

## NPDES PERMIT MODIFICATION

issued to

Allnex USA Inc.  
South Cherry Street  
Wallingford, Connecticut 06492

**Facility ID:** 148-017

**Receiving Water:** Quinnipiac River  
Unnamed tributary to Quinnipiac River

**Water Body Segment ID:** Quinnipiac River basin segment CT5200-00\_02

**Location Address:**

528 South Cherry Street  
Wallingford, Connecticut 06492

**Permit ID:** CT0000086

**Permit Modification Expires:** May 16, 2016

### SECTION 1: GENERAL PROVISIONS

- (A) This permit modification is issued in accordance with Section 22a-430(e) 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 NPDES permit program.
- (B) **ALLNEX USA INC.** (“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 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
- (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 Energy and 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) Evonik Cyro LLC (“Cyro”), a thermoplastic resin manufacturer, also operates at the site. Cyro discharges its wastewaters into the Permittee’s wastewater collection/treatment system. This permit shall authorize the discharge of Cyro’s wastestreams, as identified in the Tables in Section 5 of this permit. The Permittee shall take full and complete responsibility for Cyro’s discharges.

## 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.
- (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.

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

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

“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.

“Chronic–No Observed Effect Concentration” (“C-NOEC”) means the highest concentration of effluent to which organisms are exposed in a life cycle or a partial life cycle test which causes no adverse effect on growth, survival, or reproduction at a specified time of observation as determined from hypothesis testing where the results exhibit a linear dose-response relationship.

“Critical Test Concentration” (“CTC”) means the specified effluent dilution at which the Permittee is to conduct a single-concentration Aquatic Toxicity test.

“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.

“IC” means “Inhibition Concentration”.

“IC<sub>25</sub>” means a point estimate of the toxicant concentration that would cause a 25% 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.

“LC” means “Lethal Concentration”

“LC<sub>50</sub>” means the concentration of effluent which causes mortality to 50% of the test organisms. Therefore, a 100% limit means that a sample of 100% effluent (no dilution) shall cause no more than a 50% mortality rate.

“Lowest Observed Effect Concentration” (“LOEC”) means the lowest concentration of an effluent or toxicant that results in adverse effects on the test organisms.

“In-stream Waste Concentration” (“IWC”) means the discharge flow divided by the sum of the discharge flow plus the 7Q10 flow allocation.

“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.

“No Observed Effect Concentration” (“NOEC”) means the highest tested concentration of an effluent or toxicant at which no adverse effects are observed on the aquatic test organisms at a specific time of observation.

“Quarterly” in the context of a sampling frequency means sampling is required in the months of February, May, August, and November.

“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 a continuous monitoring device during the “Composite” or “Grab Sample Average” sample collection.

“Semi-Annual” in the context of a sampling frequency, means sampling is required in the months of May and August.

“Twice per Month” when used as a sample frequency shall mean two samples per calendar month collected no less than 12 days apart.

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

- (A) On May 17, 2011, the Commissioner issued a final determination on Application 200203786 and found that: 1) with respect to DSN 001-1, continuance of the existing system to treat the discharge will protect the waters of the state from pollution; and 2) with respect to DSN 002-1 such discharge will not cause pollution of the waters of the state. The Commissioner’s decision was based Application 200203786 for permit reissuance received on October 2, 2002 and the administrative record established in the processing of that application. The Commissioner authorized the Permittee to discharge in accordance with the provisions of the permit, the 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.
- (B) On September 10, 2015, the Commissioner issued a final determination on Application 201504233 and found that: 1) with respect to DSN 001-1, continuance of the existing system to treat the discharge will protect the waters of the state from pollution. The Commissioner’s decision was based on Application 201504233 for permit modification received on June 10, 2015 and the administrative record established in the processing of that application. The Commissioner authorized the Permittee to discharge in accordance with the provisions of the permit, the 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) In addition, the Commissioner has issued a final determination on Application 201508289 and found that with respect to DSN 001-1, continuance of the existing system to treat the discharge will protect the waters of the state from pollution and with respect to DSN 002-1, such discharge will not cause pollution of the waters of the state. The Commissioner’s decision is based on Application 201508289 for permit modification received on November 4, 2015 and the administrative record established in the processing of that application.
- (D) The Commissioner hereby authorizes the Permittee to discharge in accordance with the provisions of this permit, the above referenced applications, 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.
- (E) 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.

- (F) This permit modification takes effect on the first day of the month following the issuance date identified on the signature page of this permit.

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

- (A) No discharge shall contain, or cause in the receiving water, a visible oil sheen or floating solids or cause visible discoloration or foaming in the receiving water.
- (B) No discharge shall cause acute or chronic toxicity in the receiving water beyond any zone of influence specifically allocated to that discharge in this permit.
- (C) The temperature of any discharge shall not increase the temperature in the receiving water above 85 °F, or in any case, raise the normal temperature of the receiving water more than 4 °F.

#### **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 in the following tables. The discharges are restricted by, and shall be monitored in accordance with the following tables.
- (B) 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. All samples collected shall be representative of the discharge during standard operating conditions.
- (C) 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 (“Department”) personnel, the Permittee, or other parties.

**Table A**

Discharge Serial Number: **001-1**

Monitoring Location: **1 (EXTERNAL OUTFALL)**

**Wastewater Description:** **Building 2** (Boiler blowdown, emergency de-aerator overflow, washwater, water treatment wastewater, laboratory/maintenance wastewater, air compressor condensate/blowdown, eyewash/safety shower test water, air conditioner condensate); **Building 4** (Cooling tower blowdown, air conditioner condensate); **Building 5** (Air conditioner condensate); **Building 5B** (Washwater, produced water, decant water, scrubber water, distillation wastewater, steam condensate, seal water, steam jet condensate, steam jet ejector intercooler water, non-contact cooling water, kettle/equipment cleaning wastewater, laboratory wastewater, maintenance wastewater, water treatment wastewater, eyewash and safety shower test water, air conditioner condensate, foam suppression test water); **Buildings 6/6B/6C:** (Washwater, produced water, decant water, scrubber water, distillation wastewater, steam condensate, seal water, steam jet condensate, steam jet ejector intercooler water, non-contact cooling water, kettle/equipment cleaning wastewater, laboratory wastewater, maintenance wastewater, eyewash and safety shower test water; air conditioner condensate, foam suppression test water); **Building 10** (Equipment cleaning/maintenance-related wastewater, non-contact cooling water, sluice water, produced water, decant water, filtrate, non-contact cooling water, patty box wastewater, steam condensate, activated carbon regeneration wastewater, seal water, water treatment wastewater, washwater, laboratory wastewater, foam suppression test water, contaminated stormwater); **Building 10A** (Sluice water, decant water, laboratory wastewater, air compressor condensate, air conditioner condensate); **Building 15** (Maintenance-related wastewater, vehicle/equipment washwater); **Building 16** (Hydrostatic pressure test water, laboratory wastewater); **Building 27** (Maintenance-related wastewater, eyewash/safety shower test water); **Building 30** (Cooling tower blowdown/maintenance, cooling tower overflow, water treatment wastewater, washwater, maintenance, laboratory wastewater, eye wash/safety shower test water); **Building 31/31A:** (Air compressor condensate); **Building 34** (Eye wash/safety shower test water); **Building 35** (Laboratory wastewater, filtrate, washwater, pump seal water, stormwater); **Building 36** (Pump seal water, washwater); **Building 37** (Washwater); **Building 38** (Maintenance-related wastewater); **Building 40** (Cooling tower blowdown/maintenance, cooling tower maintenance overflow, water treatment wastewater, washwater, laboratory wastewater, eye wash/safety shower test water); **Building 45** (Cooling tower blowdown/maintenance, cooling tower maintenance overflow, water treatment wastewater, washwater, laboratory wastewater, eye wash/safety shower test water); **Fire Training Pad** (Washwater); **Scrubber water associated with tank storage areas at Building 5B and Building 6: Fire suppression test water** (from testing fire hydrants, sprinkler systems, and inspection valves); **Contaminated groundwater** (Treated groundwater from Area 1: Acrylonitrile spill area at Building 10; Groundwater from Area 2: Fuel Oil Spill Area at Building 2; Groundwater from Area 3: Methylformcel spill area near Pad 13; Groundwater from Area 4: Tank Farm release area at Building 5); **Landfill leachate; Stormwater; Domestic sewage**

Monitoring Location Description: **Final effluent chamber**

Discharge is to: **Quinnipiac River**

Dilution Factor: **3.8:1** (for 1,2-trans-Dichloroethylene, 1,2-Dichloropropane, Tetrachloroethylene, Chromium, Copper, Cyanide, Lead, Nickel, Zinc, Aluminum, Formaldehyde, Total Residual Chlorine, Silver)

In-stream Waste Concentration: **26%**

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level <sup>3</sup>	Chemical Analysis required with Toxicity Test
			Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency <sup>2</sup>	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample/Reporting Frequency	Sample Type or measurement to be reported		
Acute Aquatic Toxicity <sup>5</sup> <i>Daphnia pulex</i>	TAA3D	%	NA	LC <sub>50</sub> ≥ 100	Quarterly	Daily Composite	LC <sub>50</sub> ≥ 33	NR	Grab		
Acute Aquatic Toxicity <sup>5</sup> <i>Pimephales promelas</i>	TAA6C	%	NA	LC <sub>50</sub> ≥ 100	Quarterly	Daily Composite	LC <sub>50</sub> ≥ 33	NR	Grab		
Chronic Aquatic Toxicity <sup>6</sup> (Survival) <i>Pimephales promelas</i>	TOP6C	%	NA	C-NOEC ≥ 26	Quarterly	Daily Composite	NA	NR	NA		
Chronic Aquatic Toxicity <sup>6</sup> (Growth) <i>Pimephales promelas</i>	TPP6C	%	NA	C-NOEC ≥ 26	Quarterly	Daily Composite	NA	NR	NA		
Chronic Aquatic Toxicity <sup>6</sup> (Survival) <i>Ceriodaphnia dubia</i>	TOP6C	%	NA	C-NOEC ≥ 26	Quarterly	Daily Composite	NA	NR	NA		
Chronic Aquatic Toxicity <sup>6</sup> (Reproduction) <i>Ceriodaphnia dubia</i>	TPP3B	%	NA	C-NOEC ≥ 26	Quarterly	Daily Composite	NA	NR	NA		
Acenaphthene	34205	µg/L	6.1	8.9	Annually	Daily Composite	13.3	NR	Grab	5	
Acenaphthene	34205	g/day	53	77	Annually	Daily Composite	NA	NR	NA		
Acenaphthylene	34200	µg/L	9 <sup>4</sup>	24	Annually	Daily Composite	36	NR	Grab	10	
Acenaphthylene	34200	g/day	79	211	Annually	Daily Composite	NA	NR	NA		
Acrylonitrile	34215	µg/L	0.25 <sup>4</sup>	0.36 <sup>4</sup>	Monthly	Grab Sample Average	0.55	NR	Grab	1	✓
Acrylonitrile	34215	g/day	2.2	3.2	Monthly	Grab Sample Average	NA	NR	NA		
Anthracene	34220	µg/L	4.92 <sup>4</sup>	7.18	Annually	Daily Composite	10.77	NR	Grab	5	
Anthracene	34220	g/day	43	62	Annually	Daily Composite	NA	NR	NA		
Benzene	34030	µg/L	15	56	Monthly	Grab Sample Average	84	NR	Grab	1	✓

**Table A**

Discharge Serial Number: **001-1**

Monitoring Location: **1 (EXTERNAL OUTFALL)**

**Wastewater Description:** **Building 2** (Boiler blowdown, emergency de-aerator overflow, washwater, water treatment wastewater, laboratory/maintenance wastewater, air compressor condensate/blowdown, eyewash/safety shower test water, air conditioner condensate); **Building 4** (Cooling tower blowdown, air conditioner condensate); **Building 5** (Air conditioner condensate); **Building 5B** (Washwater, produced water, decant water, scrubber water, distillation wastewater, steam condensate, seal water, steam jet condensate, steam jet ejector intercooler water, non-contact cooling water, kettle/equipment cleaning wastewater, laboratory wastewater, maintenance wastewater, water treatment wastewater, eyewash and safety shower test water, air conditioner condensate, foam suppression test water); **Buildings 6/6B/6C:** (Washwater, produced water, decant water, scrubber water, distillation wastewater, steam condensate, seal water, steam jet condensate, steam jet ejector intercooler water, non-contact cooling water, kettle/equipment cleaning wastewater, laboratory wastewater, maintenance wastewater, eyewash and safety shower test water; air conditioner condensate, foam suppression test water); **Building 10** (Equipment cleaning/maintenance-related wastewater, non-contact cooling water, sluice water, produced water, decant water, filtrate, non-contact cooling water, patty box wastewater, steam condensate, activated carbon regeneration wastewater, seal water, water treatment wastewater, washwater, laboratory wastewater, foam suppression test water, contaminated stormwater); **Building 10A** (Sluice water, decant water, laboratory wastewater, air compressor condensate, air conditioner condensate); **Building 15** (Maintenance-related wastewater, vehicle/equipment washwater); **Building 16** (Hydrostatic pressure test water, laboratory wastewater); **Building 27** (Maintenance-related wastewater, eyewash/safety shower test water); **Building 30** (Cooling tower blowdown/maintenance, cooling tower overflow, water treatment wastewater, washwater, maintenance, laboratory wastewater, eye wash/safety shower test water); **Building 31/31A:** (Air compressor condensate); **Building 34** (Eye wash/safety shower test water); **Building 35** (Laboratory wastewater, filtrate, washwater, pump seal water, stormwater); **Building 36** (Pump seal water, washwater); **Building 37** (Washwater); **Building 38** (Maintenance-related wastewater); **Building 40** (Cooling tower blowdown/maintenance, cooling tower maintenance overflow, water treatment wastewater, washwater, laboratory wastewater, eye wash/safety shower test water); **Building 45** (Cooling tower blowdown/maintenance, cooling tower maintenance overflow, water treatment wastewater, washwater, laboratory wastewater, eye wash/safety shower test water); **Fire Training Pad** (Washwater); **Scrubber water associated with tank storage areas at Building 5B and Building 6: Fire suppression test water** (from testing fire hydrants, sprinkler systems, and inspection valves); **Contaminated groundwater** (Treated groundwater from Area 1: Acrylonitrile spill area at Building 10; Groundwater from Area 2: Fuel Oil Spill Area at Building 2; Groundwater from Area 3: Methylformcel spill area near Pad 13; Groundwater from Area 4: Tank Farm release area at Building 5); **Landfill leachate; Stormwater; Domestic sewage**

Monitoring Location Description: **Final effluent chamber**

Discharge is to: **Quinnipiac River**

Dilution Factor: **3.8:1** (for 1,2-trans-Dichloroethylene, 1,2-Dichloropropane, Tetrachloroethylene, Chromium, Copper, Cyanide, Lead, Nickel, Zinc, Aluminum, Formaldehyde, Total Residual Chlorine, Silver)

In-stream Waste Concentration: **26%**

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level <sup>3</sup>	Chemical Analysis required with Toxicity Test
			Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency <sup>2</sup>	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample/Reporting Frequency	Sample Type or measurement to be reported		
Benzene	34030	g/day	132	486	Monthly	Grab Sample Average	NA	NR	NA		
Benzo(a)anthracene	34526	µg/L	0.018 <sup>4</sup>	0.026 <sup>4</sup>	Annually	Daily Composite	0.039 <sup>4</sup>	NR	Grab	10	
Benzo(a)anthracene	34526	g/day	0.16	0.23	Annually	Daily Composite	NA	NR	NA		
3,4-Benzofluoranthene	79531	µg/L	0.018 <sup>4</sup>	0.026 <sup>4</sup>	Annually	Daily Composite	0.039 <sup>4</sup>	NR	Grab	5	
3,4-Benzofluoranthene	79531	g/day	0.16	0.23	Annually	Daily Composite	NA	NR	NA		
Benzo(k)fluoranthene	34242	µg/L	0.018 <sup>4</sup>	0.026 <sup>4</sup>	Annually	Daily Composite	0.039 <sup>4</sup>	NR	Grab	10	
Benzo(k)fluoranthene	34242	g/day	0.16	0.23	Annually	Daily Composite	NA	NR	NA		
Benzo(a)pyrene	34247	µg/L	0.018 <sup>4</sup>	0.026 <sup>4</sup>	Annually	Daily Composite	0.039 <sup>4</sup>	Grab	Grab	10	
Benzo(a)pyrene	34247	g/day	0.16	0.23	Annually	Daily Composite	NA	NR	NA		
Bis(2-ethylhexyl)phthalate	39100	µg/L	2.2 <sup>4</sup>	4.4 <sup>4</sup>	Weekly	Daily Composite	6.6	NR	Grab	5	✓
Bis(2-ethylhexyl)phthalate	39100	g/day	19	38	Weekly	Daily Composite	NA	NR	NA		
Carbon tetrachloride	32102	µg/L	1.6 <sup>4</sup>	2.3 <sup>4</sup>	Annually	Grab Sample Average	3.5 <sup>4</sup>	NR	Grab	10	
Carbon tetrachloride	32102	g/day	14	20	Annually	Grab Sample Average	NA	NR	NA		
Chlorobenzene	34301	µg/L	6	11	Monthly	Grab Sample Average	17	NR	Grab	1	✓
Chlorobenzene	34301	g/day	54	100	Monthly	Grab Sample Average	NA	NR	NA		
Chloroethane	85811	µg/L	43 <sup>4</sup>	110	Monthly	Grab Sample Average	165	NR	Grab	50	✓
Chloroethane	85811	g/day	372	958	Monthly	Grab Sample Average	NA	NR	NA		
Chloroform	32106	µg/L	9 <sup>4</sup>	19	Monthly	Grab Sample Average	28	NR	Grab	10	✓
Chloroform	32106	g/day	75	164	Monthly	Grab Sample Average	NA	NR	NA		
2-Chlorophenol	34586	µg/L	13	40	Annually	Daily Composite	60	NR	Grab	10	
2-Chlorophenol	34586	g/day	111	350	Annually	Daily Composite	NA	NR	NA		

**Table A**

Discharge Serial Number: **001-1**

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Monitoring Location Description: **Final effluent chamber**

Discharge is to: **Quinnipiac River**

Dilution Factor: **3.8:1** (for 1,2-trans-Dichloroethylene, 1,2-Dichloropropane, Tetrachloroethylene, Chromium, Copper, Cyanide, Lead, Nickel, Zinc, Aluminum, Formaldehyde, Total Residual Chlorine, Silver)

In-stream Waste Concentration: **26%**

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level <sup>3</sup>	Chemical Analysis required with Toxicity Test
			Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency <sup>2</sup>	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample/Reporting Frequency	Sample Type or measurement to be reported		
Chrysene	34320	µg/L	0.018 <sup>4</sup>	0.026 <sup>4</sup>	Annually	Daily Composite	0.039 <sup>4</sup>	NR	Grab	5	
Chrysene	34320	g/day	0.16	0.23	Annually	Daily Composite	NA	NR	NA		
Di-n-butyl phthalate	39110	µg/L	11	23	Annually	Daily Composite	35	NR	Grab	10	
Di-n-butyl phthalate	39110	g/day	97	204	Annually	Daily Composite	NA	NR	NA		
1,2-Dichlorobenzene	34536	µg/L	32	67	Annually	Grab Sample Average	100	NR	Grab	10	
1,2-Dichlorobenzene	34536	g/day	275	583	Annually	Grab Sample Average	NA	NR	NA		
1,3-Dichlorobenzene	34566	µg/L	13	18	Annually	Grab Sample Average	27	NR	Grab	10	
1,3-Dichlorobenzene	34566	g/day	111	157	Annually	Grab Sample Average	NA	NR	NA		
1,4-Dichlorobenzene	34571	µg/L	6 <sup>4</sup>	11	Annually	Grab Sample Average	17	NR	Grab	10	
1,4-Dichlorobenzene	34571	g/day	54	100	Annually	Grab Sample Average	NA	NR	NA		
1,1-Dichloroethane	34496	µg/L	9 <sup>4</sup>	24	Annually	Grab Sample Average	36	NR	Grab	10	
1,1-Dichloroethane	34496	g/day	79	211	Annually	Grab Sample Average	NA	NR	NA		
1,2-Dichloroethane	32103	µg/L	28	54	Annually	Grab Sample Average	81	NR	Grab	10	
1,2-Dichloroethane	32103	g/day	243	470	Annually	Grab Sample Average	NA	NR	NA		
1,1-Dichloroethylene	34501	µg/L	3.2 <sup>4</sup>	4.7 <sup>4</sup>	Annually	Grab Sample Average	7.0 <sup>4</sup>	NR	Grab	10	
1,1-Dichloroethylene	34501	g/day	28	41	Annually	Grab Sample Average	NA	NR	NA		
1,2-trans-Dichloroethylene	34546	µg/L	9 <sup>4</sup>	22	Annually	Grab Sample Average	33	NR	Grab	10	
1,2-trans-Dichloroethylene	34546	g/day	75	193	Annually	Grab Sample Average	NA	NR	NA		
2,4-Dichlorophenol	34601	µg/L	16	46	Annually	Daily Composite	69	NR	Grab	10	
2,4-Dichlorophenol	34601	g/day	139	400	Annually	Daily Composite	NA	NR	NA		
1,2-Dichloropropane	34541	µg/L	57	83	Annually	Grab Sample Average	125	NR	Grab	10	



**Table A**

Discharge Serial Number: **001-1**

Monitoring Location: **1 (EXTERNAL OUTFALL)**

**Wastewater Description:** **Building 2** (Boiler blowdown, emergency de-aerator overflow, washwater, water treatment wastewater, laboratory/maintenance wastewater, air compressor condensate/blowdown, eyewash/safety shower test water, air conditioner condensate); **Building 4** (Cooling tower blowdown, air conditioner condensate); **Building 5** (Air conditioner condensate); **Building 5B** (Washwater, produced water, decant water, scrubber water, distillation wastewater, steam condensate, seal water, steam jet condensate, steam jet ejector intercooler water, non-contact cooling water, kettle/equipment cleaning wastewater, laboratory wastewater, maintenance wastewater, water treatment wastewater, eyewash and safety shower test water, air conditioner condensate, foam suppression test water); **Buildings 6/6B/6C:** (Washwater, produced water, decant water, scrubber water, distillation wastewater, steam condensate, seal water, steam jet condensate, steam jet ejector intercooler water, non-contact cooling water, kettle/equipment cleaning wastewater, laboratory wastewater, maintenance wastewater, eyewash and safety shower test water; air conditioner condensate, foam suppression test water); **Building 10** (Equipment cleaning/maintenance-related wastewater, non-contact cooling water, sluice water, produced water, decant water, filtrate, non-contact cooling water, patty box wastewater, steam condensate, activated carbon regeneration wastewater, seal water, water treatment wastewater, washwater, laboratory wastewater, foam suppression test water, contaminated stormwater); **Building 10A** (Sluice water, decant water, laboratory wastewater, air compressor condensate, air conditioner condensate); **Building 15** (Maintenance-related wastewater, vehicle/equipment washwater); **Building 16** (Hydrostatic pressure test water, laboratory wastewater); **Building 27** (Maintenance-related wastewater, eyewash/safety shower test water); **Building 30** (Cooling tower blowdown/maintenance, cooling tower overflow, water treatment wastewater, washwater, maintenance, laboratory wastewater, eye wash/safety shower test water); **Building 31/31A:** (Air compressor condensate); **Building 34** (Eye wash/safety shower test water); **Building 35** (Laboratory wastewater, filtrate, washwater, pump seal water, stormwater); **Building 36** (Pump seal water, washwater); **Building 37** (Washwater); **Building 38** (Maintenance-related wastewater); **Building 40** (Cooling tower blowdown/maintenance, cooling tower maintenance overflow, water treatment wastewater, washwater, laboratory wastewater, eye wash/safety shower test water); **Building 45** (Cooling tower blowdown/maintenance, cooling tower maintenance overflow, water treatment wastewater, washwater, laboratory wastewater, eye wash/safety shower test water); **Fire Training Pad** (Washwater); **Scrubber water associated with tank storage areas at Building 5B and Building 6: Fire suppression test water** (from testing fire hydrants, sprinkler systems, and inspection valves); **Contaminated groundwater** (Treated groundwater from Area 1: Acrylonitrile spill area at Building 10; Groundwater from Area 2: Fuel Oil Spill Area at Building 2; Groundwater from Area 3: Methylformcel spill area near Pad 13; Groundwater from Area 4: Tank Farm release area at Building 5); **Landfill leachate; Stormwater; Domestic sewage**

Monitoring Location Description: **Final effluent chamber**

Discharge is to: **Quinnipiac River**

Dilution Factor: **3.8:1** (for 1,2-trans-Dichloroethylene, 1,2-Dichloropropane, Tetrachloroethylene, Chromium, Copper, Cyanide, Lead, Nickel, Zinc, Aluminum, Formaldehyde, Total Residual Chlorine, Silver)

In-stream Waste Concentration: **26%**

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level <sup>3</sup>	Chemical Analysis required with Toxicity Test
			Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency <sup>2</sup>	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample/Reporting Frequency	Sample Type or measurement to be reported		
1,2-Dichloropropane	34541	g/day	496	724	Annually	Grab Sample Average	NA	NR	NA		
1,3-Dichloropropylene	51044	µg/L	12	18	Annually	Grab Sample Average	27	NR	Grab	1	
1,3-Dichloropropylene	51044	g/day	104	157	Annually	Grab Sample Average	NA	NR	NA		
Diethyl phthalate	34336	µg/L	33	83	Annually	Daily Composite	125	NR	Grab	10	
Diethyl phthalate	34336	g/day	290	726	Annually	Daily Composite	NA	NR	NA		
2,4-Dimethylphenol	34606	µg/L	7 <sup>4</sup>	15	Annually	Daily Composite	22	NR	Grab	10	
2,4-Dimethylphenol	34606	g/day	64	129	Annually	Daily Composite	NA	NR	NA		
Dimethyl phthalate	34341	µg/L	8 <sup>4</sup>	19	Monthly	Daily Composite	29	NR	Grab	10	✓
Dimethyl phthalate	34341	g/day	68	168	Monthly	Daily Composite	NA	NR	NA		
4,6-Dinitro-o-cresol	34657	µg/L	32 <sup>4</sup>	114	Annually	Daily Composite	171	NR	Grab	50	
4,6-Dinitro-o-cresol	34657	g/day	279	990	Annually	Daily Composite	NA	NR	NA		
2,4-Dinitrophenol	34616	µg/L	29 <sup>4</sup>	51	Annually	Daily Composite	76	NR	Grab	50	
2,4-Dinitrophenol	34616	g/day	254	440	Annually	Daily Composite	NA	NR	NA		
2,4-Dinitrotoluene	34611	µg/L	3.4 <sup>4</sup>	5.0 <sup>4</sup>	Annually	Daily Composite	7.4 <sup>4</sup>	NR	Grab	10	
2,4-Dinitrotoluene	34611	g/day	30	43	Annually	Daily Composite	NA	NR	NA		
2,6-Dinitrotoluene	34626	µg/L	105	263	Annually	Daily Composite	395	NR	Grab	10	
2,6-Dinitrotoluene	34626	g/day	912	2292	Annually	Daily Composite	NA	NR	NA		
Ethylbenzene	37371	µg/L	13	44	Monthly	Grab Sample Average	67	NR	Grab	1	✓
Ethylbenzene	37371	g/day	114	386	Monthly	Grab Sample Average	NA	NR	NA		
Fluoranthene	34376	µg/L	1.28 <sup>4</sup>	1.87 <sup>4</sup>	Annually	Daily Composite	2.80 <sup>4</sup>	NR	Grab	10	
Fluoranthene	34376	g/day	11	16	Annually	Daily Composite	NA	NR	NA		

**Table A**

Discharge Serial Number: **001-1**

Monitoring Location: **1 (EXTERNAL OUTFALL)**

**Wastewater Description:** **Building 2** (Boiler blowdown, emergency de-aerator overflow, washwater, water treatment wastewater, laboratory/maintenance wastewater, air compressor condensate/blowdown, eyewash/safety shower test water, air conditioner condensate); **Building 4** (Cooling tower blowdown, air conditioner condensate); **Building 5** (Air conditioner condensate); **Building 5B** (Washwater, produced water, decant water, scrubber water, distillation wastewater, steam condensate, seal water, steam jet condensate, steam jet ejector intercooler water, non-contact cooling water, kettle/equipment cleaning wastewater, laboratory wastewater, maintenance wastewater, water treatment wastewater, eyewash and safety shower test water, air conditioner condensate, foam suppression test water); **Buildings 6/6B/6C:** (Washwater, produced water, decant water, scrubber water, distillation wastewater, steam condensate, seal water, steam jet condensate, steam jet ejector intercooler water, non-contact cooling water, kettle/equipment cleaning wastewater, laboratory wastewater, maintenance wastewater, eyewash and safety shower test water; air conditioner condensate, foam suppression test water); **Building 10** (Equipment cleaning/maintenance-related wastewater, non-contact cooling water, sluice water, produced water, decant water, filtrate, non-contact cooling water, patty box wastewater, steam condensate, activated carbon regeneration wastewater, seal water, water treatment wastewater, washwater, laboratory wastewater, foam suppression test water, contaminated stormwater); **Building 10A** (Sluice water, decant water, laboratory wastewater, air compressor condensate, air conditioner condensate); **Building 15** (Maintenance-related wastewater, vehicle/equipment washwater); **Building 16** (Hydrostatic pressure test water, laboratory wastewater); **Building 27** (Maintenance-related wastewater, eyewash/safety shower test water); **Building 30** (Cooling tower blowdown/maintenance, cooling tower overflow, water treatment wastewater, washwater, maintenance, laboratory wastewater, eye wash/safety shower test water); **Building 31/31A:** (Air compressor condensate); **Building 34** (Eye wash/safety shower test water); **Building 35** (Laboratory wastewater, filtrate, washwater, pump seal water, stormwater); **Building 36** (Pump seal water, washwater); **Building 37** (Washwater); **Building 38** (Maintenance-related wastewater); **Building 40** (Cooling tower blowdown/maintenance, cooling tower maintenance overflow, water treatment wastewater, washwater, laboratory wastewater, eye wash/safety shower test water); **Building 45** (Cooling tower blowdown/maintenance, cooling tower maintenance overflow, water treatment wastewater, washwater, laboratory wastewater, eye wash/safety shower test water); **Fire Training Pad** (Washwater); **Scrubber water associated with tank storage areas at Building 5B and Building 6: Fire suppression test water** (from testing fire hydrants, sprinkler systems, and inspection valves); **Contaminated groundwater** (Treated groundwater from Area 1: Acrylonitrile spill area at Building 10; Groundwater from Area 2: Fuel Oil Spill Area at Building 2; Groundwater from Area 3: Methylformcel spill area near Pad 13; Groundwater from Area 4: Tank Farm release area at Building 5); **Landfill leachate; Stormwater; Domestic sewage**

Monitoring Location Description: **Final effluent chamber**

Discharge is to: **Quinnipiac River**

Dilution Factor: **3.8:1** (for 1,2-trans-Dichloroethylene, 1,2-Dichloropropane, Tetrachloroethylene, Chromium, Copper, Cyanide, Lead, Nickel, Zinc, Aluminum, Formaldehyde, Total Residual Chlorine, Silver)

In-stream Waste Concentration: **26%**

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level <sup>3</sup>	Chemical Analysis required with Toxicity Test
			Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency <sup>2</sup>	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample/Reporting Frequency	Sample Type or measurement to be reported		
Fluorene	34381	µg/L	9 <sup>4</sup>	24	Annually	Daily Composite	36	NR	Grab	10	
Fluorene	34381	g/day	79	211	Annually	Daily Composite	NA	NR	NA		
Hexachlorobenzene	39700	µg/L	0.00029 <sup>4</sup>	0.00042 <sup>4</sup>	Annually	Daily Composite	0.00063 <sup>4</sup>	NR	Grab	5	
Hexachlorobenzene	39700	g/day	0.003	0.004	Annually	Daily Composite	NA	NR	NA		
Hexachlorobutadiene	39702	µg/L	8 <sup>4</sup>	20	Annually	Daily Composite	30	NR	Grab	10	
Hexachlorobutadiene	39702	g/day	71	175	Annually	Daily Composite	NA	NR	NA		
Hexachloroethane	34396	µg/L	3.3 <sup>4</sup>	4.8 <sup>4</sup>	Annually	Daily Composite	7.2	NR	Grab	5	
Hexachloroethane	34396	g/day	29	42	Annually	Daily Composite	NA	NR	NA		
Methyl chloride	34418	µg/L	35 <sup>4</sup>	78	Annually	Grab Sample Average	117	NR	Grab	50	
Methyl chloride	34418	g/day	307	679	Annually	Grab Sample Average	NA	NR	NA		
Methylene chloride	34423	µg/L	16 <sup>4</sup>	37	Monthly	Grab Sample Average	55	NR	Grab	20	✓
Methylene chloride	34423	g/day	143	318	Monthly	Grab Sample Average	NA	NR	NA		
Naphthalene	34696	µg/L	9 <sup>4</sup>	24	Monthly	Daily Composite	36	NR	Grab	10	✓
Naphthalene	34696	g/day	79	211	Monthly	Daily Composite	NA	NR	NA		
Nitrobenzene	34447	µg/L	11	28	Annually	Daily Composite	42	NR	Grab	10	
Nitrobenzene	34447	g/day	97	243	Annually	Daily Composite	NA	NR	NA		
2-Nitrophenol	34591	µg/L	17 <sup>4</sup>	28	Annually	Daily Composite	43	NR	Grab	20	
2-Nitrophenol	34591	g/day	147	247	Annually	Daily Composite	NA	NR	NA		
4-Nitrophenol	34646	µg/L	30 <sup>4</sup>	51	Annually	Daily Composite	76	NR	Grab	50	
4-Nitrophenol	34646	g/day	257	443	Annually	Daily Composite	NA	NR	NA		
Phenanthrene	34461	µg/L	9 <sup>4</sup>	24	Annually	Daily Composite	36	NR	Grab	10	

**Table A**

Discharge Serial Number: **001-1**

Monitoring Location: **1 (EXTERNAL OUTFALL)**

**Wastewater Description:** **Building 2** (Boiler blowdown, emergency de-aerator overflow, washwater, water treatment wastewater, laboratory/maintenance wastewater, air compressor condensate/blowdown, eyewash/safety shower test water, air conditioner condensate); **Building 4** (Cooling tower blowdown, air conditioner condensate); **Building 5** (Air conditioner condensate); **Building 5B** (Washwater, produced water, decant water, scrubber water, distillation wastewater, steam condensate, seal water, steam jet condensate, steam jet ejector intercooler water, non-contact cooling water, kettle/equipment cleaning wastewater, laboratory wastewater, maintenance wastewater, water treatment wastewater, eyewash and safety shower test water, air conditioner condensate, foam suppression test water); **Buildings 6/6B/6C:** (Washwater, produced water, decant water, scrubber water, distillation wastewater, steam condensate, seal water, steam jet condensate, steam jet ejector intercooler water, non-contact cooling water, kettle/equipment cleaning wastewater, laboratory wastewater, maintenance wastewater, eyewash and safety shower test water; air conditioner condensate, foam suppression test water); **Building 10** (Equipment cleaning/maintenance-related wastewater, non-contact cooling water, sluice water, produced water, decant water, filtrate, non-contact cooling water, patty box wastewater, steam condensate, activated carbon regeneration wastewater, seal water, water treatment wastewater, washwater, laboratory wastewater, foam suppression test water, contaminated stormwater); **Building 10A** (Sluice water, decant water, laboratory wastewater, air compressor condensate, air conditioner condensate); **Building 15** (Maintenance-related wastewater, vehicle/equipment washwater); **Building 16** (Hydrostatic pressure test water, laboratory wastewater); **Building 27** (Maintenance-related wastewater, eyewash/safety shower test water); **Building 30** (Cooling tower blowdown/maintenance, cooling tower overflow, water treatment wastewater, washwater, maintenance, laboratory wastewater, eye wash/safety shower test water); **Building 31/31A:** (Air compressor condensate); **Building 34** (Eye wash/safety shower test water); **Building 35** (Laboratory wastewater, filtrate, washwater, pump seal water, stormwater); **Building 36** (Pump seal water, washwater); **Building 37** (Washwater); **Building 38** (Maintenance-related wastewater); **Building 40** (Cooling tower blowdown/maintenance, cooling tower maintenance overflow, water treatment wastewater, washwater, laboratory wastewater, eye wash/safety shower test water); **Building 45** (Cooling tower blowdown/maintenance, cooling tower maintenance overflow, water treatment wastewater, washwater, laboratory wastewater, eye wash/safety shower test water); **Fire Training Pad** (Washwater); **Scrubber water associated with tank storage areas at Building 5B and Building 6: Fire suppression test water** (from testing fire hydrants, sprinkler systems, and inspection valves); **Contaminated groundwater** (Treated groundwater from Area 1: Acrylonitrile spill area at Building 10; Groundwater from Area 2: Fuel Oil Spill Area at Building 2; Groundwater from Area 3: Methylformcel spill area near Pad 13; Groundwater from Area 4: Tank Farm release area at Building 5); **Landfill leachate; Stormwater; Domestic sewage**

Monitoring Location Description: **Final effluent chamber**

Discharge is to: **Quinnipiac River**

Dilution Factor: **3.8:1** (for 1,2-trans-Dichloroethylene, 1,2-Dichloropropane, Tetrachloroethylene, Chromium, Copper, Cyanide, Lead, Nickel, Zinc, Aluminum, Formaldehyde, Total Residual Chlorine, Silver)

In-stream Waste Concentration: **26%**

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level <sup>3</sup>	Chemical Analysis required with Toxicity Test
			Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency <sup>2</sup>	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample/Reporting Frequency	Sample Type or measurement to be reported		
Phenanthrene	34461	g/day	79	211	Annually	Daily Composite	NA	NR	NA		
Phenol	34694	µg/L	6 <sup>4</sup>	11	Monthly	Daily Composite	16	NR	Grab	10	✓
Phenol	34694	g/day	54	93	Monthly	Daily Composite	NA	NR	NA		
Pyrene	34469	µg/L	10	28	Annually	Daily Composite	41	NR	Grab	5	
Pyrene	34469	g/day	89	240	Annually	Daily Composite	NA	NR	NA		
Tetrachloroethylene	34475	µg/L	9 <sup>4</sup>	18	Monthly	Grab Sample Average	27	NR	Grab	10	✓
Tetrachloroethylene	34475	g/day	79	159	Monthly	Grab Sample Average	NA	NR	NA		
Toluene	34010	µg/L	11	33	Monthly	Grab Sample Average	49	NR	Grab	1	✓
Toluene	34010	g/day	93	286	Monthly	Grab Sample Average	NA	NR	NA		
Total Chromium	01034	µg/L	131	262	Monthly	Daily Composite	393	NR	Grab	5	✓
Total Chromium	01034	g/day	1,138	2,282	Monthly	Daily Composite	NA	NR	NA		
Total Copper	01042	µg/L	48.7	97.7	Monthly	Daily Composite	146	NR	Grab	4	✓
Total Copper	01042	g/day	424	850	Monthly	Daily Composite	NA	NR	NA		
Total Cyanide	00720	µg/L	15	32.5	Monthly	Grab Sample Average	48.7	NR	Grab	5	✓
Total Cyanide	00720	g/day	130	283	Monthly	Grab Sample Average	NA	NR	NA		
Total Lead	01051	µg/L	3.7	7.5	Monthly	Daily Composite	11	NR	Grab	0.1	✓
Total Lead	01051	g/day	33	65	Monthly	Daily Composite	NA	NR	NA		
Total Nickel	01067	µg/L	90	180	Monthly	Daily Composite	271	NR	Grab	5	✓
Total Nickel	01067	g/day	783	1,571	Monthly	Daily Composite	NA	NR	NA		
Total Zinc	01092	µg/L	123	247	Weekly	Daily Composite	371	NR	Grab	20	✓
Total Zinc	01092	g/day	1,072	2,150	Weekly	Daily Composite	NA	NR	NA		

**Table A**

Discharge Serial Number: **001-1**

Monitoring Location: **1 (EXTERNAL OUTFALL)**

**Wastewater Description:** **Building 2** (Boiler blowdown, emergency de-aerator overflow, washwater, water treatment wastewater, laboratory/maintenance wastewater, air compressor condensate/blowdown, eyewash/safety shower test water, air conditioner condensate); **Building 4** (Cooling tower blowdown, air conditioner condensate); **Building 5** (Air conditioner condensate); **Building 5B** (Washwater, produced water, decant water, scrubber water, distillation wastewater, steam condensate, seal water, steam jet condensate, steam jet ejector intercooler water, non-contact cooling water, kettle/equipment cleaning wastewater, laboratory wastewater, maintenance wastewater, water treatment wastewater, eyewash and safety shower test water, air conditioner condensate, foam suppression test water); **Buildings 6/6B/6C:** (Washwater, produced water, decant water, scrubber water, distillation wastewater, steam condensate, seal water, steam jet condensate, steam jet ejector intercooler water, non-contact cooling water, kettle/equipment cleaning wastewater, laboratory wastewater, maintenance wastewater, eyewash and safety shower test water; air conditioner condensate, foam suppression test water); **Building 10** (Equipment cleaning/maintenance-related wastewater, non-contact cooling water, sluice water, produced water, decant water, filtrate, non-contact cooling water, patty box wastewater, steam condensate, activated carbon regeneration wastewater, seal water, water treatment wastewater, washwater, laboratory wastewater, foam suppression test water, contaminated stormwater); **Building 10A** (Sluice water, decant water, laboratory wastewater, air compressor condensate, air conditioner condensate); **Building 15** (Maintenance-related wastewater, vehicle/equipment washwater); **Building 16** (Hydrostatic pressure test water, laboratory wastewater); **Building 27** (Maintenance-related wastewater, eyewash/safety shower test water); **Building 30** (Cooling tower blowdown/maintenance, cooling tower overflow, water treatment wastewater, washwater, maintenance, laboratory wastewater, eye wash/safety shower test water); **Building 31/31A:** (Air compressor condensate); **Building 34** (Eye wash/safety shower test water); **Building 35** (Laboratory wastewater, filtrate, washwater, pump seal water, stormwater); **Building 36** (Pump seal water, washwater); **Building 37** (Washwater); **Building 38** (Maintenance-related wastewater); **Building 40** (Cooling tower blowdown/maintenance, cooling tower maintenance overflow, water treatment wastewater, washwater, laboratory wastewater, eye wash/safety shower test water); **Building 45** (Cooling tower blowdown/maintenance, cooling tower maintenance overflow, water treatment wastewater, washwater, laboratory wastewater, eye wash/safety shower test water); **Fire Training Pad** (Washwater); **Scrubber water associated with tank storage areas at Building 5B and Building 6: Fire suppression test water** (from testing fire hydrants, sprinkler systems, and inspection valves); **Contaminated groundwater** (Treated groundwater from Area 1: Acrylonitrile spill area at Building 10; Groundwater from Area 2: Fuel Oil Spill Area at Building 2; Groundwater from Area 3: Methylformcel spill area near Pad 13; Groundwater from Area 4: Tank Farm release area at Building 5); **Landfill leachate; Stormwater; Domestic sewage**

Monitoring Location Description: **Final effluent chamber**

Discharge is to: **Quinnipiac River**

Dilution Factor: **3.8:1** (for 1,2-trans-Dichloroethylene, 1,2-Dichloropropane, Tetrachloroethylene, Chromium, Copper, Cyanide, Lead, Nickel, Zinc, Aluminum, Formaldehyde, Total Residual Chlorine, Silver)

In-stream Waste Concentration: **26%**

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level <sup>3</sup>	Chemical Analysis required with Toxicity Test	
			Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency <sup>2</sup>	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample/Reporting Frequency	Sample Type or measurement to be reported			
1,2,4-Trichlorobenzene	34551	µg/L	28	57	Annually	Daily Composite	86	NR	Grab	10		
1,2,4-Trichlorobenzene	34551	g/day	243	500	Annually	Daily Composite	NA	NR	NA			
1,1,1-Trichloroethane	34506	µg/L	9 <sup>4</sup>	22	Monthly	Grab Sample Average	33	NR	Grab	10	✓	
1,1,1-Trichloroethane	34506	g/day	75	193	Monthly	Grab Sample Average	NA	NR	NA			
1,1,2-Trichloroethane	34511	µg/L	9 <sup>4</sup>	22	Annually	Grab Sample Average	33	NR	Grab	10		
1,1,2-Trichloroethane	34511	g/day	75	193	Annually	Grab Sample Average	NA	NR	NA			
Trichloroethylene	39180	µg/L	9 <sup>4</sup>	22	Monthly	Grab Sample Average	33	Grab	Grab	10	✓	
Trichloroethylene	39180	g/day	75	193	Monthly	Grab Sample Average	NA	NR	NA			
Vinyl chloride	39175	µg/L	2.4 <sup>4</sup>	3.5 <sup>4</sup>	Annually	Grab Sample Average	5.3 <sup>4</sup>	Grab	Grab	10		
Vinyl chloride	39175	g/day	21	30	Annually	Grab Sample Average	NA	NR	NA			
Acetone	81552	µg/L	---	---	Monthly	Grab Sample Average	NA	NR	NA	5	✓	
Acetonitrile	51196	mg/L	---	---	Monthly	Grab Sample Average	NA	NR	NA	25	✓	
INTERIM LIMITS	Acrylamide <sup>9</sup>	50796	µg/L	70	217	Weekly	Grab Sample Average	325	NR	Grab	5	✓
	Acrylamide <sup>9</sup>	50796	g/day	310	963	Weekly	Grab Sample Average	NA	NR	Grab		
FINAL LIMITS	Acrylamide <sup>9</sup>	50796	µg/L	10.0	20.1	Weekly	Grab Sample Average	30.1	NR	Grab	5	✓
	Acrylamide <sup>9</sup>	50796	g/day	44.4	89.1	Weekly	Grab Sample Average	NA	NR	Grab		
Alkalinity (as CaCO <sub>3</sub> )	00410	mg/L	---	---	Three per week	Daily Composite	NA	NR	NA		✓	
Aluminum, Total	01105	mg/L	0.271	0.543	Monthly	Daily Composite	0.815	NR	Grab	0.01	✓	

**Table A**

Discharge Serial Number: **001-1**

Monitoring Location: **1 (EXTERNAL OUTFALL)**

**Wastewater Description:** **Building 2** (Boiler blowdown, emergency de-aerator overflow, washwater, water treatment wastewater, laboratory/maintenance wastewater, air compressor condensate/blowdown, eyewash/safety shower test water, air conditioner condensate); **Building 4** (Cooling tower blowdown, air conditioner condensate); **Building 5** (Air conditioner condensate); **Building 5B** (Washwater, produced water, decant water, scrubber water, distillation wastewater, steam condensate, seal water, steam jet condensate, steam jet ejector intercooler water, non-contact cooling water, kettle/equipment cleaning wastewater, laboratory wastewater, maintenance wastewater, water treatment wastewater, eyewash and safety shower test water, air conditioner condensate, foam suppression test water); **Buildings 6/6B/6C:** (Washwater, produced water, decant water, scrubber water, distillation wastewater, steam condensate, seal water, steam jet condensate, steam jet ejector intercooler water, non-contact cooling water, kettle/equipment cleaning wastewater, laboratory wastewater, maintenance wastewater, eyewash and safety shower test water; air conditioner condensate, foam suppression test water); **Building 10** (Equipment cleaning/maintenance-related wastewater, non-contact cooling water, sluice water, produced water, decant water, filtrate, non-contact cooling water, patty box wastewater, steam condensate, activated carbon regeneration wastewater, seal water, water treatment wastewater, washwater, laboratory wastewater, foam suppression test water, contaminated stormwater); **Building 10A** (Sluice water, decant water, laboratory wastewater, air compressor condensate, air conditioner condensate); **Building 15** (Maintenance-related wastewater, vehicle/equipment washwater); **Building 16** (Hydrostatic pressure test water, laboratory wastewater); **Building 27** (Maintenance-related wastewater, eyewash/safety shower test water); **Building 30** (Cooling tower blowdown/maintenance, cooling tower overflow, water treatment wastewater, washwater, maintenance, laboratory wastewater, eye wash/safety shower test water); **Building 31/31A:** (Air compressor condensate); **Building 34** (Eye wash/safety shower test water); **Building 35** (Laboratory wastewater, filtrate, washwater, pump seal water, stormwater); **Building 36** (Pump seal water, washwater); **Building 37** (Washwater); **Building 38** (Maintenance-related wastewater); **Building 40** (Cooling tower blowdown/maintenance, cooling tower maintenance overflow, water treatment wastewater, washwater, laboratory wastewater, eye wash/safety shower test water); **Building 45** (Cooling tower blowdown/maintenance, cooling tower maintenance overflow, water treatment wastewater, washwater, laboratory wastewater, eye wash/safety shower test water); **Fire Training Pad** (Washwater); **Scrubber water associated with tank storage areas at Building 5B and Building 6: Fire suppression test water** (from testing fire hydrants, sprinkler systems, and inspection valves); **Contaminated groundwater** (Treated groundwater from Area 1: Acrylonitrile spill area at Building 10; Groundwater from Area 2: Fuel Oil Spill Area at Building 2; Groundwater from Area 3: Methylformcel spill area near Pad 13; Groundwater from Area 4: Tank Farm release area at Building 5); **Landfill leachate; Stormwater; Domestic sewage**

Monitoring Location Description: **Final effluent chamber**

Discharge is to: **Quinnipiac River**

Dilution Factor: **3.8:1** (for 1,2-trans-Dichloroethylene, 1,2-Dichloropropane, Tetrachloroethylene, Chromium, Copper, Cyanide, Lead, Nickel, Zinc, Aluminum, Formaldehyde, Total Residual Chlorine, Silver)

In-stream Waste Concentration: **26%**

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level <sup>3</sup>	Chemical Analysis required with Toxicity Test
			Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency <sup>2</sup>	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample/Reporting Frequency	Sample Type or measurement to be reported		
Aluminum, Total	01105	kg/day	1.20	2.41	Monthly	Daily Composite	NA	NR	Grab		
Ammonia (as N)	00610	mg/L	2.33	9.66	Three per week	Daily Composite	14.5	NR	Grab	0.1	✓
Ammonia (as N)	00610	kg/day	10.35	42.89	Three per week	Daily Composite	NA	NR	Grab		
Barium, Total	01007	mg/L	---	---	Monthly	Daily Composite	NA	NR	NA		✓
Benzoic Acid	77247	µg/L	---	---	Monthly	Daily Composite	NA	NR	NA	10	✓
Biochemical Oxygen Demand (BOD <sub>5</sub> )	85002	mg/L	25	50	Three per week	Daily Composite	75	NR	Grab		✓
Biochemical Oxygen Demand (BOD <sub>5</sub> )	85002	kg/day	222	435	Three per week	Daily Composite	NA	NR	NA		
Bisphenol A	81651	µg/L	---	---	Monthly	Daily Composite	NA	NR	NA	40	✓
Boron, Total	82057	mg/L	---	---	Monthly	Daily Composite	NA	NR	NA	0.5	✓
Butanol	45265	mg/L	---	---	Weekly	Grab Sample Average	NA	NR	NA	0.5	✓
Butyl acetate	78531	µg/L	---	---	Monthly	Grab Sample Average	NA	NR	NA	10	✓
Chemical Oxygen Demand	81017	mg/L	---	---	Three per week	Daily Composite	NA	NR	NA		✓
Chemical Oxygen Demand	81017	kg/day	---	---	Three per week	Daily Composite	NA	NR	NA		
Chlorine, Total Residual [See Remark 3]	50060	µg/L	34	69	Weekly	GSA, Modified	103	NR	Grab	11	✓
Chlorine, Total Residual [See Remark 3]	50060	g/day	151	306	Weekly	GSA, Modified	103	NR	Grab		✓
Cresol, meta	77151	µg/L	---	---	Monthly	Daily Composite	NA	NR	NA	10	✓
Cresol, ortho	78395	µg/L	---	---	Monthly	Daily Composite	NA	NR	NA	10	✓
Cresol, para	77146	µg/L	---	---	Monthly	Daily Composite	NA	NR	NA	10	✓
Diethyl amine	77030	mg/L	---	---	Monthly	Grab Sample Average	NA	NR	NA	25	✓
Dimethyl amine	77003	mg/L	---	---	Monthly	Grab Sample Average	NA	NR	NA	25	✓
Di-N-Octyl phthalate	34596	µg/L	---	---	Monthly	Daily Composite	NA	NR	NA	5	✓

**Table A**

Discharge Serial Number: **001-1**

Monitoring Location: **1 (EXTERNAL OUTFALL)**

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In-stream Waste Concentration: **26%**

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level <sup>3</sup>	Chemical Analysis required with Toxicity Test
			Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency <sup>2</sup>	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample/Reporting Frequency	Sample Type or measurement to be reported		
Epichlorohydrin	81679	µg/L	---	---	Monthly	Grab Sample Average	NA	NR	NA	10	✓
<i>Escherichia coli</i>	51040	cfus/100 ml	NA	NA	NR	NA	See Note 7	Weekly	Grab		✓
Ethanol	77004	mg/L	---	---	Weekly	Grab Sample Average	NA	NR	NA	1	✓
Ethyl acrylate	51661	µg/L	---	---	Monthly	Grab Sample Average	NA	NR	NA	10	✓
Ethylene glycol	77023	mg/L	---	---	Monthly	Grab Sample Average	NA	NR	NA	25	✓
Flow rate (Average daily) <sup>1</sup>	00056	gpd	2,298,333	NA	Continuous	Daily flow	NA	NR	NA		
Flow, Maximum during 24 hour period <sup>1</sup>	50047	gpd	NA	4,367,030	Continuous	Daily flow	NA	NR	NA		
Flow (Total, Day of Sampling)	74076	gpd	---	4,367,030	Three per week	Daily flow	NA	NR	NA		
Formaldehyde	71880	mg/L	0.703	1.77	Weekly	Daily Composite	2.66	NR	Grab	0.05	✓
Formaldehyde	71880	kg/day	3.12	7.86	Weekly	Daily Composite	NA	NR	NA		
Furfural	81588	mg/L	---	---	Monthly	Grab Sample Average	NA	NR	NA	1	✓
Iron, Total	01045	mg/L	---	---	Monthly	Daily Composite	NA	NR	NA	0.02	✓
Isobutanol	77033	mg/L	---	---	Monthly	Grab Sample Average	NA	NR	NA	0.5	✓
Isophorone	34408	mg/L	3.65	5.32	Monthly	Daily Composite	7.98	NR	Grab	0.005	✓
Isophorone	34408	kg/day	16.2	23.6	Monthly	Daily Composite	NA	NR	NA		
Isopropanol	77015	mg/L	---	---	Monthly	Grab Sample Average	NA	NR	NA	1	✓
Isopropylamine	77014	mg/L	---	---	Monthly	Grab Sample Average	NA	NR	NA	25	✓
Kjeldahl Nitrogen, Total (as N)	00625	mg/L	---	---	Three per week	Daily Composite	NA	NR	NA	0.1	✓
Magnesium, Total	00927	mg/L	---	---	Monthly	Daily Composite	NA	NR	NA		✓
Methanol	77885	mg/L	---	---	Weekly	Grab Sample Average	NA	NR	NA	0.5	✓
Methyl acrylate	51010	µg/L	---	---	Monthly	Grab Sample Average	NA	NR	NA	1	✓

**Table A**

Discharge Serial Number: **001-1**

Monitoring Location: **1 (EXTERNAL OUTFALL)**

**Wastewater Description:** **Building 2** (Boiler blowdown, emergency de-aerator overflow, washwater, water treatment wastewater, laboratory/maintenance wastewater, air compressor condensate/blowdown, eyewash/safety shower test water, air conditioner condensate); **Building 4** (Cooling tower blowdown, air conditioner condensate); **Building 5** (Air conditioner condensate); **Building 5B** (Washwater, produced water, decant water, scrubber water, distillation wastewater, steam condensate, seal water, steam jet condensate, steam jet ejector intercooler water, non-contact cooling water, kettle/equipment cleaning wastewater, laboratory wastewater, maintenance wastewater, water treatment wastewater, eyewash and safety shower test water, air conditioner condensate, foam suppression test water); **Buildings 6/6B/6C:** (Washwater, produced water, decant water, scrubber water, distillation wastewater, steam condensate, seal water, steam jet condensate, steam jet ejector intercooler water, non-contact cooling water, kettle/equipment cleaning wastewater, laboratory wastewater, maintenance wastewater, eyewash and safety shower test water; air conditioner condensate, foam suppression test water); **Building 10** (Equipment cleaning/maintenance-related wastewater, non-contact cooling water, sluice water, produced water, decant water, filtrate, non-contact cooling water, patty box wastewater, steam condensate, activated carbon regeneration wastewater, seal water, water treatment wastewater, washwater, laboratory wastewater, foam suppression test water, contaminated stormwater); **Building 10A** (Sluice water, decant water, laboratory wastewater, air compressor condensate, air conditioner condensate); **Building 15** (Maintenance-related wastewater, vehicle/equipment washwater); **Building 16** (Hydrostatic pressure test water, laboratory wastewater); **Building 27** (Maintenance-related wastewater, eyewash/safety shower test water); **Building 30** (Cooling tower blowdown/maintenance, cooling tower overflow, water treatment wastewater, washwater, maintenance, laboratory wastewater, eye wash/safety shower test water); **Building 31/31A:** (Air compressor condensate); **Building 34** (Eye wash/safety shower test water); **Building 35** (Laboratory wastewater, filtrate, washwater, pump seal water, stormwater); **Building 36** (Pump seal water, washwater); **Building 37** (Washwater); **Building 38** (Maintenance-related wastewater); **Building 40** (Cooling tower blowdown/maintenance, cooling tower maintenance overflow, water treatment wastewater, washwater, laboratory wastewater, eye wash/safety shower test water); **Building 45** (Cooling tower blowdown/maintenance, cooling tower maintenance overflow, water treatment wastewater, washwater, laboratory wastewater, eye wash/safety shower test water); **Fire Training Pad** (Washwater); **Scrubber water associated with tank storage areas at Building 5B and Building 6: Fire suppression test water** (from testing fire hydrants, sprinkler systems, and inspection valves); **Contaminated groundwater** (Treated groundwater from Area 1: Acrylonitrile spill area at Building 10; Groundwater from Area 2: Fuel Oil Spill Area at Building 2; Groundwater from Area 3: Methylformcel spill area near Pad 13; Groundwater from Area 4: Tank Farm release area at Building 5); **Landfill leachate; Stormwater; Domestic sewage**

Monitoring Location Description: **Final effluent chamber**

Discharge is to: **Quinnipiac River**

Dilution Factor: **3.8:1** (for 1,2-trans-Dichloroethylene, 1,2-Dichloropropane, Tetrachloroethylene, Chromium, Copper, Cyanide, Lead, Nickel, Zinc, Aluminum, Formaldehyde, Total Residual Chlorine, Silver)

In-stream Waste Concentration: **26%**

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level <sup>3</sup>	Chemical Analysis required with Toxicity Test
			Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency <sup>2</sup>	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample/Reporting Frequency	Sample Type or measurement to be reported		
Methyl ethyl ketone	81595	µg/L	---	---	Monthly	Grab Sample Average	NA	NR	NA	2	✓
Methyl methacrylate	81597	µg/L	---	---	Monthly	Grab Sample Average	NA	NR	NA	1	✓
Nitrate (as N)	00620	mg/L	---	---	Three per week	Daily Composite	NA	NR	NA	0.1	✓
Nitrite (as N)	00615	mg/L	---	---	Three per week	Daily Composite	NA	NR	NA	0.01	✓
Nitrogen, Total	00600	lbs/day	928	---	Three per week	Daily Composite Calculation <sup>8</sup>	NA	NR	NA		
Nitrogen, Total (Annual Loading)	51445	lbs/day	---	NA	Three per week December	Daily Composite Calculation <sup>8</sup>	NA	NR	NA		
Nonylphenol	51568	µg/L	---	---	Monthly	Daily Composite	NA	NR	NA	20	✓
Oil & Grease, Total	00556	mg/L	---	15	Monthly	Grab Sample Average	NA	NR	NA		✓
Organic Nitrogen (as N)	00605	mg/L	---	---	Three per week	Daily Composite	NA	NR	NA		✓
Orthophosphate (as P)	70507	mg/L	---	---	Three per week	Daily Composite	NA	NR	NA		✓
Oxygen, Dissolved	00300	mg/L	NA	NA	NR	NA	---	Weekly	Grab		✓
PCBs (Polychlorinated Biphenyls as Aroclors)	51692	ng/L	0.064 <sup>4</sup>	0.093 <sup>4</sup>	Monthly	Daily Composite	0.14 <sup>4</sup>	NR	Grab	500	✓
PCBs (Polychlorinated Biphenyls as Aroclors)	51692	g/day	0.00028	0.00041	Monthly	Daily Composite	NA	NR	NA		
pH, Minimum	61942	SU	NA	NA	NR	NA	6.0	Continuous	Continuous		
pH, Maximum	61941	SU	NA	NA	NR	NA	9.0	Continuous	Continuous		
pH, Day of Sampling	00400	SU	NA	NA	NR	NA	6.0-9.0	Three/week	RDS		✓

**Table A**

Discharge Serial Number: **001-1**

Monitoring Location: **1 (EXTERNAL OUTFALL)**

**Wastewater Description:** **Building 2** (Boiler blowdown, emergency de-aerator overflow, washwater, water treatment wastewater, laboratory/maintenance wastewater, air compressor condensate/blowdown, eyewash/safety shower test water, air conditioner condensate); **Building 4** (Cooling tower blowdown, air conditioner condensate); **Building 5** (Air conditioner condensate); **Building 5B** (Washwater, produced water, decant water, scrubber water, distillation wastewater, steam condensate, seal water, steam jet condensate, steam jet ejector intercooler water, non-contact cooling water, kettle/equipment cleaning wastewater, laboratory wastewater, maintenance wastewater, water treatment wastewater, eyewash and safety shower test water, air conditioner condensate, foam suppression test water); **Buildings 6/6B/6C:** (Washwater, produced water, decant water, scrubber water, distillation wastewater, steam condensate, seal water, steam jet condensate, steam jet ejector intercooler water, non-contact cooling water, kettle/equipment cleaning wastewater, laboratory wastewater, maintenance wastewater, eyewash and safety shower test water; air conditioner condensate, foam suppression test water); **Building 10** (Equipment cleaning/maintenance-related wastewater, non-contact cooling water, sluice water, produced water, decant water, filtrate, non-contact cooling water, patty box wastewater, steam condensate, activated carbon regeneration wastewater, seal water, water treatment wastewater, washwater, laboratory wastewater, foam suppression test water, contaminated stormwater); **Building 10A** (Sluice water, decant water, laboratory wastewater, air compressor condensate, air conditioner condensate); **Building 15** (Maintenance-related wastewater, vehicle/equipment washwater); **Building 16** (Hydrostatic pressure test water, laboratory wastewater); **Building 27** (Maintenance-related wastewater, eyewash/safety shower test water); **Building 30** (Cooling tower blowdown/maintenance, cooling tower overflow, water treatment wastewater, washwater, maintenance, laboratory wastewater, eye wash/safety shower test water); **Building 31/31A:** (Air compressor condensate); **Building 34** (Eye wash/safety shower test water); **Building 35** (Laboratory wastewater, filtrate, washwater, pump seal water, stormwater); **Building 36** (Pump seal water, washwater); **Building 37** (Washwater); **Building 38** (Maintenance-related wastewater); **Building 40** (Cooling tower blowdown/maintenance, cooling tower maintenance overflow, water treatment wastewater, washwater, laboratory wastewater, eye wash/safety shower test water); **Building 45** (Cooling tower blowdown/maintenance, cooling tower maintenance overflow, water treatment wastewater, washwater, laboratory wastewater, eye wash/safety shower test water); **Fire Training Pad** (Washwater); **Scrubber water associated with tank storage areas at Building 5B and Building 6: Fire suppression test water** (from testing fire hydrants, sprinkler systems, and inspection valves); **Contaminated groundwater** (Treated groundwater from Area 1: Acrylonitrile spill area at Building 10; Groundwater from Area 2: Fuel Oil Spill Area at Building 2; Groundwater from Area 3: Methylformcel spill area near Pad 13; Groundwater from Area 4: Tank Farm release area at Building 5); **Landfill leachate; Stormwater; Domestic sewage**

Monitoring Location Description: **Final effluent chamber**

Discharge is to: **Quinnipiac River**

Dilution Factor: **3.8:1** (for 1,2-trans-Dichloroethylene, 1,2-Dichloropropane, Tetrachloroethylene, Chromium, Copper, Cyanide, Lead, Nickel, Zinc, Aluminum, Formaldehyde, Total Residual Chlorine, Silver)

In-stream Waste Concentration: **26%**

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level <sup>3</sup>	Chemical Analysis required with Toxicity Test	
			Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency <sup>2</sup>	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample/Reporting Frequency	Sample Type or measurement to be reported			
INTERIM LIMITS (STEP 1)	Phosphorus, Total <sup>10</sup> (Effective from November 1 <sup>st</sup> to March 31 <sup>st</sup> )	00665	mg/L	---	---	Three per week	Daily Composite	NA	NR	NA		✓
	Phosphorus, Total <sup>10</sup> (Effective from November 1 <sup>st</sup> to March 31 <sup>st</sup> )	00665	lbs/day	---	---	Three per week	Daily Composite	NA	NR	NA		
	Phosphorus, Total <sup>10</sup> (Effective from April 1 <sup>st</sup> to October 31 <sup>st</sup> )	00665	mg/L	---	---	Three per week April	Daily Composite	NA	NR	NA		✓
	Phosphorus, Total <sup>10</sup> (Effective from April 1 <sup>st</sup> to October 31 <sup>st</sup> )	00665	mg/L	1.0	---	Three per week May-Oct	Daily Composite Calculation <sup>11</sup>	NA	NR	NA		✓
	Phosphorus, Total <sup>10</sup> (Effective from April 1 <sup>st</sup> to October 31 <sup>st</sup> )	00665	lbs/day	19.2	---	Three per week April-Oct	Daily Composite	NA	NR	NA		
FINAL LIMITS (STEP 2)	Phosphorus, Total <sup>10</sup> (Effective from November 1 <sup>st</sup> to March 31 <sup>st</sup> )	00665	mg/L	---	---	Three per week Nov-Mar	Daily Composite	NA	NR	NA		✓
	Phosphorus, Total <sup>10</sup> (Effective from November 1 <sup>st</sup> to March 31 <sup>st</sup> )	00665	lbs/day	---	---	Three per week Nov-Mar	Daily Composite	NA	NR	NA		
	Phosphorus, Total <sup>10</sup> (Effective from April 1 <sup>st</sup> to October 31 <sup>st</sup> )	00665	mg/L	0.12	0.31	Three per week Apr-Oct	Daily Composite	NA	NR	NA		✓
	Phosphorus, Total <sup>10</sup> (Effective from April 1 <sup>st</sup> to October 31 <sup>st</sup> )	51699	lbs/day	1.49	---	Three per week Apr-Oct	Daily Composite	NA	NR	NA		
Propylene glycol	61163	mg/L	---	---	Monthly	Grab Sample Average	NA	NR	NA	25	✓	
Silver, Total	01077	µg/L	1.93	3.88	Monthly	Daily Composite	5.81	NR	Grab	0.2	✓	
Silver, Total	01077	g/day	8.57	17.2	Monthly	Daily Composite	NA	NR	NA			
Styrene	81708	µg/L	---	---	Monthly	Grab Sample Average	NA	NR	NA	1	✓	



**Table A**

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In-stream Waste Concentration: **26%**

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			Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency <sup>2</sup>	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample/Reporting Frequency	Sample Type or measurement to be reported		
Tetrahydrofuran	81607	µg/L	---	---	Monthly	Grab Sample Average	NA	NR	NA		✓
tert-Butyl alcohol	51008	mg/L	---	---	Monthly	Grab Sample Average	NA	NR	NA	1	✓
Tin, Total	01102	mg/L	---	---	Monthly	Daily Composite	NA	NR	NA	0.5	✓
Titanium, Total	01152	mg/L	---	---	Monthly	Daily Composite	NA	NR	NA	0.01	✓
Total Suspended Solids	00530	mg/L	30	50	Three per week	Daily Composite	75	NR	Grab		✓
Total Suspended Solids	00530	kg/day	264	435	Three per week	Daily Composite	NA	NR	NA		
Triethylamine	77111	mg/L	---	---	Monthly	Grab Sample Average	NA	NR	NA	25	✓
Xylenes, Total (o,m,p)	81551	µg/L	---	---	Weekly	Grab Sample Average	NA	NR	NA	1	✓

**TABLE A FOOTNOTES AND REMARKS**

**Footnotes:**

<sup>1</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 Total Flow for each day and the Average Daily Flow and the Maximum Daily Flow for each month.

<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 the same as the 'Sample Frequency'.

(FOOTNOTES AND REMARKS CONTINUED BELOW)

## TABLE A FOOTNOTES AND REMARKS (CONTINUED)

<sup>3</sup> Minimum Level refers to Section 6(A)(4) of this permit.

<sup>4</sup> The noted permit limit is below the Minimum Level (ML). Therefore, compliance with this limit will be determined based on the ML. The Permittee shall conduct analysis for this parameter in accordance with a sufficiently-sensitive approved method. If the measured value is less than the ML, the results shall be reported in accordance with Section 6(A)(6) and the results will be considered to be in compliance with the permit limit. If the measured value is greater or equal to the ML, the actual results obtained shall be reported on the DMR and these results will be considered a violation of the permit limit.

<sup>5</sup> Acute toxicity testing shall be conducted in accordance with Section 7(A) of this permit. The LC<sub>50</sub> results (in %) for the acute toxicity testing shall be reported on the DMR.

<sup>6</sup> Chronic toxicity testing shall be conducted in accordance with Section 7(B) of this permit. The C-NOEC (Chronic-No Observed Effect Concentration) results (in %) for the lethal and sub-lethal conditions noted in this table shall be reported on the DMR. Attachment A of this permit shall be completed for each chronic toxicity testing event and the completed Attachment A shall be submitted with the DMR.

<sup>7</sup> The effluent shall be monitored for *Escherichia coli* from May 1<sup>st</sup> through September 30<sup>th</sup>. The geometric mean of the *Escherichia coli* values for the effluent sample(s) collected in a period of thirty (30) days during the period from May 1<sup>st</sup> through September 30<sup>th</sup> shall not exceed a monthly geometric mean of 126 cfus per 100 milliliters, nor shall any sample(s) exceed 400 cfus per 100 milliliters as a daily maximum. Both the geometric mean and the daily maximum values shall be reported. Any *Escherichia coli* exceedence will require that the Permittee immediately notify the Wallingford Health Department and the Quinnipiac Valley Health District.

<sup>8</sup> Total Nitrogen concentration means the sum of the concentrations of: Ammonia Nitrogen + Organic Nitrogen + Nitrate Nitrogen + Nitrite Nitrogen. The concentration-based value shall be converted to lbs/day and reported on the DMR. Total Nitrogen (Annual Loading) shall also be reported once per year on the December DMR. This value shall be calculated by summing all of the monthly mass loading values for Total Nitrogen for each month from January through December and dividing that value by 12 and rounding to the nearest whole number.

<sup>9</sup> The Acrylamide Interim Limits shall take effect upon issuance of this permit modification. The Acrylamide Final Limits shall take effect on or before March 1, 2018. The Average Monthly values for Acrylamide shall be calculated using only values that are greater than the ML noted in Table A (i.e., only detectable values shall be used in calculating the Average Monthly value).

<sup>10</sup> The Total Phosphorus Interim Limits ("Step 1 Limits") are in effect upon issuance of this permit modification. The Total Phosphorus Final Limits ("Step 2 Limits") shall take effect on or before April 1, 2022. Compliance with the interim and final limits are seasonal (i.e., the limits are in effect from April 1 to October 31<sup>st</sup> of each year of this permit).

<sup>11</sup> Compliance with the concentration-based Total Phosphorus interim ("Step 1") limit shall be demonstrated over a consecutive two-month rolling average during the season (i.e., from April 1<sup>st</sup> to October 31<sup>st</sup>). The calculation shall be performed by summing the average monthly concentrations of Total Phosphorus in the discharge in each subject month and dividing that value by two. The Permittee shall report this value on its May DMR (for April and May), June DMR (for May and June), July DMR (for June and July), August DMR (for July and August), September DMR (for August and September), and October DMR (for September and October).

### Remarks:

1. Abbreviations used for units are as follows: cfus means colony forming units; gpd means gallons per day; g/day means grams per day; kg/day means kilograms per day; mg/L means milligrams per liter; lbs/day means pounds per day; lbs/year means pounds per year; SU means Standard Units; µg/L means micrograms per liter; ng/L means nanograms per liter. Other abbreviations are as follows: NA means Not Applicable; NR means Not Reportable; RDS means Range During Sampling.

2. BOD<sub>5</sub> and TSS shall be reported to the nearest 0.1 mg/L. Fecal coliform shall be reported to 1 cfu/100 mL. Flow shall be reported to 1 gallon. Dissolved Oxygen shall be reported to 0.1 mg/L. pH shall be reported to 0.1 SU. Mass-based values shall be reported to the level of the permit limit. All other values shall be reported to the level of precision/accuracy reported by the laboratory.

3. "GSA Modified" pertains to the sample collection method for Total Residual Chlorine. For this monitoring parameter, grab samples shall be collected at least four times per operating day, but the Permittee may collect all four samples during the first shift of the sampling day. The Permittee shall report the arithmetic average of all of the grab sample analyses taken.

**Table B**

Discharge Serial Number: **001-A** Monitoring Location: **G (INTERNAL MONITORING POINT)**

Wastewater Description: **Influent to the treatment system**

Monitoring Location Description: **Sampling station located between the equalization basin and the aeration basin**

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING		
			Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency <sup>2</sup>	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample/Reporting Frequency	Sample Type or measurement to be reported
Acrylonitrile	34215	mg/L	---	---	Twice per month	Grab Sample Average	NA	NR	NA
Alkalinity	00410	mg/L	---	---	Twice per month	Daily Composite	NA	NR	NA
Ammonia (as N)	00610	mg/L	---	---	Three per week	Daily Composite	NA	NR	NA
Benzene	34030	mg/L	---	---	Twice per month	Grab Sample Average	NA	NR	NA
Biochemical Oxygen Demand (BOD <sub>5</sub> )	85002	mg/L	---	---	Three per week	Daily Composite	NA	NR	NA
Butanol	45265	mg/L	---	---	Twice per month	Grab Sample Average	NA	NR	NA
Butyl acetate	78531	mg/L	---	---	Twice per month	Grab Sample Average	NA	NR	NA
Chlorobenzene	34301	mg/L	---	---	Twice per month	Grab Sample Average	NA	NR	NA
Ethanol	77004	mg/L	---	---	Twice per month	Grab Sample Average	NA	NR	NA
Ethylbenzene	37371	mg/L	---	---	Twice per month	Grab Sample Average	NA	NR	NA
Flow, Day of Sampling <sup>1</sup>	74076	gpd	---	---	Three per week	Daily Flow	NA	NR	NA
Formaldehyde	71880	mg/L	---	---	Twice per month	Daily Composite	NA	NR	NA
Isobutanol	77033	mg/L	---	---	Twice per month	Grab Sample Average	NA	NR	NA
Kjeldahl Nitrogen, Total (as N)	00625	mg/L	---	---	Three per week	Daily Composite	NA	NR	NA
Methanol	77885	mg/L	---	---	Twice per month	Grab Sample Average	NA	NR	NA
Methylene chloride	34423	mg/L	---	---	Twice per month	Grab Sample Average	NA	NR	NA
Methyl methacrylate	81597	mg/L	---	---	Twice per month	Grab Sample Average	NA	NR	NA
Nitrate (as N)	00620	mg/L	---	---	Three per week	Daily Composite	NA	NR	NA
Nitrite (as N)	00615	mg/L	---	---	Three per week	Daily Composite	NA	NR	NA
Nitrogen, Total	00600	mg/L	---	---	Three per week	Daily Composite	NA	NR	NA
Organic Nitrogen (as N)	00605	mg/L	---	---	Three per week	Daily Composite	NA	NR	NA
Orthophosphate	70507	mg/L	---	---	Twice per month	Daily Composite	NA	NR	NA
pH, Minimum	61942	SU	NA	NA	NR	NA	---	Continuous	Continuous
pH, Maximum	61941	SU	NA	NA	NR	NA	---	Continuous	Continuous
pH, Day of Sampling	00400	SU	NA	NA	NR	NA	---	Continuous	RDS
Phosphorus, Total	00665	mg/L	---	---	Twice per month	Daily Composite	NA	NR	NA
Styrene	81708	mg/L	---	---	Twice per month	Grab Sample Average	NA	NR	NA
Toluene	34010	mg/L	---	---	Twice per month	Grab Sample Average	NA	NR	NA
Trichloroethene	39180	mg/L	---	---	Twice per month	Grab Sample Average	NA	NR	NA
Volatiles, Method 624	---	mg/L	---	---	Twice per month	Grab Sample Average	NA	NR	NA
Xylenes, Total (o,m,p)	81551	mg/L	---	---	Twice per month	Grab Sample Average	NA	NR	NA

(CONTINUED ON THE NEXT PAGE)

## TABLE B FOOTNOTES AND REMARKS

### Footnotes:

<sup>1</sup> There is no flow meter at this location. However, the influent flow is reported to be the same as the effluent flow. Therefore, for this parameter, the Permittee shall measure and report flow for this location based on the flow at the final effluent location.

<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 the same as the 'Sample Frequency'.

### 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; RDS means Range During Sampling.

2. Test results for each of the Method 624 Volatiles must be submitted with the DMR each month and shall be electronically submitted if the Permittee is required to submit its DMRs through the NetDMR system.

3. The Permittee shall use best efforts to ensure that monitoring required by Table B is conducted using the lowest ML achievable.

**Table C**

Discharge Serial Number: **001-B** Monitoring Location: **1 (INTERNAL MONITORING POINT)**

Wastewater Description: **Treated domestic sewage**

Monitoring Location Description: **End of the chlorine contact chamber**

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level <sup>3</sup>
			Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency <sup>2</sup>	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample/Reporting Frequency	Sample Type or measurement to be reported	
Chlorine, Total Residual	50060	mg/L	NA	NA	NR	NA	---	Twice/day	Grab	0.030
Flow, Day of Sampling <sup>1</sup>	74076	gpd	---	33,000	Twice/day	Daily Flow	NA	NR	NA	

**TABLE C FOOTNOTES AND REMARKS**

**Footnotes:**

<sup>1</sup> For this parameter the Permittee shall maintain at the facility a record of the Total Flow for each day and shall report the Average Monthly Flow and the Maximum Daily Flow for the Day of Sampling for each month.

<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 the same as the 'Sample Frequency'.

<sup>3</sup> Minimum Level refers to Section 6(A)(4) of this permit.

**Remarks:**

- Abbreviations used for units are as follows: gpd means gallons per day; mg/L means milligrams per liter. Other abbreviations are as follows: NA means Not Applicable; NR means Not Reportable.
- The Permittee shall disinfect/chlorinate the domestic sewage from May 1 until October 1. The Permittee shall use best efforts to maintain the total residual chlorine levels in the treated wastewater within a range of 0.5 – 3.0 ppm.

**Table D**

Discharge Serial Number: **001-E** Monitoring Location: **1 (INTERNAL MONITORING POINT)**

Wastewater Description: **Contaminated groundwater from Area 1: The acrylonitrile spill area (at Building 10)**

Monitoring Location Description: **Discharge from the Toluene/Water Separator**

Discharge is to: **Influent to the treatment system (DSN 001A)**

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level <sup>3</sup>
			Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency <sup>2</sup>	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample/Reporting Frequency	Sample Type or measurement to be reported	
Acrylonitrile	34215	mg/L	NA	NA	NR	NA	---	Quarterly	Grab	
Benzene	34030	mg/L	NA	NA	NR	NA	---	Quarterly	Grab	0.005
Chemical Oxygen Demand (COD)	50060	mg/L	NA	NA	NR	NA	---	Quarterly	Grab	
Ethylbenzene	37371	mg/L	NA	NA	NR	NA	---	Quarterly	Grab	0.010
Flow Rate (Average daily) <sup>1</sup>	00056	gpd	---	NA	Daily	Daily Flow	NA	NR	NA	
Flow, Maximum during 24 hour period <sup>1</sup>	50047	gpd	NA	180,000	Daily	Daily Flow	NA	NR	NA	
Flow, Day of Sampling	74076	gpd	NA	---	Quarterly	Daily Flow	NA	NR	NA	
Methyl methacrylate	81597	mg/L	NA	NA	NR	NA	---	Quarterly	Grab	
pH, Day of Sampling	00400	SU	NA	NA	NR	NA	---	Quarterly	RDS	
Styrene	81708	mg/L	NA	NA	NR	NA	---	Quarterly	Grab	
Toluene	34010	mg/L	NA	NA	NR	NA	---	Quarterly	Grab	0.005
Xylenes, Total (o,m,p)	81551	mg/L	NA	NA	NR	NA	---	Quarterly	Grab	0.002

**TABLE D FOOTNOTES AND REMARK**

**Footnotes:**

- <sup>1</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 Average Daily Flow and the Maximum Daily Flow for each month.
- <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 the same as the 'Sample Frequency'.
- <sup>3</sup> Minimum Level Test refers to Section 6(A)(4) of this permit.

**Remark:**

1. Abbreviations used for units are as follows: gpd means gallons per day; mg/L means milligrams per liter; SU means Standard Units. Other abbreviations are as follows: NA means Not Applicable; NR means Not Reportable; RDS means Range During Sampling.

**Table E**Discharge Serial Number: **001-F**Monitoring Location: **1 (INTERNAL MONITORING POINT)**Wastewater Description: **Landfill leachate**Monitoring Location Description: **Leachate inlet in the final manhole before the grit chamber**Discharge is to: **Influent to the treatment system (DSN 001A)**

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level <sup>3</sup>
			Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency <sup>2</sup>	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample/Reporting Frequency	Sample Type or measurement to be reported	
Acrylonitrile	34215	mg/L	NA	NA	NR	NA	---	Quarterly	Grab	
Benzene	34030	mg/L	NA	NA	NR	NA	---	Quarterly	Grab	0.005
Chemical Oxygen Demand (COD)	81017	mg/L	NA	NA	NR	NA	---	Quarterly	Grab	
Ethylbenzene	37371	mg/L	NA	NA	NR	NA	---	Quarterly	Grab	0.010
Flow Rate (Average daily) <sup>1</sup>	00056	gpd	---	NA	Daily	Daily Flow	NA	NR	NA	
Flow, Maximum during 24 hour period <sup>1</sup>	50047	gpd	NA	250,000	Daily	Daily Flow	NA	NR	NA	
Flow, Day of Sampling	74076	gpd	---	---	Quarterly	Daily Flow	NA	NR	NA	
Methyl methacrylate	81597	mg/L	NA	NA	NR	NA	---	Quarterly	Grab	
pH, Day of Sampling	00400	SU	NA	NA	NR	NA	---	Quarterly	RDS	
Styrene	81708	mg/L	NA	NA	NR	NA	---	Quarterly	Grab	
Toluene	34010	mg/L	NA	NA	NR	NA	---	Quarterly	Grab	0.005
Xylenes, Total (o,m,p)	81551	mg/L	NA	NA	NR	NA	---	Quarterly	Grab	0.002

**TABLE E FOOTNOTES AND REMARK****Footnotes:**

<sup>1</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 Average Daily Flow and the Maximum Daily Flow for each month.

<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 the same as the 'Sample Frequency'.

<sup>3</sup> Minimum Level Test refers to Section 6(A)(4) of this permit.

**Remark:**

1. Abbreviations used for units are as follows: gpd means gallons per day; mg/L means milligrams per liter; SU means Standard Units. Other abbreviations are as follows: NA means Not Applicable; NR means Not Reportable; RDS means Range During Sampling.

**Table F**

Discharge Serial Number: **001-I**

Monitoring Location: **1 (INTERNAL MONITORING POINT)**

Wastewater Description: **Cyro's Building 10 wastewaters** (Equipment cleaning/maintenance-related wastewater, non-contact cooling water, sluice water, produced water, decant water, filtrate, non-contact cooling water, patty box wastewater, steam condensate, activated carbon regeneration wastewater, seal water, water treatment wastewater, washwater, laboratory wastewater, foam suppression test water, contaminated stormwater); **Cyro's Building 10A wastewaters** (Sluice water, decant water, laboratory wastewater, air compressor condensate, air conditioner condensate); **Cyro's Building 45 wastewaters** (Cooling tower blowdown/maintenance, cooling tower maintenance overflow, water treatment wastewater, washwater, laboratory wastewater, eye wash/safety shower test water); **Stormwater collected in Cyro's raw materials spill containment sump**

Monitoring Location Description: **Cyro Metering Station (Sewer Connection Point IMH-10)**

Discharge is to: **Influent to the treatment system (DSN 001A)**

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING		
			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
Acenaphthene	34205	µg/L	---	---	Annually	Daily Composite	NA	NR	NA
Acenaphthylene	34200	µg/L	---	---	Annually	Daily Composite	NA	NR	NA
Acetonitrile	51196	µg/L	---	---	Monthly	Grab Sample Average	NA	NR	NA
Acrylonitrile	34215	µg/L	---	---	Monthly	Grab Sample Average	NA	NR	NA
Anthracene	34220	µg/L	---	---	Annually	Daily Composite	NA	NR	NA
Benzene	34030	µg/L	---	---	Annually	Grab Sample Average	NA	NR	NA
Benzo(a)anthracene	34526	µg/L	---	---	Annually	Daily Composite	NA	NR	NA
3,4-Benzofluoranthene	79531	µg/L	---	---	Annually	Daily Composite	NA	NR	NA
Benzo(k)fluoranthene	34242	µg/L	---	---	Annually	Daily Composite	NA	NR	NA
Benzo(a)pyrene	34247	µg/L	---	---	Annually	Daily Composite	NA	NR	NA
Bis(2-ethylhexyl)phthalate	39100	µg/L	---	---	Annually	Daily Composite	NA	NR	NA
Carbon tetrachloride	32102	µg/L	---	---	Annually	Grab Sample Average	NA	NR	NA
Chlorobenzene	34301	µg/L	---	---	Annually	Grab Sample Average	NA	NR	NA
Chloroethane	85811	µg/L	---	---	Annually	Grab Sample Average	NA	NR	NA
Chloroform	32106	µg/L	---	---	Annually	Grab Sample Average	NA	NR	NA
2-Chlorophenol	34586	µg/L	---	---	Annually	Daily Composite	NA	NR	NA
Chrysene	34320	µg/L	---	---	Annually	Daily Composite	NA	NR	NA
Di-n-butyl phthalate	39110	µg/L	---	---	Annually	Daily Composite	NA	NR	NA
1,2-Dichlorobenzene	34536	µg/L	---	---	Annually	Grab Sample Average	NA	NR	NA
1,3-Dichlorobenzene	34566	µg/L	---	---	Annually	Grab Sample Average	NA	NR	NA
1,4-Dichlorobenzene	34571	µg/L	---	---	Annually	Grab Sample Average	NA	NR	NA
1,1-Dichloroethane	34496	µg/L	---	---	Annually	Grab Sample Average	NA	NR	NA
1,2-Dichloroethane	32103	µg/L	---	---	Annually	Grab Sample Average	NA	NR	NA
1,1-Dichloroethylene	34501	µg/L	---	---	Annually	Grab Sample Average	NA	NR	NA
1,2-trans-Dichloroethylene	34546	µg/L	---	---	Annually	Grab Sample Average	NA	NR	NA
2,4-Dichlorophenol	34601	µg/L	---	---	Annually	Daily Composite	NA	NR	NA
1,2-Dichloropropane	34541	µg/L	---	---	Annually	Grab Sample Average	NA	NR	NA
1,3-Dichloropropylene	51044	µg/L	---	---	Annually	Grab Sample Average	NA	NR	NA
Diethyl phthalate	34336	µg/L	---	---	Annually	Daily Composite	NA	NR	NA
2,4-Dimethylphenol	34606	µg/L	---	---	Annually	Daily Composite	NA	NR	NA
Dimethyl phthalate	34341	µg/L	---	---	Annually	Daily Composite	NA	NR	NA



**Table F**

Discharge Serial Number: **001-I**

Monitoring Location: **1 (INTERNAL MONITORING POINT)**

Wastewater Description: **Cyro's Building 10 wastewaters** (Equipment cleaning/maintenance-related wastewater, non-contact cooling water, sluice water, produced water, decant water, filtrate, non-contact cooling water, patty box wastewater, steam condensate, activated carbon regeneration wastewater, seal water, water treatment wastewater, washwater, laboratory wastewater, foam suppression test water, contaminated stormwater); **Cyro's Building 10A wastewaters** (Sluice water, decant water, laboratory wastewater, air compressor condensate, air conditioner condensate); **Cyro's Building 45 wastewaters** (Cooling tower blowdown/maintenance, cooling tower maintenance overflow, water treatment wastewater, washwater, laboratory wastewater, eye wash/safety shower test water); **Stormwater collected in Cyro's raw materials spill containment sump**

Monitoring Location Description: **Cyro Metering Station (Sewer Connection Point IMH-10)**

Discharge is to: **Influent to the treatment system (DSN 001A)**

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING		
			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
4,6-Dinitro-o-cresol	34657	µg/L	---	---	Annually	Daily Composite	NA	NR	NA
2,4-Dinitrophenol	34616	µg/L	---	---	Annually	Daily Composite	NA	NR	NA
2,4-Dinitrotoluene	34611	µg/L	---	---	Annually	Daily Composite	NA	NR	NA
2,6-Dinitrotoluene	34626	µg/L	---	---	Annually	Daily Composite	NA	NR	NA
Ethylbenzene	37371	µg/L	---	---	Annually	Grab Sample Average	NA	NR	NA
Fluoranthene	34376	µg/L	---	---	Annually	Daily Composite	NA	NR	NA
Fluorene	34381	µg/L	---	---	Annually	Daily Composite	NA	NR	NA
Hexachlorobenzene	39700	µg/L	---	---	Annually	Daily Composite	NA	NR	NA
Hexachlorobutadiene	39702	µg/L	---	---	Annually	Daily Composite	NA	NR	NA
Hexachloroethane	34396	µg/L	---	---	Annually	Daily Composite	NA	NR	NA
Methyl chloride	34418	µg/L	---	---	Annually	Grab Sample Average	NA	NR	NA
Methylene chloride	34423	µg/L	---	---	Annually	Grab Sample Average	NA	NR	NA
Naphthalene	34696	µg/L	---	---	Annually	Daily Composite	NA	NR	NA
Nitrobenzene	34447	µg/L	---	---	Annually	Daily Composite	NA	NR	NA
2-Nitrophenol	34591	µg/L	---	---	Annually	Daily Composite	NA	NR	NA
4-Nitrophenol	34646	µg/L	---	---	Annually	Daily Composite	NA	NR	NA
Phenanthrene	34461	µg/L	---	---	Annually	Daily Composite	NA	NR	NA
Phenol	34694	µg/L	---	---	Annually	Daily Composite	NA	NR	NA
Pyrene	34469	µg/L	---	---	Annually	Daily Composite	NA	NR	NA
Tetrachloroethylene	34475	µg/L	---	---	Annually	Grab Sample Average	NA	NR	NA
Toluene	34010	µg/L	---	---	Monthly	Grab Sample Average	NA	NR	NA
Total Chromium	01034	µg/L	---	---	Annually	Daily Composite	NA	NR	NA
Total Copper	01042	µg/L	---	---	Annually	Daily Composite	NA	NR	NA
Total Cyanide	00720	µg/L	---	---	Monthly	Grab Sample Average	NA	NR	NA
Total Lead	01051	µg/L	---	---	Annually	Daily Composite	NA	NR	NA
Total Nickel	01067	µg/L	---	---	Annually	Daily Composite	NA	NR	NA
Total Zinc	01092	µg/L	---	---	Monthly	Daily Composite	NA	NR	NA
1,2,4-Trichlorobenzene	34551	µg/L	---	---	Annually	Daily Composite	NA	NR	NA
1,1,1-Trichloroethane	34506	µg/L	---	---	Annually	Grab Sample Average	NA	NR	NA
1,1,2-Trichloroethane	34511	µg/L	---	---	Annually	Grab Sample Average	NA	NR	NA
Trichloroethylene	39180	µg/L	---	---	Annually	Grab Sample Average	NA	NR	NA

**Table F**

Discharge Serial Number: **001-I**

Monitoring Location: **1 (INTERNAL MONITORING POINT)**

Wastewater Description: **Cyro's Building 10 wastewaters** (Equipment cleaning/maintenance-related wastewater, non-contact cooling water, sludge water, produced water, decant water, filtrate, non-contact cooling water, patty box wastewater, steam condensate, activated carbon regeneration wastewater, seal water, water treatment wastewater, washwater, laboratory wastewater, foam suppression test water, contaminated stormwater); **Cyro's Building 10A wastewaters** (Sludge water, decant water, laboratory wastewater, air compressor condensate, air conditioner condensate); **Cyro's Building 45 wastewaters** (Cooling tower blowdown/maintenance, cooling tower maintenance overflow, water treatment wastewater, washwater, laboratory wastewater, eye wash/safety shower test water); **Stormwater collected in Cyro's raw materials spill containment sump**

Monitoring Location Description: **Cyro Metering Station (Sewer Connection Point IMH-10)**

Discharge is to: **Influent to the treatment system (DSN 001A)**

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING		
			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
Vinyl chloride	39175	µg/L	---	---	Annually	Grab Sample Average	NA	NR	NA
Acetonitrile	51196	µg/L	---	---	Monthly	Grab Sample Average	NA	NR	NA
Biochemical Oxygen Demand (BOD <sub>5</sub> )	85002	mg/L	---	---	Monthly	Daily Composite	NA	NR	NA
Chemical Oxygen Demand	81017	mg/L	---	---	Monthly	Daily Composite	NA	NR	NA
Di-N-Octyl phthalate	34596	µg/L	---	---	Monthly	Daily Composite	NA	NR	NA
Ethyl acrylate	51661	mg/L	---	---	Monthly	Grab Sample Average	NA	NR	NA
Flow Rate (Average daily) <sup>1</sup>	00056	gpd	---	NA	Continuous	Daily flow	NA	NR	NA
Flow, Maximum during 24 hour period <sup>1</sup>	50047	gpd	NA	---	Continuous	Daily flow	NA	NR	NA
Flow (Total, Day of Sampling)	74076	gpd	NA	---	Monthly	Daily flow	NA	NR	NA
Methyl acrylate	51010	µg/L	---	---	Monthly	Grab Sample Average	NA	NR	NA
Methyl methacrylate	81597	µg/L	---	---	Monthly	Grab Sample Average	NA	NR	NA
Oil & Grease, Total	00556	mg/L	---	---	Monthly	Grab Sample Average	NA	NR	NA
pH, Day of Sampling	00400	SU	NA	NA	NR	NA	---	Monthly	Grab
Silver, Total	01077	mg/L	---	---	Monthly	Daily Composite	NA	NR	NA
Styrene	81708	µg/L	---	---	Monthly	Grab Sample Average	NA	NR	NA
Total Suspended Solids	00530	mg/L	---	---	Monthly	Daily Composite	NA	NR	NA

**TABLE F FOOTNOTES AND REMARKS**

**Footnotes:**

<sup>1</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 Total Flow for each day and the Average Daily Flow and the Maximum Daily Flow for each month.

<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 the same as the 'Sample Frequency'.

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**TABLE F FOOTNOTES AND REMARKS (CONTINUED)**

**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; ND means Non-Detectable; NR means Not Reportable.
2. The Permittee shall use best efforts to ensure that monitoring required by Table F is conducted using the lowest ML achievable.
3. No stormwater shall be present in the discharge during sampling.

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**Table G**

Discharge Serial Number: **DSN 002-1** Monitoring Location: **1 (EXTERNAL OUTFALL)**  
 Wastewater Description: **Fire suppression test water, air conditioner condensate, fire storage tank overflow water, engine cooling water associated with the testing of the emergency diesel pump**  
 Monitoring Location Description: **Near the headwall, prior to entering the tributary**  
 Discharge is to: **An unnamed tributary to the Quinnipiac River** Dilution: **1:1** In Stream Waste Concentration: **100%**

PARAMETER	NET DMR CODE	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level <sup>3</sup>	Chemical Analysis required with Toxicity Test
			Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample/Reporting Frequency <sup>2</sup>	Sample Type or measurement to be reported		
Acute Aquatic Toxicity <i>Daphnia pulex</i>	TAA3D	%	NA	NA	NR	NA	LC <sub>50</sub> ≥ 100	Semi-Annual	Grab		
Acute Aquatic Toxicity <i>Pimephales promelas</i>	TAA6C	%	NA	NA	NR	NA	LC <sub>50</sub> ≥ 100	Semi-Annual	Grab		
Ammonia (as N)	00610	mg/L	NA	NA	NR	NA	---	Quarterly	Grab		✓
Copper, Total	01042	µg/l	NA	NA	NR	NA	---	Quarterly	Grab	4	✓
Chlorine, Total Residual	50060	µg/l	NA	NA	NR	NA	19	Quarterly	Grab	11	✓
Chlorine, Total Residual	50060	g/day	NA	NA	NR	NA	12.9	Quarterly	Grab		
Flow, Maximum <sup>1</sup>	50047	gpd	NA	180,000	Monthly	Daily Flow	NA	Quarterly	NA		
Lead, Total	01051	µg/l	NA	NA	NR	NA	---	Quarterly	Grab	0.1	✓
Nickel, Total	01067	µg/l	NA	NA	NR	NA	---	Quarterly	Grab	5	✓
Oil & Grease, Total	00556	mg/l	NA	NA	NR	NA	5.0	Quarterly	Grab		✓
pH, Day of Sampling	00400	SU	NA	NA	NR	NA	6.0-9.0	Quarterly	Grab		✓
Temperature	00011	° F	NA	NA	NR	NA	---	Quarterly	Grab		✓
Total Suspended Solids	00530	mg/l	NA	NA	NR	NA	---	Quarterly	Grab		✓
Zinc, Total	01092	µg/l	NA	NA	NR	NA	65	Quarterly	Grab	5	✓
Zinc, Total	01092	g/day	NA	NA	NR	NA	44.3	Quarterly	Grab		✓

**TABLE G FOOTNOTES AND REMARKS**

**Footnotes:**

<sup>1</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 Total Flow each day and the Maximum Daily Flow for each month. This record shall be based on flow estimates using good engineering practices.

<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 the same as the 'Sample Frequency'.

<sup>3</sup> Minimum Level refers to Section 6(A)(4) of this permit.

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**TABLE G FOOTNOTES AND REMARKS (CONTINUED)**

**Remarks:**

1. Abbreviations used for units are as follows: gpd means gallons per day; g/day means grams 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.
2. TSS shall be reported to the nearest 0.1 mg/L. pH shall be reported to 0.1 SU. Mass-based values shall be reported to the level of the permit limit. All other values shall be reported to the level of precision/accuracy reported by the laboratory.
3. Acute toxicity testing shall be conducted in accordance with Section 7(A) of this permit. The LC<sub>50</sub> results (in %) for the acute toxicity testing shall be reported on the DMR.
4. Fire suppression test water consists of discharges from the following systems: Inspection Test Drain Water from Buildings 5, 7, 10, 27, 32, and 34; Sprinkler System Test Water from Buildings 5B, 7, 10, 27, and 32; Test water from fire hydrants/fire hoses in the following areas: NE of Building 10A, E of Building 32, S of Building 7, N of Building 1, E of Building 4, NE of Building 9, and N of Building 34. Air conditioner condensate is from Building 16.
5. All limits apply to dry weather conditions. "Dry weather" is defined as a climatic condition prior to which no precipitation or melt water has occurred for a period of three (3) days. The sampling collection point is also affected by groundwater infiltration. Therefore, the Permittee shall make best efforts to collect a sample when groundwater infiltration is at a minimum.

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

### (A) Chemical Analysis

- (1) Chemical analyses to determine compliance with limits and conditions established in this permit shall be performed using sufficiently sensitive methods approved pursuant to the 40 CFR 136 for the analysis of pollutants having approved methods under that part unless an alternative method has been approved in writing pursuant to 40 CFR 136.5 or as provided in section 22a-430-3(j)(7) of the RCSA. Chemicals which do not have approved methods of analysis defined in 40 CFR 136 shall be analyzed in accordance with the methods specified in Section 6(A)(2) of this permit, unless an alternative method has been specifically approved in writing by the Commissioner.
- (2) The latest, most up-to-date of the following test methods shall be used to analyze the parameters identified below.

<b>PARAMETER</b>	<b>METHOD OF ANALYSIS</b>
Acetone	EPA Method 624
Acetonitrile	EPA Method 1671
Acrylamide	EPA Method 8032
Benzoic Acid	EPA Method 625
Butanol	EPA Method 8015
Butyl acetate	EPA Method 624
Cresol, meta	EPA Method 625
Cresol, ortho	EPA Method 625
Cresol, para	EPA Method 625
Diethyl amine	EPA Method 1671
Dimethyl amine	EPA Method 1671
Epichlorohydrin	EPA Method 624
Ethanol	EPA Method 8015
Ethyl acrylate	EPA Method 624
Ethylene glycol	EPA Method 1671
Formaldehyde	EPA Method 1667
Furfural	EPA Method 8315
Isobutanol	EPA Method 8015
Isopropanol	EPA Method 8015
Isopropylamine	EPA Method 8015
Methanol	EPA Method 8015
Methyl acrylate	EPA Method 624
Methyl ethyl ketone	EPA Method 624
Methyl methacrylate	EPA Method 624
Propylene glycol	EPA Method 1671
Styrene	EPA Method 624
tert-Butyl alcohol	EPA Method 8015
Tetrahydrofuran	EPA Method 8015
Triethylamine	EPA Method 8015
Xylene	EPA Method 624

- (3) All metals analyses identified in this permit shall refer to analyses for Total Recoverable Metal as defined in 40 CFR 136 unless otherwise specified.
- (4) 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. The MLs specified in Table A represent the concentrations at which quantification must be achieved and verified during the chemical analyses for those noted parameters. 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.

- (5) 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) Effluent analyses for which quantification was verified during the analysis at or below the levels specified in the Section 5 tables 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. If the Permittee is required to submit its DMRs through the NetDMR system, the Permittee shall report the non-detect value consistent with the reporting requirements for NetDMR.
- (7) 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 limitations or conditions specified in this permit.
- (8) MLs for certain parameters in Table A may be higher than the corresponding permit limit. With respect to these parameters, if a test method/procedure becomes available that will result in a lower ML than the one noted in Table A, then these lower MLs shall supersede the MLs in Table A.
- (9) The analytical method used to determine the concentration of polychlorinated biphenyls (PCBs) shall be EPA Method 608.

## SECTION 7: AQUATIC TOXICITY TESTING

(A) **ACUTE TESTING REQUIREMENTS.** The Permittee shall conduct acute aquatic toxicity testing for DSN 001-1 and DSN 002-1 as follows:

- (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.
- (2) **SAMPLE COLLECTION AND HANDLING**
  - (a) 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.
  - (b) 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.
  - (c) Tests for acute aquatic toxicity shall be initiated within 36 hours of sample collection.
- (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:
  - (a) For 48-hours utilizing neonatal *Daphnia pulex* (less than 24-hours old).
  - (b) For 48-hours utilizing larval *Pimephales promelas* (1-14 days old with no more than 24-hours range in age).
- (4) **ACUTE ENDPOINT:** Survival at 48 hours measured by LC<sub>50</sub>

(5) **TEST CONDITIONS:**

- (a) Definitive (multi-concentration) testing shall be conducted.
- (b) Tests for acute aquatic toxicity shall be conducted as prescribed for static non-renewal tests.
- (c) The following effluent dilution series concentrations shall be used: 100%, 75%, 50%, 25%, 12.5% and 6.25%.
- (d) Synthetic freshwater prepared with deionized water adjusted to a hardness of 50 mg/L ( $\pm 5$  mg/L) as CaCO<sub>3</sub> shall be used as dilution water.
- (e) Organisms shall not be fed during the tests.
- (f) Copper nitrate shall be used as the reference toxicant.
- (g) 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.

(6) **CHEMICAL ANALYSIS:**

- (a) At a minimum, specific conductance, total alkalinity, total 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.
- (b) Chemical analyses of the parameters identified in Tables A and G under "Chemical Analysis Required with Toxicity Test" shall be conducted on an undiluted aliquot of the same sample tested for acute aquatic toxicity.

(7) **TEST ACCEPTABILITY CRITERIA & COMPLIANCE:** For the test results to be acceptable, control survival 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. Compliance with the limits on Acute Toxicity shall be demonstrated when the results of a valid definitive acute aquatic toxicity test indicates that the LC<sub>50</sub> value for the test is greater than or equal to the aquatic toxicity limit in Tables A and G.

**(B) CHRONIC TESTING REQUIREMENTS.** The Permittee shall conduct chronic toxicity testing for DSN 001-1 as follows:

- (1) **TEST METHOD:** Chronic aquatic toxicity testing shall be performed on the discharge as prescribed in the reference document *Short-term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms* (EPA-821-R-02-013), or the most current version, with the following exceptions or clarifications noted below.
- (2) **SAMPLE COLLECTION AND HANDLING:**
  - (a) Composite samples shall be chilled as they are being collected. Effluent and receiving water samples shall be held at 0-6 °C until chronic aquatic toxicity testing is initiated.
  - (b) Effluent samples shall not be dechlorinated, filtered, or modified in any way prior to testing for chronic aquatic toxicity unless specifically approved in writing by the Commissioner for monitoring at this facility.
  - (c) Tests for chronic aquatic toxicity shall be initiated within 36 hours of sample collection.



- (3) **TEST SPECIES AND TEST DURATION:** Monitoring for chronic aquatic toxicity to determine compliance with the chronic toxicity limits in the permit shall be conducted as follows:
- (a) For seven days utilizing neonatal *Ceriodaphnia dubia* (<24 hours old)
  - (b) For seven days utilizing newly-hatched *Pimephales promelas* (<24 hours old).
- (4) **CHRONIC ENDPOINTS:**
- (a) *Ceriodaphnia dubia*: Survival and reproduction
  - (b) *Pimephales promelas*: Survival and growth
- (5) **DILUTION WATER:** Quinnipiac River water collected upstream of the area influenced by the discharge shall be used as site control water (0% effluent) and dilution water in the toxicity tests. Quinnipiac River water shall be collected approximately 500 feet upstream of the confluence of DSN 001 and DSN 002, outside of any area potentially impacted by DSN 001 and downstream of other effluent sources. Quinnipiac River water shall be collected on each renewal day. The Permittee shall document the dilution water sampling location by providing USGS coordinates and/or a map of the location.

If the Quinnipiac River dilution water is found or is suspected to be toxic or unreliable, an alternative dilution water standard shall be used in the toxicity test. The use of an alternative dilution water standard is species-specific and shall be conditionally allowed in either of the following two instances:

- (a) Instance 1: *When an invalid toxicity test is repeated.* In this instance, the Permittee shall implement the use of an alternative dilution water sample without the approval of the Department if the following conditions are met: 1) the test is repeated during the required time frame; 2) the alternative dilution water is of known quality with hardness, pH, conductivity, alkalinity, organic carbon, and total suspended solids, similar to that of the Quinnipiac River and the alternative dilution water does not produce a toxic response; 3) receiving water controls are run during the alternative dilution water tests; 4) a complete toxicity test report is submitted by the Permittee and it shall clearly document: that site water toxicity rendered the first test invalid; that a re-test was conducted using an alternative dilution water that matched the characteristics of the site water; that site water controls were included in the re-test; and that the site water controls of the re-test met the minimum acceptability criteria. However, if the re-test documented that the site water controls met the minimum test acceptability criteria, site water must be used as the diluent in future toxicity tests. If the site water controls of the re-test failed to meet test acceptability criteria, an alternative dilution water may be used in future toxicity tests using the effected test organism after submitting written documentation to the Department.
- (b) Instance 2: *In future toxicity tests, where there are at least two recent documented incidents where use of the Quinnipiac River as the dilution water was found to be unreliable.* In this instance, the Permittee must receive written approval from the Commissioner prior to using an alternative dilution water. The documentation submitted to the Department in support of the use of alternative dilution water in this instance must include the following: Documentation of site water toxicity including all supporting documentation as well as an identification of the effected test organism and an identification of the effected quarterly test period; a description of the alternative dilution water proposed; a description of the controls that will be used in future toxicity tests. Upon approval, the Permittee shall implement the use of the alternative dilution water testing for the term of the permit. [In February 2011, the Permittee proposed to use an alternative dilution water for toxicity testing using *Pimephales promelas* because of the documented incidences where the Quinnipiac River was found to be unreliable for use with this species. The Permittee proposes to use synthetic freshwater as an alternative dilution water for this species. Based on the representations made by the Permittee, the Department has approved the use of an

alternative dilution water (i.e., synthetic freshwater prepared as described in Section 7(B)(6)(d) below) for toxicity testing involving *Pimephales promelas*].

(6) **TEST CONDITIONS:**

- (a) Testing for chronic aquatic toxicity shall be conducted as prescribed in the reference document for static daily renewal tests. Daily composite samples of the discharge and grab samples of the Quinnipiac River shall be collected on: Day 1 of the test (for test initiation and renewal on Day 2 of the test); Day 3 of the test (for test solution renewal on Day 3 and Day 4 of the test); and on Day 5 of the test, (for test solution renewal on Day 5, Day 6, and Day 7 of the test). Samples shall not be dechlorinated, pH or hardness adjusted, or chemically altered in any way.
- (b) Test concentrations shall be comprised of a minimum of five dilutions (100% effluent, 50% effluent, 26% effluent, 12.5% effluent, and 6.25% effluent, and if applicable, a dilution that represents a re-calculated IWC% effluent concentration as determined in Section (e) below), laboratory control water, and site dilution water. Quinnipiac River water shall be used as the dilution water unless the Permittee meets the requirements of subsection (5) above, which allows for the use of an alternative dilution water.
- (c) Dissolved oxygen, pH, and temperature shall be measured in each sample of effluent and the Quinnipiac River water sample prior to and immediately following renewal of the test solutions.
- (d) Synthetic freshwater prepared with deionized water adjusted to a hardness of 50 mg/l ( $\pm 5$  mg/l) as CaCO<sub>3</sub> prepared as described in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (EPA-821-R-02-013) shall be used as laboratory control water.
- (e) In lieu of demonstrating compliance with the specific maximum daily toxicity limits in Section 5 Table A, the Permittee may demonstrate compliance with a maximum daily limit based on a re-calculated IWC that reflects the actual flows. The Permittee may re-calculate the IWC based on actual flows, provided: 1) the Permittee maintains an accurate record of measured discharge flows and hours of operation for all days on which a discharge occurs; and 2) the total daily flow for any single operating day does not exceed the average of the daily flows for the thirty consecutive operating days prior to the sampling date by more than 25 per cent.

The re-calculated IWC shall be determined as follows:

- (i) The measured average daily flow (in gallons per hour) shall be tabulated for each of the prior 30 operating days and the arithmetic average for the 30 day period calculated (i.e., “the 30-day average hourly flow”).
- (ii) The IWC (in gallons per hour) for the thirty consecutive operating days prior to the sampling date shall be calculated by dividing the 30-day average hourly flow by the sum of the 30-day average hourly flow and the dilution (in gallons per hour) allocated to the discharge:

$$IWC\% = \frac{\text{Average Daily Flow (gph)}}{\text{Average Daily Flow (gph)} + 267,739 \text{ gph}} \times 100$$

- (7) **CHEMICAL ANALYSIS:** Chemical analysis for the parameters identified in Table A of the permit under “Chemical Analysis required with Toxicity Test” shall be conducted on an undiluted aliquot of each effluent sample and each sample of Quinnipiac River water used in the test. In addition, each sample of undiluted effluent and each sample of Quinnipiac River water shall also be analyzed for the following parameters: pH, specific conductance, and total hardness.

- (8) **TEST ACCEPTABILITY CRITERIA:** If the laboratory control fails to meet test acceptability criteria specified in the reference document 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.
- (9) **REPORTING:** A report detailing the results of the chronic toxicity monitoring shall be submitted no later than 60 days following the day sampling was concluded for that test. The report shall include a summary of the test results which includes, at a minimum, percent survival in each replicate test chamber and all supporting chemical/physical measurements performed in association with the toxicity test. Endpoints to be reported are: 48-hour LC<sub>50</sub> (acute endpoint), 7-day LC<sub>50</sub> (survival), 7-day C-NOEC (survival), 7-day C-LOEC (survival), 7-day C-NOEC (growth), 7-day C-LOEC (growth), 7-day C-NOEC (reproduction), 7-day C-LOEC (reproduction), 7-day IC<sub>25</sub> (growth and reproduction). In addition, Attachment A of this permit shall be completed and submitted with the DMR.

## SECTION 8: 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. Except for continuous monitoring, 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 other methods approved by the Commissioner shall also be included on the DMR, or as an attachment, if necessary. All aquatic toxicity reports shall also be included as an attachment to the DMR. 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, 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, 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 Street  
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.

- (D) NetDMR Reporting Requirements

- (1) Prior to one-hundred and eighty (180) days after the issuance of this permit, the Permittee may either submit monitoring data and other reports to the Department in hard copy form or electronically using NetDMR, a web-based tool that allows Permittees to electronically submit discharge monitoring reports (DMRs) and other required reports through a secure internet connection. Unless otherwise approved in writing by the Commissioner, no later than one-hundred and eighty (180) days after the issuance of this

permit the Permittee shall begin reporting electronically using NetDMR. Specific requirements regarding subscription to NetDMR and submittal of data and reports in hard copy form and for submittal using NetDMR are described below:

(a) Submittal of NetDMR Subscriber Agreement

On or before fifteen (15) days after the issuance of this permit, the Permittee and/or the person authorized to sign the Permittee's discharge monitoring reports ("Signatory Authority") as described in RCSA Section 22a-430-3(b)(2) shall contact the Department at [deep.netdmr@ct.gov](mailto:deep.netdmr@ct.gov) and initiate the NetDMR subscription process for electronic submission of Discharge Monitoring Report (DMR) information. Information on NetDMR is available on the Department's website at [www.ct.gov/deep/netdmr](http://www.ct.gov/deep/netdmr). On or before ninety (90) days after issuance of this permit the Permittee shall submit a signed and notarized copy of the Connecticut DEEP NetDMR Subscriber Agreement to the Department.

(b) Submittal of Reports Using NetDMR

Unless otherwise approved by the Commissioner, on or before one-hundred and eighty (180) days after issuance of this permit, the Permittee and/or the Signatory Authority shall electronically submit DMRs and reports required under this permit to the Department using NetDMR in satisfaction of the DMR submission requirement in paragraph (A) of this Section of this permit.

DMRs shall be submitted electronically to the Department no later than the 30th day of the month following the completed reporting period. All reports 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 Department as an electronic attachment to the DMR in NetDMR. Once a Permittee begins submitting reports using NetDMR, it will no longer be required to submit hard copies of DMRs or other reports to the Department. Permittee shall also electronically file any written report of non-compliance described in Section paragraph (A) of this Section and in the following Section of this Permit as an attachment in NetDMR. NetDMR is accessed from: <https://netdmr.epa.gov/netdmr/public/home.htm>.

(c) Submittal of NetDMR Opt-Out Requests

If the Permittee is able to demonstrate a reasonable basis, such as technical or administrative infeasibility, that precludes the use of NetDMR for electronically submitting DMRs and reports, the Commissioner may approve the submission of DMRs and other required reports in hard copy form ("opt-out request"). Opt-out requests must be submitted in writing to the Department for written approval on or before fifteen (15) days prior to the date a Permittee would be required under this permit to begin filing DMRs and other reports using NetDMR. This demonstration shall be valid for twelve (12) months from the date of the Department's approval and shall thereupon expire. At such time, DMRs and reports shall be submitted electronically to the Department using NetDMR unless the Permittee submits a renewed opt-out request and such request is approved by the Department.

All opt-out requests and requests for the NetDMR subscriber form should be sent to the following address or by email at [deep.netdmr@ct.gov](mailto:deep.netdmr@ct.gov):

Attn: NetDMR Coordinator  
Connecticut Department of Energy and Environmental Protection  
79 Elm Street  
Hartford, CT 06106-5127

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

- (A) 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 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) If any two consecutive test results or any three test results in a twelve month period indicates that an Aquatic Toxicity Limit has been exceeded, the Permittee shall immediately take all reasonable steps to eliminate toxicity wherever possible and shall submit a report to Bureau of Materials Management and Compliance Assurance for the review and approval of the Commissioner in accordance with section 22a-430-3(j)(10)(c) of the RCSA describing proposed steps to eliminate the toxic impact of the discharge on the receiving water body. Such a report shall include a proposed time schedule to accomplish toxicity reduction and the Permittee shall comply with any schedule approved by the Commissioner.
- (C) 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.

#### **SECTION 10: SPECIAL CONDITIONS/COMPLIANCE SCHEDULES**

- (A) REMOVED
- (B) REMOVED
- (C) REMOVED
- (D) In addition to RCSA Section 22a-430-3(p) and any other federal, state, or local requirements, the Permittee shall report all spills that discharge to the wastewater treatment plant, storm sewers, ground or surface waters to the Bureau of Materials Management and Compliance Assurance, Water Permitting and Enforcement Division within two (2) hours of discovery. Within seven (7) days of each spill event, the Permittee shall submit a written report to the Department which shall include: the date and time of the spill occurrence; the name of the Department staff person that the spill was verbally reported to and the date/time that the verbal notice was made; the volume and type of material spilled; a description of the containment and clean-up measures taken, including the fate of the spilled material; the date/time the remedial actions were taken; a determination of the cause of the spill, including whether it was attributable to human error or to equipment failure; a description of equipment and/or process modifications or additional steps required to prevent recurrent spills; a proposal for modifications to prevent recurrent spills, with a schedule to accomplish the modifications. If a future schedule is proposed in order to address a spill, the Permittee must provide the Department with monthly status reports until the work proposed is completed.
- (E) The Permittee shall eliminate/minimize all accidental spills/discharges at the site. This shall be accomplished as follows:
  - (1) On or before sixty (60) days after the date of issuance of this permit, the Permittee shall retain one or more qualified consultants acceptable to the Commissioner to prepare the documents and implement or oversee the actions required by this section of the permit and shall, by that date, notify the Commissioner in writing of the identity of such consultants. The Permittee shall retain one or more qualified consultants acceptable to the Commissioner until the actions required by this section of the permit have been completed, and within ten days after retaining any consultant other than one originally identified under this paragraph, the Permittee shall notify the Commissioner in writing of the identity of such other consultant. The consultant retained to perform the studies and oversee any remedial measures required to achieve compliance with this section of the permit shall be a qualified professional engineer licensed to practice in Connecticut and shall have documented experience in engineering process operations in either the chemical manufacturing industry or the pharmaceutical industry. The Permittee shall submit to the Commissioner a description of a consultant's education, experience, and training that is relevant to the work required by this section of the permit within sixty (60) days after issuance of this permit. Nothing in this paragraph shall preclude the Commissioner from finding a previously acceptable consultant unacceptable.

- (2) On or before ninety (90) days after the date of issuance of this permit, the Permittee shall submit for the review and written approval of the Commissioner a comprehensive and thorough technical report which shall outline, in detail, any and all means for preventing and controlling accidental spills/discharges at the site and for minimizing the effect of such events. Such report shall include:
- (a) An identification of all possible sources of accidental discharge of any raw material, product, by-product, and untreated/partially-treated wastes, that could accidentally be discharged into the waters of the State from any area on-site, including: loading/unloading areas, waste treatment areas, process equipment, and any ancillary equipment associated with these areas or equipment.
  - (b) An identification and detailed description of any and all technology, equipment, and procedures to be implemented at the site in order to eliminate/minimize/prevent accidental spills/releases including, but not limited to: material storage and control; operating procedures; process re-design and modification; spill and leak detection devices/methods; process technology; chemical spill management; monitoring and detection; auditing/inspections; and employee training. For each technology, equipment, or procedure identified in the report, the following information shall also be provided: an evaluation of how each item will achieve compliance with the requirements of this section including a prediction of the effectiveness of each item; the costs (capital and on-going) associated with the implementation of each item; a proposal to implement the preferred alternative or combination of alternatives with supporting justification for each alternative; and an implementation schedule containing dates when the technology, equipment, and procedures will be constructed, implemented, or operational. Such schedule shall represent the most expeditious schedule for performing each alternative.
- (3) On or before sixty (60) days after the approval of the report identified in 10(E)(2) above, the Permittee shall submit, for the review and written approval of the Commissioner, a report containing the following information:
- (a) A detailed implementation program and schedule to perform both the preferred alternative(s) and to submit all engineering plans and specifications related to the preferred alternative(s).
  - (b) A list all permits and approvals required for each alternative, including but not limited to any permits required under sections 22a-32, 22a-42a, 22a-342, 22a-361, 22a-368 or 22a-430 of the Connecticut General Statutes; and a schedule for applying for and obtaining all permits and approvals required for such actions.
- (4) The Permittee shall implement all remedial actions required by this section of the permit in accordance with the approved plans and specifications and the approved schedule as soon as possible. Within fifteen days after completing such actions, the Permittee shall certify to the Commissioner in writing that the actions have been completed as approved.
- (F) The Permittee shall achieve compliance with the final limitations for Acrylamide for DSN 001-1 in Section 5, Table A in accordance with the following:
- (1) On or before thirty (30) days after the date of issuance of this permit, the Permittee shall retain one or more qualified consultants acceptable to the Commissioner to prepare the documents and implement or oversee the actions required by this section of the permit and shall, by that date, notify the Commissioner in writing of the identity of such consultants. The Permittee shall retain one or more qualified consultants acceptable to the Commissioner until the actions required by this section of the permit have been completed, and within ten days after retaining any consultant other than one originally identified under this paragraph, Permittee shall notify the Commissioner in writing of the identity of such other consultant. The consultant retained to perform the studies and oversee any remedial measures required to achieve compliance with this section shall be a qualified professional engineer licensed to practice in Connecticut acceptable to the Commissioner. The Permittee shall submit to the Commissioner a description of a consultant's education, experience and training that is relevant to the work required by this permit within ten days after a request for such a description.

Nothing in this paragraph shall preclude the Commissioner from finding a previously acceptable consultant unacceptable.

- (2) The Permittee shall, within sixty (60) days of issuance of this permit, provide to the Department, for its review and written approval, a comprehensive and thorough report which describes and evaluates actions which may be taken by the Permittee to achieve compliance with these limitations. Such report shall:
    - (a) evaluate alternative actions to achieve compliance with the limits including, but not limited to, pollutant source reduction, process changes/innovations, chemical substitutions, recycle and zero discharge systems, water conservation measures, and other internal and/or end-of-pipe treatment technologies;
    - (b) state in detail the most expeditious schedule for performing each alternative;
    - (c) list all permits and approvals required for each alternative, including but not limited to any permits required under sections 22a-32, 22a-42a, 22a-342, 22a-361, 22a-368 or 22a-430 of the Connecticut General Statutes;
    - (d) propose a preferred alternative or combination of alternatives with supporting justification; and,
    - (e) propose a detailed program and schedule to perform all actions required by the preferred alternative including, but not limited to a schedule for submission of engineering plans and specifications on any internal and/or end-of-pipe treatment facilities, start and completion of any construction activities related to any treatment facilities, and applying for and obtaining all permits and approvals required for such actions.
  - (3) The Permittee shall implement all actions required by this section of the permit in accordance with the approved plans and specifications and the approved schedule as soon as possible, but in no event later than March 1, 2018. On or before this date, the Permittee shall certify to the Commissioner in writing that the actions have been completed as approved.
- (G) The Permittee shall address the toxicity in DSN 001-1 in accordance with the following:
- (1) On or before thirty (30) days after the date of issuance of this permit, the Permittee shall retain one or more qualified consultants acceptable to the Commissioner to prepare the documents and implement or oversee the actions required by this section of the permit and shall, by that date, notify the Commissioner in writing of the identity of such consultants. The Permittee shall retain one or more qualified consultants acceptable to the Commissioner until the actions required by this section of the permit have been completed, and within ten days after retaining any consultant other than one originally identified under this paragraph, the Permittee shall notify the Commissioner in writing of the identity of such other consultant. The consultant retained to perform the studies and oversee any remedial measures required to achieve compliance with the subject limitations shall be a qualified professional engineer licensed to practice in Connecticut acceptable to the Commissioner. The Permittee shall submit to the Commissioner a description of a consultant's education, experience and training, which is relevant to the work required by this permit within ten days after a request for such a description. Nothing in this paragraph shall preclude the Commissioner from finding a previously acceptable consultant unacceptable.
  - (2) Upon issuance of this permit, if any quarterly chronic test result indicates a C-NOEC for any test species of less than 26% effluent and the testing meets all test acceptability criteria, the Permittee shall notify the Department and immediately evaluate the source of the toxicity and the means in which the toxicity shall be eliminated/reduced. This evaluation shall include, but not be limited to, those protocols identified in EPA guidance<sup>1</sup> for conducting Toxicity Identification Evaluations

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<sup>1</sup> EPA Guidance shall include, but is not limited to: *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA 600-2-88-070); *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures, Second Edition* (EPA 600 R-91-003); *Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA 600-R-92-080); *Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation*

(TIEs) and Toxicity Reduction Evaluations (TREs), as those protocols relate to the subject discharge.

- (3) Within ninety (90) days of completion of the investigation identified above, the Permittee shall submit a report for the review and written approval of the Commissioner which identifies the cause(s) of the unacceptable level of toxicity in the effluent and identifies the corrective actions that have been taken to reduce or eliminate the toxicity in the effluent. The report shall provide a summary of the information obtained through the investigation and shall specifically include, at a minimum, the following: a list of all sources of toxicity; a list of any and all corrective actions necessary to reduce or eliminate toxicity in the effluent and to prevent the recurrence of toxicity so that compliance with chronic toxicity effluent limitations can be consistently achieved; a detailed evaluation of each corrective action, including the efficiency and feasibility of each corrective action; a description of the manner in which the effectiveness of the remedial actions have been or will be evaluated; an expeditious schedule for the implementation of each corrective action proposed but not already taken; a list of all approvals and permits necessary to implement any future corrective actions; plans and specifications for any future corrective action.
  - (4) The Permittee shall implement all approved actions in accordance with the approved plans and specifications and the approved schedule.
  - (5) If the corrective actions taken above do not fully address compliance with the chronic whole effluent toxicity limitation identified in Section 5 of this permit to the satisfaction of the Commissioner, additional investigations shall be performed in accordance with a supplemental plan and schedule approved in writing by the Commissioner. Unless otherwise specified in writing by the Commissioner, the supplemental plan and schedule shall be submitted for the Commissioner's review and written approval on or before thirty (30) days after notice from the Commissioner that they are required. The Permittee shall implement all supplemental actions required by this section of the permit in accordance with the approved plans and specifications and the approved schedule.
- (H) The Permittee shall achieve compliance with the final limitations ("Step 2 limitations") for Total Phosphorus for DSN 001-1 in Section 5, Table A in accordance with the following:
- (1) On or before thirty (30) days after the date of issuance of this permit, the Permittee shall retain one or more qualified consultants acceptable to the Commissioner to prepare the documents and implement or oversee the actions required by this section of the permit and shall, by that date, notify the Commissioner in writing of the identity of such consultants. The Permittee shall retain one or more qualified consultants acceptable to the Commissioner until the actions required by this section of the permit have been completed, and within ten days after retaining any consultant other than one originally identified under this paragraph, Permittee shall notify the Commissioner in writing of the identity of such other consultant. The consultant retained to perform the studies and oversee any remedial measures required to achieve compliance with the Total Phosphorus limitations shall be a qualified professional engineer licensed to practice in Connecticut and acceptable to the Commissioner. The Permittee shall submit to the Commissioner a description of a consultant's education, experience and training that is relevant to the work required by this permit within ten days after a request for such a description. Nothing in this paragraph shall preclude the Commissioner from finding a previously acceptable consultant unacceptable.
  - (2) On or before one hundred and eighty (180) days after the date of issuance of this permit, the Permittee shall submit for the Commissioner's review and written approval a comprehensive and thorough report which describes and evaluates alternative actions which may be taken by the Permittee to achieve compliance with the final Total Phosphorus effluent limitations ("Step 2 limitations") in Section 5, Table A of this permit. Such report shall:
    - (a) evaluate alternative actions to achieve compliance with the final Total Phosphorus limits ("Step 2 limits") in Section 5 including, but not limited to, pollutant source reduction, process changes/innovations, chemical substitutions, recycle and zero discharge systems,

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*Procedures for Samples Exhibiting Acute and Chronic Toxicity (EPA 600-R-92-081); Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluent, Phase 1 (EPA 600-6-91-005F).*



water conservation measures, and other internal and/or end-of-pipe treatment technologies. Such evaluation shall also consider any adverse environmental impacts that may occur with each alternative and quantify that impact;

- (b) state in detail the most expeditious schedule for performing each alternative;
  - (c) list all permits and approvals required for each alternative, including but not limited to any permits required under sections 22a-32, 22a-42a, 22a-342, 22a-361, 22a-368 or 22a-430 of the Connecticut General Statutes;
  - (d) propose a preferred alternative or combination of alternatives with supporting justification; and,
  - (e) propose a detailed program and schedule to perform all actions required by the preferred alternative for each Phase including but not limited to a schedule for submission of engineering plans and specifications on any internal and/or end of pipe treatment facilities, start and completion of any construction activities related to any treatment facilities, and applying for and obtaining all permits and approvals required for such actions.
- (3) The Permittee shall implement all actions required by this section of the permit in accordance with the approved plans and specifications and approved schedule as soon as possible but in no event shall the actions necessary to achieve compliance with the final limits (“Step 2 limits”) be implemented later than April 1, 2022. On or before this date, the Permittee shall certify to the Commissioner in writing that it has achieved compliance with the final limits (“Step 2 limits”) for Total Phosphorus in Section 5, Table A of this permit.
- (I) REMOVED
- (J) The Permittee shall submit to the Commissioner quarterly status reports for the projects identified in Section 10 of this permit effective upon permit issuance through to project completion. Status reports shall be due on the following dates: March 1<sup>st</sup>, June 1<sup>st</sup>, September 1<sup>st</sup>, and December 1<sup>st</sup>. Status reports shall include, but not be limited to, a detailed description of progress made by the Permittee in performing actions required by this section of the permit in accordance with the approved schedule including, but not limited to, development of engineering plans and specifications, construction activity, contract bidding, operational changes, preparation and submittal of permit applications, and any other actions required by Section 10 of this permit.
- (K) The Permittee shall use best efforts to submit to the Commissioner all documents required by this section of the permit in a complete and approvable form. If the Commissioner notifies the Permittee that any document or other action is deficient, and does not approve it with conditions or modifications, it is deemed disapproved, and the Permittee shall correct the deficiencies and resubmit it within the time specified by the Commissioner or, if no time is specified by the Commissioner, within thirty days of the Commissioner's notice of deficiencies. In approving any document or other action under this Compliance Schedule, the Commissioner may approve the document or other action as submitted or performed or with such conditions or modifications as the Commissioner deems necessary to carry out the purposes of this section of the permit. Nothing in this paragraph shall excuse noncompliance or delay.
- (L) Dates. The date of submission to the Commissioner of any document required by this section of the permit shall be the date such document is received by the Commissioner. The date of any notice by the Commissioner under this section of the permit, including but not limited to notice of approval or disapproval of any document or other action, shall be the date such notice is personally delivered or the date three days after it is mailed by the Commissioner, whichever is earlier. Except as otherwise specified in this permit, the word “day” as used in this section of the permit means calendar day. Any document or action which is required by this section only of the permit, to be submitted, or performed, by a date which falls on, Saturday, Sunday, or, a legal Connecticut or federal holiday, shall be submitted or performed on or before the next day which is not a Saturday, Sunday, or legal Connecticut or federal holiday.
- (M) Notification of noncompliance. In the event that the Permittee becomes aware that it did not or may not comply, or did not or may not comply on time, with any requirement of this section of the permit, except for the final compliance dates above, the Permittee shall immediately notify the Commissioner and shall take all

reasonable steps to ensure that any noncompliance or delay is avoided or, if unavoidable, is minimized to the greatest extent possible. In so notifying the Commissioner, the Permittee shall state in writing the reasons for the noncompliance or delay and propose, for the review and written approval of the Commissioner, dates by which compliance will be achieved, and the Permittee shall comply with any dates that may be approved in writing by the Commissioner. Notification by the Permittee shall not excuse noncompliance or delay, and the Commissioner's approval of any compliance dates proposed shall not excuse noncompliance or delay unless specifically so stated by the Commissioner in writing.

- (N) Notice to Commissioner of changes. Within fifteen days of the date the Permittee becomes aware of a change in any information submitted to the Commissioner under this section of the permit, or that any such information was inaccurate or misleading or that any relevant information was omitted, the Permittee shall submit the correct or omitted information to the Commissioner.
- (O) Submission of documents. Any document, other than a discharge monitoring report, required to be submitted to the Commissioner under this section of the permit shall, unless otherwise specified in writing by the Commissioner, be directed to:

Christine Gleason, Sanitary Engineer  
Department of Environmental Protection  
Bureau of Materials Management and Compliance Assurance  
Water Permitting and Enforcement Division  
79 Elm Street  
Hartford, CT 06106-5127

This permit modification revises and supersedes the NPDES Permit Modification of CT0000086 issued on September 10, 2015.

This permit modification is hereby issued on

**DRAFT**

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MICHAEL SULLIVAN  
Deputy Commissioner

MS:CMG

**ATTACHMENT A**  
Supplemental Monitoring Data: Chronic Toxicity

PARAMETER	UNITS	EFFLUENT SAMPLE RESULTS			QUINNIPIAC RIVER SAMPLE RESULTS		
		DATE ANALYZED	DATE ANALYZED	DATE ANALYZED	DATE ANALYZED	DATE ANALYZED	DATE ANALYZED
Acetone	µg/L						
Acetonitrile	mg/L						
Acrylamide	µg/L						
Acrylonitrile	µg/L						
Alkalinity, Total	mg/L						
Aluminum	mg/L						
Ammonia (as N)	mg/L						
Barium, Total	mg/L						
Benzene	µg/L						
Benzoic Acid	µg/L						
Bis(2-ethylhexyl) phthalate	µg/L						
Bisphenol A	µg/L						
BOD <sub>5</sub>	mg/L						
Boron, Total	mg/L						
Butanol	mg/L						
Butyl acetate	µg/L						
Chemical Oxygen Demand	mg/L						
Chlorine, Total Residual	µg/L						
Chlorobenzene	µg/L						
Chloroethane	µg/L						
Chloroform	µg/L						
Chromium, Total	mg/L						
Copper, Total	mg/L						
Cresol, meta	µg/L						
Cresol, ortho	µg/L						
Cresol, para	µg/L						
Cyanide, Total	µg/L						
Diethylamine	mg/L						
Dimethylamine	mg/L						
Dimethyl phthalate	µg/L						
Di-N-Octyl phthalate	µg/L						
E. coli	cfus/100 ml						
Epichlorohydrin	µg/L						
Ethanol	mg/L						
Ethyl acrylate	µg/L						
Ethylbenzene	µg/L						
Ethylene glycol	mg/L						
Formaldehyde	mg/L						
Furfural	mg/L						
Hardness, Total	mg/L						
Iron, Total	µg/L						
Isobutanol	mg/L						
Isophorone	mg/L						
Isopropanol	mg/L						
Isopropylamine	mg/L						
Kjeldahl Nitrogen (as N)	mg/L						
Lead, Total	mg/L						
Magnesium, Total	mg/L						
Methanol	mg/L						
Methyl acrylate	µg/L						

PARAMETER	UNITS	EFFLUENT SAMPLE RESULTS			QUINNIPIAC RIVER SAMPLE RESULTS		
		DATE ANALYZED	DATE ANALYZED	DATE ANALYZED	DATE ANALYZED	DATE ANALYZED	DATE ANALYZED
Methyl ethyl ketone	µg/L						
Methyl methacrylate	µg/L						
Methylene chloride	µg/L						
Naphthalene	µg/L						
Nickel, Total	mg/L						
Nitrate (as N)	mg/L						
Nitrite (as N)	mg/L						
Nonylphenol	µg/L						
Oil & Grease, Total	mg/L						
Organic Nitrogen	mg/L						
Orthophosphate	mg/L						
Oxygen, Dissolved	mg/L						
PCBs	µg/L						
pH	SU						
Phenol	µg/L						
Phosphorus	mg/L						
Propylene glycol	mg/L						
Silver, Total	µg/L						
Specific Conductance	µmhos						
Styrene	µg/L						
Tetrachloroethylene	µg/L						
Tetrahydrofuran	µg/L						
Tert-Butyl alcohol	mg/L						
Tin, Total	mg/L						
Titanium, Total	mg/L						
Toluene	µg/L						
Total Suspended Solids	mg/L						
1,1,1-Trichloroethane	µg/L						
Trichloroethylene	µg/L						
Triethylamine	mg/L						
Xylene, Total (o, m, p)	µg/L						
Zinc, Total	mg/L						

If reported value is less than the ML, report the value as "<ML".

Indicate the location where the Quinnipiac River sample was collected: (USGS coordinates): \_\_\_\_\_