks:</b>										
1. Abbreviations used for units are as follows: gpd means gallons per day; mg/L means milligrams per liter; SU means Standard Units; µg/L means micrograms per liter. Other abbreviations are as follows: NA means Not Applicable; NR means Not Reportable (unless sampling is conducted relative to Section 5.4 of this permit); RDS means Range During Sampling.										
2. If "---" is noted in the limits' column in the table, this means that a limit is not specified but a value must be reported on the DMR.										
3. pH shall be reported to 0.1 SU. All other values shall be reported to the level of precision/accuracy reported by the laboratory.										
4. "Continuous", used in this table as a "Sample" or "Sample Type", means monitoring that produces one or more data points in fifteen minutes or less.										
5. Total Nitrogen means the sum of the concentrations of: Ammonia Nitrogen + Organic Nitrogen + Nitrate Nitrogen + Nitrite Nitrogen.										
6. Refer to Section 8.4 of this permit.										

**Table B**

<b>Discharge Serial Number:</b> DSN 001-AT							<b>Monitoring Location Code:</b> Y – Acute toxicity effluent results O – Acute toxicity chemical analyses U – Salinity adjusted effluent chemical analyses				
<b>Wastewater Description:</b> Aquarium sea water, aquarium experiment brackish water, aquarium maintenance rinse sea water, sand filter backflush, flow through seawater and floor rinse water											
<b>Monitoring Location Description:</b> Inside the fiberglass drain immediately before the 15-inch P.V.C drain outside the laboratory							<b>Outfall Location:</b> Latitude (41° 18' 55") & Longitude (-72° 03' 46")				
<b>Discharge is to:</b> Long Island Sound EB Inner - Baker Cove, Groton							<b>Allocated Zone of Influence:</b> 2,970,000 gph <b>Instream Waste Concentration:</b> 1.0%				
PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			MINI-MUM LEVEL <sup>5</sup> (µg/L)	MONIT-ORING LOCATION
			Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency <sup>1,2</sup>	Sample Type or Measurement to be reported <sup>3,4</sup>	Instantaneous limit or required range	Sample/Reporting Frequency	Sample Type or measurement to be reported		
<b>Whole Effluent Toxicity (WET)</b>											
LC <sub>50</sub> Static 48 Hour Acute toxicity, <i>Americamysis bahia</i> <sup>6</sup>	TAA3E	%	NA	LC <sub>50</sub> ≥ 100%	Annually	Daily Composite	LC <sub>50</sub> ≥ 100%	NR	Grab		Y
LC <sub>50</sub> Static 48 Hour Acute toxicity, <i>Menidia beryllina</i> <sup>6</sup>	TAA6B	%	NA	LC <sub>50</sub> ≥ 100%	Annually	Daily Composite	LC <sub>50</sub> ≥ 100%	NR	Grab		Y
<b>Chemical Analyses Required with Acute Whole Effluent Toxicity Monitoring – See Section 7(A)(6) for Acute Testing<sup>7</sup></b>											
Date of Acute WET Chemistry Sample Collection <sup>8</sup>	51883	YYYYMMDD	NA	---	Annually	Calculated	NA	NR	NA		O, U
Alkalinity	00410	mg/L	NA	---	Annually	Daily Composite	NA	NR	NA		O, U
Chlorine, Total Residual	50060	µg/L	NA	---	Annually	Daily Composite	NA	NR	NA	20.0	O, U
Copper, Dissolved	01040	µg/L	NA	---	Annually	Daily Composite	NA	NR	NA	3.0	O, U
Copper, Total	01042	µg/L	NA	---	Annually	Daily Composite	NA	NR	NA	3.0	O, U
Dissolved Oxygen	00300	mg/L	NA	---	Annually	Daily Composite	NA	NR	NA		O, U
Hardness, Total	00900	mg/L	NA	---	Annually	Daily Composite	NA	NR	NA		O, U
Lead, Dissolved	01049	µg/L	---	---	Annually	Daily Composite	NA	NR	NA	1.0	O, U
Lead, Total	01051	µg/L	---	---	Annually	Daily Composite	NA	NR	NA	1.0	O, U
Nitrogen, Ammonia (total as N)	00610	mg/L	NA	---	Annually	Daily Composite	NA	NR	NA		O, U
Nitrogen, Kjeldahl (total as N)	00625	mg/L	NA	---	Annually	Daily Composite	NA	NR	NA		O, U
Nitrogen, Nitrate (total as N)	00620	mg/L	NA	---	Annually	Daily Composite	NA	NR	NA		O, U
Nitrogen, Nitrite (total as N)	00615	mg/L	NA	---	Annually	Daily Composite	NA	NR	NA		O, U

**Table B**

<b>Discharge Serial Number:</b> DSN 001-AT	<b>Monitoring Location Code:</b> <b>Y</b> – Acute toxicity effluent results <b>O</b> – Acute toxicity chemical analyses <b>U</b> – Salinity adjusted effluent chemical analyses
<b>Wastewater Description:</b> Aquarium sea water, aquarium experiment brackish water, aquarium maintenance rinse sea water, sand filter backflush, flow through seawater and floor rinse water	
<b>Monitoring Location Description:</b> Inside the fiberglass drain immediately before the 15-inch P.V.C drain outside the laboratory	<b>Outfall Location:</b> Latitude (41° 18' 55") & Longitude (-72° 03' 46")
<b>Discharge is to:</b> Long Island Sound EB Inner - Baker Cove, Groton	<b>Allocated Zone of Influence:</b> 2,970,000 gph <b>Instream Waste Concentration:</b> 1.0%

PARAMETER	NET DMR	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			MINI-MUM	MONIT-ORING
			NA	---	Annually	Daily Composite	NA	NR	NA		
Nitrogen, Total (as N) <sup>9</sup>	00600	mg/L	NA	---	Annually	Daily Composite	NA	NR	NA		O, U
pH	00400	SU	NA	---	Annually	Daily Composite	NA	NR	NA		O, U
Phosphorus	00665	mg/L	NA	---	Annually	Daily Composite	NA	NR	NA	100.0	O, U
Salinity	00480	ppT	NA	---	Annually	Daily Composite	NA	NR	NA		O, U
Specific Conductance	51409	uMhos	NA	---	Annually	Daily Composite	NA	NR	NA		O, U
Temperature	00011	Deg. F.	NA	---	Annually	Daily Composite	NA	NR	NA		O, U
Total Suspended Solids	00530	mg/L	NA	---	Annually	Daily Composite	NA	NR	NA		O, U
Zinc, Dissolved	01090	µg/L	NA	---	Annually	Daily Composite	NA	NR	NA	20.0	O, U
Zinc, Total	01092	µg/L	NA	---	Annually	Daily Composite	NA	NR	NA	20.0	O, U

**Table B**

<b>Discharge Serial Number:</b> DSN 001-AT	<b>Monitoring Location Code:</b> <b>Y</b> – Acute toxicity effluent results <b>O</b> – Acute toxicity chemical analyses <b>U</b> – Salinity adjusted effluent chemical analyses
<b>Wastewater Description:</b> Aquarium sea water, aquarium experiment brackish water, aquarium maintenance rinse sea water, sand filter backflush, flow through seawater and floor rinse water	
<b>Monitoring Location Description:</b> Inside the fiberglass drain immediately before the 15-inch P.V.C drain outside the laboratory	<b>Outfall Location:</b> Latitude (41° 18' 55") & Longitude (-72° 03' 46")
<b>Discharge is to:</b> Long Island Sound EB Inner - Baker Cove, Groton	<b>Allocated Zone of Influence:</b> 2,970,000 gph <b>Instream Waste Concentration:</b> 1.0%

PARAMETER	NET DMR	UNITS	FLOW/TIME BASED MONITORING	INSTANTANEOUS MONITORING	MINI-MUM	MONIT-ORING
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**TABLE FOOTNOTES AND REMARKS**

**Footnotes:**

- <sup>1</sup> WET limits are expressed as a minimum daily limit, meaning the minimum allowable daily discharge over the course of the 24-hour sampling period. Chemical results analyzed in conjunction with WET tests shall be reported as the max value collected during the 24-hour sampling period.
- <sup>2</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 monthly.
- <sup>3</sup> If more than one toxicity sample is collected during a single month, report subsequent WET and chemistry results as an attachment to the DMR in accordance with Section 8.2 of this permit.
- <sup>4</sup> Daily composite sample shall consist of a minimum of three aliquots of equal volume collected at the beginning, middle and end of the laboratory work shift hours. In addition, daily composite samples shall be collected for acute toxicity tests consistent with the methodology outlined in Section 7.1 of this permit.
- <sup>5</sup> "Minimum Level" refers to Section 6.3 of this permit.
- <sup>6</sup> Acute toxicity testing shall be conducted in accordance with Section 7.1 of this permit. The LC<sub>50</sub> (in % effluent) for the acute toxicity test shall be reported on the DMR. The Aquatic Toxicity Monitoring Report ("ATMR") shall be completed for each toxicity testing event and submitted in accordance with Section 8.2 of this permit.
- <sup>7</sup> Chemical analyses shall be conducted on samples used in the acute toxicity tests. These analyses shall be conducted on all samples used in the acute toxicity test and reported under Monitoring Location T. Results shall also be included on the ATMR and submitted in accordance with Section 8.2 of this permit.
- <sup>8</sup> The Permittee shall report the date of sample collection for the acute toxicity test and associated chemistry data in the format: year month day (YYYYMMDD).
- <sup>9</sup> Total Nitrogen means the sum of the concentrations of: Total Kjeldahl Nitrogen + Nitrate Nitrogen + Nitrite Nitrogen.

- Remarks:**
1. Abbreviations used for units are as follows: mg/L means milligrams per liter; mgd means millions of gallons per day; SU means Standard Units; µg/L means micrograms per liter. Other abbreviations are as follows: NA means Not Applicable; NR means Not Reportable (unless sampling is conducted relative to Section 5.4 of this permit); RDS means Range During Sampling; RDM means Range During Month.
  2. If "---" is noted in the limit's column in the table, this means that a limit is not specified but a value must be reported on the DMR.
  3. Analyses that indicate that a parameter was not detected or that was detected less than the noted ML shall be reported in accordance with Section 6.5.

**Table C**

<b>Discharge Serial Number:</b> DSN 002-1							<b>Monitoring Location:</b> 1 (External outfall)			
<b>Wastewater Description:</b> Aquarium sea water, aquarium experiment brackish water, aquarium maintenance rinse sea water, flow through seawater, floor rinse water and occasional incidental stormwater										
<b>Monitoring Location Description:</b> Effluent pipe discharging directly to the Long Island Sound							<b>Allocated Zone of Influence:</b> 225,225 gph			
<b>Discharge is to:</b> LIS EB Inner - Baker Cove, Groton			<b>Instream Waste Concentration:</b> 1.0%				<b>Outfall Location:</b> Latitude 41° 18' 55" & Longitude -72° 03' 46"			
PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			MINIMUM LEVEL <sup>2</sup> (µg/l)
			Average Monthly Limit	Maximum Daily Limit	Sample/ Reporting Frequency <sup>1,3</sup>	Sample Type or Measurement to be Reported <sup>4,5</sup>	Instantaneous Limit or Required Range	Sample/ Reporting Frequency <sup>1</sup>	Sample Type or Measurement to be Reported	
Ammonia as N, Total	00610	mg/l	---	---	Semiannually	Daily Composite	NA	NR	NA	
Copper, Total	01042	mg/L	---	---	Semiannually	Daily Composite	NA	NR	NA	3.0
Flow Rate, Average daily <sup>3</sup>	00056	Gpd	---	NA	Continuous	Daily Flow	NA	NR	NA	
Flow, Maximum during 24-hour period <sup>3</sup>	50047	Gpd	NA	54,600	Continuous	Daily Flow	NA	NR	NA	
Kjeldahl Nitrogen, Total (as N)	00625	mg/L	---	---	Semiannually	Daily Composite	NA	NR	NA	
Lead, Total	01051	mg/L	---	---	Semiannually	Semiannually	NA	NR	NA	1.0
Nitrate (as N)	00620	mg/L	---	---	Semiannually	Semiannually	NA	NR	NA	
Nitrite (as N)	00615	mg/L	---	---	Semiannually	Semiannually	NA	NR	NA	
Nitrogen, Total [See Remark 5]	00600	mg/L	---	---	Semiannually	Semiannually	NA	NR	NA	
pH, Minimum <sup>3,6</sup>	61942	S.U.	NA	NA	NR	NA	6.8	Continuous	Continuous	
pH, Maximum <sup>3,6</sup>	61941	S.U.	NA	NA	NR	NA	8.5	Continuous	Continuous	
Phosphorus, Total	00665	mg/L	---	---	Semiannually	Daily Composite	NA	NR	NA	100.0
Temperature	00011	°F	NA	NA	NR	NA	---	Continuous	Continuous	
Total Residual Chlorine	50060	mg/L	---	---	Semiannually	Grab Sample Average	NA	NR	NA	20.0
Total Suspended Solids	00530	mg/L	---	---	Semiannually	Daily Composite	NA	NR	NA	
Zinc, Total	01092	mg/L	---	---	Semiannually	Daily Composite	NA	NR	NA	20.0

**Table C**

<b>Discharge Serial Number:</b> DSN 002-1						<b>Monitoring Location:</b> 1 (External outfall)				
<b>Wastewater Description:</b> Aquarium sea water, aquarium experiment brackish water, aquarium maintenance rinse sea water, flow through seawater, floor rinse water and occasional incidental stormwater										
<b>Monitoring Location Description:</b> Effluent pipe discharging directly to the Long Island Sound						<b>Allocated Zone of Influence:</b> 225,225 gph				
<b>Discharge is to:</b> LIS EB Inner - Baker Cove, Groton			<b>Instream Waste Concentration:</b> 1.0%			<b>Outfall Location:</b> Latitude 41° 18' 55" & Longitude -72° 03' 46"				
PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			MINIMUM LEVEL <sup>2</sup> (µg/l)
			Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency <sup>1,3</sup>	Sample Type or Measurement to be Reported <sup>4,5</sup>	Instantaneous Limit or Required Range	Sample/Reporting Frequency <sup>1</sup>	Sample Type or Measurement to be Reported	

**TABLE FOOTNOTES AND REMARKS**

- Footnotes:**
- <sup>1</sup> The first entry in this column is the "Sample Frequency: If a "Reporting Frequency" does not follow this entry then the "Reporting Frequency" is monthly.
  - <sup>2</sup> Refer to Section 6.3 of this permit. The minimum levels ("MLs") identified in this table represent the highest acceptable MLs that shall be achieved by the Permittee's analytical methods. Actual MLs reported by the laboratory must be reported as a comment on the DMR. Detected concentrations less than the laboratory ML shall be reported on the DMR in accordance with Section 6.5.
  - <sup>3</sup> For this parameter, the Permittee shall maintain at the facility a record of the Total Daily Flow and pH range for each operating day. The Permittee shall report on its DMR the "Average Daily Flow", the "Maximum Daily Flow", the minimum pH and the maximum pH for each month and shall provide the record of the Total Daily Flow and pH range as an attachment to the DMR.
  - <sup>4</sup> Daily composite sample shall consist of a minimum of three aliquots of equal volume collected at the beginning, middle and end of the laboratory work shift hours.
  - <sup>5</sup> Grab sample average means the arithmetic average of two grab sample analyses. Grab samples shall be collected at the beginning and end of the laboratory work shift hours.
  - <sup>6</sup> The discharge pH shall be in the range of 6.8 – 8.5 S.U. unless the ambient receiving water is outside of this range and is not altered by the facility's permitted discharge or activities under this permit. If the Permittee's discharge pH is lower than 6.8 S.U., the Permittee may demonstrate compliance by showing that the discharge pH is either higher than, or no more than 0.5 S.U. lower than the intake pH readings. If the Permittee's discharge is higher than 8.5 S.U., the Permittee may demonstrate compliance by showing that the discharge pH is either lower than, or no more than 0.5 S.U. of the intake pH reading.

For this demonstration, the intake water must be sampled within 15 minutes from when the effluent pH sample was analyzed from the DSN 002-1 discharge. If the discharge satisfies the paragraph above, the Permittee shall report no data indicator ("NODI") code – "3" (special report attached) and submit the intake and discharge pH data used in the analysis as an attachment to the DMR. If the discharge does not satisfy this provision, then the Permittee is in violation of the effluent limit and shall report and respond to the noncompliance consistent with Section 9 of the permit. The Permittee shall keep a record of the dates of all intake and discharge events on site.

- Remarks:**
1. Abbreviations used for units are as follows: gpd means gallons per day; mg/L means milligrams per liter; SU means Standard Units; µg/L means micrograms per liter. Other abbreviations are as follows: NA means Not Applicable; NR means Not Reportable (unless sampling is conducted relative to Section 5.4 of this permit); RDS means Range During Sampling.
  2. If "---" is noted in the limits' column in the table, this means that a limit is not specified but a value must be reported on the DMR.
  3. pH shall be reported to 0.1 SU. All other values shall be reported to the level of precision/accuracy reported by the laboratory.
  4. "Continuous", used in this table as a "Sample" or "Sample Type", means monitoring that produces one or more data points in fifteen minutes or less.
  5. Total Nitrogen means the sum of the concentrations of: Ammonia Nitrogen + Organic Nitrogen + Nitrate Nitrogen + Nitrite Nitrogen.
  6. "#/100 mL" as a monitoring table abbreviation means "number per 100 milliliters."
  7. Refer to Section 8.4 of this permit.

**Table D**

<b>Discharge Serial Number:</b> DSN 002-AT							<b>Monitoring Location Code:</b> <b>Y</b> – Acute toxicity effluent results <b>O</b> – Acute toxicity chemical analyses <b>U</b> – Salinity adjusted effluent chemical analyses				
<b>Wastewater Description:</b> Aquarium sea water, aquarium experiment brackish water, aquarium maintenance rinse sea water, flow through seawater, floor rinse water and occasional incidental stormwater											
<b>Monitoring Location Description:</b> Effluent pipe discharging directly to the Long Island Sound							<b>Outfall Location:</b> Latitude (41° 18' 55") & Longitude (-72° 03' 46")				
<b>Discharge is to:</b> Long Island Sound EB Inner - Baker Cove, Groton											
PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			MINI-MUM LEVEL <sup>5</sup> (µg/L)	MONITORING LOCATION
			Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency <sup>1,2</sup>	Sample Type or Measurement to be reported <sup>3,4</sup>	Instantaneous limit or required range	Sample/Reporting Frequency	Sample Type or measurement to be reported		
<b>Whole Effluent Toxicity (WET)</b>											
LC <sub>50</sub> Static 48 Hour Acute toxicity, <i>Americamysis bahia</i> <sup>6</sup>	TAA3E	%	NA	LC <sub>50</sub> ≥ 100%	Annually	Daily Composite	LC <sub>50</sub> ≥ 100%	NR	Grab		Y
LC <sub>50</sub> Static 48 Hour Acute toxicity, <i>Menidia beryllina</i> <sup>6</sup>	TAA6B	%	NA	LC <sub>50</sub> ≥ 100%	Annually	Daily Composite	LC <sub>50</sub> ≥ 100%	NR	Grab		Y
<b>Chemical Analyses Required with Acute Whole Effluent Toxicity Monitoring – See Section 7(A)(6) for Acute Testing<sup>7</sup></b>											
Date of Acute WET Chemistry Sample Collection <sup>8</sup>	51883	YYYYMMDD	NA	---	Annually	Calculated	NA	NR	NA		O, U
Alkalinity	00410	mg/L	NA	---	Annually	Daily Composite	NA	NR	NA		O, U
Chlorine, Total Residual	50060	µg/L	NA	---	Annually	Daily Composite	NA	NR	NA	20.0	O, U
Copper, Dissolved	01040	µg/L	NA	---	Annually	Daily Composite	NA	NR	NA	3.0	O, U
Copper, Total	01042	µg/L	NA	---	Annually	Daily Composite	NA	NR	NA	3.0	O, U
Dissolved Oxygen	00300	mg/L	NA	---	Annually	Daily Composite	NA	NR	NA		O, U
Hardness, Total	00900	mg/L	NA	---	Annually	Daily Composite	NA	NR	NA		O, U
Lead, Dissolved	01049	µg/L	---	---	Annually	Daily Composite	NA	NR	NA	1.0	O, U
Lead, Total	01051	µg/L	---	---	Annually	Daily Composite	NA	NR	NA	1.0	O, U
Nitrogen, Ammonia (total as N)	00610	mg/L	NA	---	Annually	Daily Composite	NA	NR	NA		O, U
Nitrogen, Kjeldahl (total as N)	00625	mg/L	NA	---	Annually	Daily Composite	NA	NR	NA		O, U
Nitrogen, Nitrate (total as N)	00620	mg/L	NA	---	Annually	Daily Composite	NA	NR	NA		O, U
Nitrogen, Nitrite (total as N)	00615	mg/L	NA	---	Annually	Daily Composite	NA	NR	NA		O, U

Nitrogen, Total (as N) <sup>9</sup>	00600	mg/L	NA	---	Annually	Daily Composite	NA	NR	NA		O, U
pH	00400	SU	NA	---	Annually	Daily Composite	NA	NR	NA		O, U
Phosphorus	00665	mg/L	NA	---	Annually	Daily Composite	NA	NR	NA	100.0	O, U
Salinity	00480	ppT	NA	---	Annually	Daily Composite	NA	NR	NA		O, U
Specific Conductance	51409	uMhos	NA	---	Annually	Daily Composite	NA	NR	NA		O, U
Temperature	00011	Deg. F.	NA	---	Annually	Daily Composite	NA	NR	NA		O, U
Total Suspended Solids	00530	mg/L	NA	---	Annually	Daily Composite	NA	NR	NA		O, U
Zinc, Dissolved	01090	µg/L	NA	---	Annually	Daily Composite	NA	NR	NA	20.0	O, U
Zinc, Total	01092	µg/L	NA	---	Annually	Daily Composite	NA	NR	NA	20.0	O, U

**TABLE FOOTNOTES AND REMARKS**

**Footnotes:**

<sup>1</sup> WET limits are expressed as a minimum daily limit, meaning the minimum allowable daily discharge over the course of the 24-hour sampling period. Chemical results analyzed in conjunction with WET tests shall be reported as the max value collected during the 24-hour sampling period.

<sup>2</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 monthly.

<sup>3</sup> If more than one toxicity sample is collected during a single month, report subsequent WET and chemistry results as an attachment to the DMR in accordance with Section 8.2 of this permit.

<sup>4</sup> Daily composite sample shall consist of a minimum of three aliquots of equal volume collected at the beginning, middle and end of the laboratory work shift hours. In addition, daily composite samples shall be collected for acute toxicity tests consistent with the methodology outlined in Section 7.1 of this permit.

<sup>5</sup> "Minimum Level" refers to Section 6.3 of this permit.

<sup>6</sup> Acute toxicity testing shall be conducted in accordance with Section 7.1 of this permit. The LC<sub>50</sub> (in % effluent) for the acute toxicity test shall be reported on the DMR. The Aquatic Toxicity Monitoring Report ("ATMR") shall be completed for each toxicity testing event and submitted in accordance with Section 8.2 of this permit.

<sup>7</sup> Chemical analyses shall be conducted on samples used in the acute toxicity tests. These analyses shall be conducted on all samples used in the acute toxicity test and reported under Monitoring Location T. Results shall also be included on the ATMR and submitted in accordance with Section 8.2 of this permit.

<sup>8</sup> The Permittee shall report the date of sample collection for the acute toxicity test and associated chemistry data in the format: year month day (YYYYMMDD).

<sup>9</sup> Total Nitrogen means the sum of the concentrations of: Total Kjeldahl Nitrogen + Nitrate Nitrogen + Nitrite Nitrogen.

**Remarks:**

- Abbreviations used for units are as follows: mg/L means milligrams per liter; mgd means millions of gallons per day; SU means Standard Units; µg/L means micrograms per liter. Other abbreviations are as follows: NA means Not Applicable; NR means Not Reportable (unless sampling is conducted relative to Section 5.4 of this permit); RDS means Range During Sampling; RDM means Range During Month.
- If "---" is noted in the limit's column in the table, this means that a limit is not specified but a value must be reported on the DMR.
- Analyses that indicate that a parameter was not detected or that was detected less than the noted ML shall be reported in accordance with Section 6.5.

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

- 6.1 All samples shall be collected, handled, and analyzed in accordance with the methods approved under 40 CFR 136, unless another method is required under 40 CFR subchapter N or unless an alternative method has been approved in writing pursuant to 40 CFR 136.5. To determine compliance with limits and conditions established in this permit, monitoring must be performed using sufficiently-sensitive methods approved pursuant to 40 CFR 136 for the analysis of pollutants having approved methods under that part, unless a method is required under 40 CFR subchapter N or unless an alternative method has been approved in writing pursuant to 40 CFR 136.5.
- 6.2 All metals analyses identified in this permit shall refer to analyses for Total Recoverable Metal as defined in 40 CFR 136, unless otherwise specified.
- 6.3 The term Minimum Level (“ML”) refers to either the sample concentration equivalent to the lowest calibration point in a method or a multiple of the method detection limit (“MDL”). MLs may be obtained in several ways: They may be published in a method; they may be sample concentrations equivalent to the lowest acceptable calibration point used by the laboratory; or they may be calculated by multiplying the MDL in a method, or the MDL determined by a lab, by a factor of 3. The MLs specified in Section 5 Tables A - D represent the minimum concentrations at which quantification must be achieved and verified during the chemical analyses for the parameters identified in Section 5 Tables A - D. Analyses for these parameters must include check standards within ten percent of the specified ML or calibration points equal to or less than the specified ML.
- 6.4 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.
- 6.5 Analyses for which quantification was verified to be below a ML, including non-detect, shall be reported as zero on the DMR for purposes of determining compliance with effluent limitations or conditions specified in this permit. The Permittee shall attach documentation demonstrating the ML of the analysis as an attachment to the DMR and identify the ML as a comment on the DMR.
- 6.6 It is a violation of this permit for a Permittee or his/her designated agent, to manipulate test samples in any manner, to delay sample shipment, or to terminate or cause to terminate a toxicity test. Once initiated, all toxicity tests must be completed.
- 6.7 Analyses required under this permit shall be performed in accordance with Conn. Gen. Stat. Section 19a-29a. An “environmental laboratory”, as that term is defined in the referenced section, that is performing analyses required by this permit, shall be registered and have certification acceptable to the Commissioner, as such registration and certification is necessary.

## SECTION 7: AQUATIC TOXICITY TESTING

- 7.1 **ACUTE TESTING REQUIREMENTS.** The Permittee shall conduct acute aquatic toxicity testing for DSN 001-1 and DSN 002-1 as follows:
- 7.1.1 **TEST METHOD:** Acute aquatic toxicity shall be performed as prescribed in the reference document *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (EPA-821-R-02-012), or the most current version, with any exceptions or clarifications noted below.
- 7.1.2 **SAMPLE COLLECTION AND HANDLING:**

- 7.1.2.1 Composite samples shall be chilled as they are collected. Grab samples shall be chilled immediately following collection. Samples shall be held at 0-6 °C until aquatic toxicity testing is initiated.
- 7.1.2.2 Effluent samples shall not be dechlorinated, filtered, or modified in any way prior to testing for acute aquatic toxicity unless specifically approved in writing by the Commissioner for monitoring at this facility.
- 7.1.2.3 Tests for acute aquatic toxicity shall be initiated within 36 hours of sample collection.
- 7.1.3 **TEST SPECIES AND TEST DURATION:** Monitoring for aquatic toxicity to determine compliance with the acute toxicity limits in this permit shall be conducted as follows:
- 7.1.3.1 For 48-hours utilizing neonatal *Americamysis bahia* (1-5 days old with no more than 24-hours range in age).
- 7.1.3.2 For 48-hours utilizing larval *Menidia beryllina* (9-14 days old with no more than 24-hours range in age).
- 7.1.4 **ACUTE ENDPOINT:** Survival at 48-hours measured by LC<sub>50</sub>.
- 7.1.5 **TEST CONDITIONS:**
- 7.1.5.1 Tests for acute aquatic toxicity shall be conducted as prescribed for static non-renewal tests.
- 7.1.5.2 Definitive (multi-concentration) testing, with LC50 as the endpoint, shall be conducted to determine compliance with limits on acute aquatic toxicity and monitoring conditions and shall incorporate, at a minimum, the following effluent concentrations: 100%, 75%, 50%, 25%, 12.5% and 6.25%.
- 7.1.5.3 Aquatic toxicity tests with saltwater organisms shall be conducted at a salinity of 28 parts per thousand ( $\pm 2$  parts per thousand).
- 7.1.5.3.1 Synthetic seawater for use as dilution water or controls shall be prepared with deionized water and artificial sea salts as described in EPA/821-R-02-012.
- 7.1.5.3.2 If the salinity of the source water is more than 5 parts per thousand higher, or lower than the culture water used for rearing the organisms, a second set of controls matching the salinity of the culture water shall be added to the test series. Test validity shall be determined using the controls adjusted to match the source water salinity.
- 7.1.5.3.3 Salinity adjustment that may be required in tests with saltwater organisms shall utilize the minimum amount of synthetic hypersaline brine (not to exceed 100 parts per thousand) or dilute (2 parts per thousand) synthetic seawater necessary to achieve the required salinity.
- 7.1.5.3.4 The actual effluent concentrations in definitive tests with saltwater organisms shall be used in calculating test results.
- 7.1.5.4 All effluent concentrations and the control(s) used in the test shall have the same salinity. If the effluent requires salinity adjustment to a standard salinity, this shall be accomplished by adding a minimum amount of commercial sea salts as described in EPA-821-R-02-012.
- 7.1.5.5 Organisms shall not be fed during the tests.

- 7.1.5.6 Sodium lauryl sulfate or sodium dodecyl sulfate shall be used as the reference toxicant.
- 7.1.5.7 Dissolved oxygen, pH, and temperature shall be measured in the control and in all test concentrations at the beginning of the test, daily thereafter, and at test termination.
- 7.1.5.8 Specific conductance, pH, salinity, alkalinity, hardness, and total residual chlorine shall be measured in the undiluted effluent sample and in the dilution (control) water at the beginning of the test and at test termination. If total residual chlorine is not detected at test initiation, it does not need to be measured at test termination.
- 7.1.6 **CHEMICAL ANALYSIS:** All effluent samples used in the acute toxicity test, including salinity adjusted effluent samples, if salinity adjustment is required, shall at a minimum, be analyzed and results reported in accordance with the provisions listed in Section 5 Tables B and D and Section 6.1 for the parameters identified on Section 5 Tables B and D of the permit.
- 7.1.7 **TEST ACCEPTABILITY CRITERIA:** For the test results to be acceptable, survival control must equal or exceed 90%. If the laboratory control fails to meet test acceptability criteria for either of the test organisms at the end of the respective test period, then the test is considered invalid and the test must be repeated with a newly collected sample in accordance with Section 9.4.
- 7.1.8 **TEST COMPLIANCE:** Compliance with limits on Acute Toxicity shall be determined as follows:
  - 7.1.8.1 For limits expressed as a minimum LC50 value, compliance shall be demonstrated when the results of a valid definitive acute aquatic toxicity test indicates that the LC50 value for the test is greater than the acute toxicity limit.
- 7.1.9 **REPORTING:** Results of acute toxicity monitoring shall be documented on an ATMR and reported to the Commissioner by the last day of the month following the month in which samples are collected in accordance with Section 8.2 of this permit. The report shall include the items identified in Section 8.2 of this permit. Endpoints to be reported are: 48-hour LC50 and NOAEL.

## SECTION 8: REPORTING REQUIREMENTS

- 8.1 The results of chemical analyses and any aquatic toxicity test required by this permit shall be submitted electronically using NetDMR. Monitoring results shall be reported at the monitoring frequency specified in this permit. Any monitoring required more frequently than monthly shall be reported on an attachment to the DMR, and any additional monitoring conducted in accordance with 40 CFR 136, or another method required for an industry-specific waste stream under 40 CFR subchapter N, or other methods approved by the Commissioner, shall also be included on the DMR, or as an attachment, if necessary, and the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Commissioner in the permit. All aquatic toxicity reports shall also be included as an attachment to the DMR. A report shall also be included with the DMR which includes a detailed explanation of any violations of the limitations specified. DMRs, attachments, and reports, shall continue to be submitted electronically in accordance with Section 8.4 below. However, if the DMRs, attachments, and reports are required to be submitted in hard copy form, they 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 Energy and Environmental Protection  
79 Elm Street  
Hartford, CT 06106-5127

8.2 The ATMR associated with aquatic toxicity monitoring shall include all applicable items identified in Section 12 of EPA-821-R-02-012 and in Section 10 of EPA-821-R-02-014 (Saltwater), including complete and accurate aquatic toxicity test data, including percent survival of test organisms in each replicate test chamber, LC<sub>50</sub> 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. The ATMR shall be submitted electronically as an attachment to the DMR and via email to: [DEEP.IndustrialWETReports@ct.gov](mailto:DEEP.IndustrialWETReports@ct.gov). The ATMR required by Sections 5 and 7 shall be received at this address by the last day of the month following the month in which the samples are collected.

8.3 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 has occurred using NODI code "C", 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.

#### 8.4 NetDMR Reporting Requirements:

The Permittee shall report electronically using NetDMR, a web-based tool that allows permittees to electronically submit DMRs and other required reports through a secure internet connection. The Permittee and/or the signatory authority shall electronically submit DMRs required under this permit to the Commissioner using NetDMR in satisfaction of the DMR submission requirements of Sections 5, 6, and 9 of this permit. All sampling and monitoring records required under the permit, including any monitoring conducted more frequently than monthly or any additional monitoring conducted in accordance with 40 CFR 136, shall be submitted to the Commissioner as an electronic attachment to the DMR in NetDMR. The Permittee shall also electronically file any written report of noncompliance described in Section 9 of this permit as an attachment in NetDMR. DMRs shall be submitted electronically to the Commissioner no later than the last day of the month following the completed reporting period. NetDMR is accessed from: <http://www.epa.gov/netdmr>.

## **SECTION 9: RECORDING AND REPORTING OF VIOLATIONS, ADDITIONAL TESTING REQUIREMENTS**

### 9.1 *Noncompliance Notifications:*

9.1.1 In accordance with Section 22a-430-3(j)(8), 22a-430-3(j)(11)(D), 22a-430-3(k)(4), and 22a-430-3(i)(3) of the Reg. SCA, the Permittee shall notify the Commissioner of the following actual or anticipated noncompliance with the terms or conditions of this permit within two hours of becoming aware of the circumstances. All other actual or anticipated violations of the permit shall be reported to the Commissioner within 24 hours of becoming aware of the circumstances:

9.1.1.1 A noncompliance that is greater than two times an effluent limitation;

9.1.1.2 A noncompliance of any minimum or maximum daily limitation or excursion beyond a minimum or maximum daily range;

9.1.1.3 Any condition that may endanger human health or the environment, including but not limited to noncompliance with whole effluent toxicity WET limitations;

9.1.1.4 Any condition that may endanger the operation of a POTW, including sludge handling and disposal;

- 9.1.1.5 A failure or malfunction of monitoring equipment used to comply with the monitoring requirements of this permit;
- 9.1.1.6 Any actual or potential bypass of the Permittee's collection system or treatment facilities; or
- 9.1.1.7 Expansions or significant alterations of any wastewater collection, treatment facility, or its method of operation for the purpose of correcting or avoiding a permit violation.
- 9.1.2 Notifications shall be submitted via the Commissioner's online Noncompliance Notification Form: <https://portal.ct.gov/deep/water-regulating-and-discharges/industrial-wastewater/compliance-assistance/notification-requirements>.
- 9.1.3 Within five days of any notification of noncompliance in accordance with Sections 9.1.1.1 through 9.1.1.7 of this permit, the Permittee shall submit a follow-up report using the Commissioner's online Noncompliance Follow-up Report Form: <https://portal.ct.gov/deep/water-regulating-and-discharges/industrial-wastewater/compliance-assistance/notification-requirements>.
- The follow-up report shall contain, at a minimum, the following information: (i) A description of the noncompliance and its cause; (ii) the period of noncompliance, including exact dates and times; (iii) if the noncompliance has not been corrected, the anticipated time it is expected to continue; and (iv) steps taken or planned to correct the noncompliance and reduce, eliminate and prevent recurrence of the noncompliance.
- 9.1.4 Within 30 days of any notification of facility modifications reported in accordance with Section 9.1.1.7 of this permit, the Permittee shall submit a written follow-up report by submitting a "Facility and Wastewater Treatment System Modification Request for Determination" for the review and approval of the Commissioner. The report shall fully describe the changes made to the facility and reasons therefor.
- 9.1.5 Notification of an actual or anticipated noncompliance or facility modification does not stay any term or condition of this permit.
- 9.2 In accordance with Section 22a-430-3(j)(11)(E) of the Regs. Conn. State Agencies, the Permittee shall notify the Commissioner within 72 hours and in writing within 30 days when he or she knows or has reason to believe that the concentration in the discharge of any substance listed in the application, or any toxic substance as listed in Appendix B or D of Regs. Conn. State Agencies Section 22a-430-4, has exceeded or will exceed the highest of the following levels: (1) One hundred micrograms per liter; (2) Two hundred micrograms per liter for acrolein and acrylonitrile, five hundred micrograms per liter for 2,4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter for antimony; (3) An alternative level specified by the Commissioner, provided such level shall not exceed the level which can be achieved by the Permittee's treatment system; or (4) A level two times the level specified in the Permittee's application.
- 72 hour initial notifications shall be submitted via the Commissioner's online Noncompliance Notification Form. 30 day follow-up reports shall be submitted via the Commissioner's online Noncompliance Follow-up Report Form. The Forms are available at the Commissioner's website, here: <https://portal.ct.gov/deep/water-regulating-and-discharges/industrial-wastewater/compliance-assistance/notification-requirements>.
- 9.3 In addition to any other written reporting requirements, the Permittee shall report any instances of noncompliance with this permit with its DMR. Such reporting shall be due no later than the last day of the month following the reporting period in which the noncompliant event occurred. The information provided in the DMR shall include, at a minimum: the type of violation, the duration of the violation, the cause of the violation, and any corrective action(s) or preventative measure(s) taken to address the violation.

- 9.4 If any sample analysis indicates that an aquatic toxicity effluent limitation in Section 5 of this permit has been exceeded, 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 Sections 5 and 7. The exceedance or invalid test shall be reported to Commissioner in accordance with Section 9.1. The results shall be submitted to the Commissioner within 30 days of the exceedance or invalid test. The results and the associated ATMR shall be reported in accordance with Sections 5 and 8.2 of the permit. Results of all tests, whether valid or invalid, shall be reported. If more than one toxicity sample is collected during a single month, report subsequent WET and chemistry results as an attachment to the month's DMR.
- 9.5 If any two consecutive test results or any three test results in a twelve-month period indicate that an aquatic toxicity limit has been exceeded, the Permittee shall immediately take all reasonable steps to eliminate toxicity wherever possible and shall also submit a report, for the review and written approval of the Commissioner, which describes in detail the steps taken or that shall be taken to eliminate the toxic impacts of the discharge on the receiving water and it shall also include a proposed schedule for implementation. Such report shall be submitted in accordance with the timeframe set forth in Section 22a-430-3(j)(10)(C) of the Regs. Conn. State Agencies. The Permittee shall implement all actions in accordance with the approved report and schedule.

#### **SECTION 10: SPECIAL CONDITION**

- 10.1 This Permit prohibits the use of cleaners or detergents for floor washing. If cleaners or detergents are used, the wastewater should be contained, mopped, vacuumed and then discharged to the sanitary sewer.

This permit is hereby issued on

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JENNIFER PERRY, P.E.  
Bureau Chief

JP/OF