



November 27, 2024

Allnex USA Inc.  
528 South Cherry Street  
Wallingford, CT 06492  
(via electronic mail to: [virginia.ryan@allnex.com](mailto:virginia.ryan@allnex.com))

Attn: Virginia Ryan, Safety, Health, and Environmental Manager

Re: **Permit Issuance**  
Application No. 201508943  
Permit No. CT0000086

Dear Virginia Ryan:

Pursuant to Section 22a 430 of Chapter 446k, Connecticut General Statutes ("CGS"), and Regulations of Connecticut State Agencies ("RCSA") adopted thereunder, as amended, and Section 402(b) of the Clean Water Act, as amended, 33 USC 1251, et. seq., the Department of Energy and Environmental Protection ("DEEP") has issued the attached National Pollutant Discharge Elimination System ("NPDES") permit for the above-referenced facility. Public comments were received during the 30-day public comment period. Please see the Response to Comment document to review those comments and DEEPs responses.

Please be advised that on and after the effective date indicated in the permit, the Permittee must comply with all terms, conditions, and limitations of the permit. If you have questions concerning this correspondence, please contact Patrick Bieger of my staff at [Patrick.bieger@ct.gov](mailto:Patrick.bieger@ct.gov) or 860-424-3805.

Best Regards,

Audra Dickson  
Director  
Water Permitting and Enforcement Division  
Bureau of Materials Management and  
Compliance Assurance

CC: Carleen Moody, DEEP Industrial NPDES Enforcement Supervisor ([michelle.gore@ct.gov](mailto:michelle.gore@ct.gov))  
Nick Giannetti, DEEP Industrial NPDES Permitting Supervisor ([nick.giannetti@ct.gov](mailto:nick.giannetti@ct.gov))  
Robin Long, DEEP Compliance & Enforcement ([robin.long@ct.gov](mailto:robin.long@ct.gov))



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

**Permittee:**

Allnex USA Inc.  
528 South Cherry Street  
Wallingford, Connecticut 06429

**Location Address:**

Allnex USA Inc.  
528 South Cherry Street  
Wallingford, Connecticut 06492

**Facility ID:** 148-017

**Permit ID:** CT0000086

**Receiving Water Body:** Quinnipiac River

**Issuance Date:** November 26, 2024

**Receiving Water Body ID:** CT6900-00\_05

**Effective Date:** January 1, 2025

**Permit Expires:** December 31, 2029

**SECTION 1: GENERAL PROVISIONS**

- (A) This permit is reissued in accordance with Section 22a-430 of Chapter 446k, Connecticut General Statutes (“CGS”), and Regulations of Connecticut State Agencies (“RCSA”) adopted thereunder, as amended, and Section 402(b) of the Clean Water Act (“CWA”), as amended, 33 USC 1251, *et. seq.*, and pursuant to an approval dated September 26, 1973, by the Administrator of the United States Environmental Protection Agency for the State of Connecticut to administer a 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 to Comply
- (f) Proper Operation and Maintenance
- (g) Sludge Disposal
- (h) Duty to Mitigate

- (i) Facility Modifications; Notification
- (j) Monitoring, Records and Reporting Requirements
- (k) Bypass
- (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
  - (s) Treatment Requirements
- (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 thirty 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 RCSA.
- (I) The Permittee shall operate and maintain its collection and treatment system in accordance with its Operation and Maintenance Plan and with any approvals issued in accordance with RCSA Section 22a-430-3(i)(3).

## **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:

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

“Annually” when used as a sampling frequency in Tables A and B of this permit, means that sampling is required in the month of March.

“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.

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

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

defining a grab sample average.

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

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

“DMR” means Discharge Monitoring Report.

“IC” means “Inhibition Concentration”.

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

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

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

“LC” means Lethal Concentration

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

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

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

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

“PPM” means parts per million

“Quarter” means the calendar quarter beginning at 12:00 AM on the first day of March, June, September, and December and ending at 12:00 AM on the first day of June, September, December, and March, respectively.

“Quarterly”, when used as a sampling frequency in this permit, means that

sampling is required in the months of February, May, August, and November.

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

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

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

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

- (A) The Commissioner has issued a final determination and found that with respect to the discharge, DSN 001-1, continuance of the existing system would protect the waters of the state from pollution. The Commissioner’s decision is based on Application 201508943 for permit reissuance received on November 18, 2015, and the administrative record established in the processing of that application.
- (B) Upon the effective date of this permit and continuing until this permit expires or is modified or revoked, the Commissioner hereby authorizes the Permittee to discharge in accordance with the terms and conditions of this permit, the information provided in Application No. 201508943, received by the Commissioner on November 18, 2015, and all modifications and approvals issued by the Commissioner or the Commissioner’s authorized agent, for the discharge and/or activities authorized by, or associated with this Permit.
- (C) The Commissioner reserves the right to make appropriate revisions to the permit in order to establish any appropriate effluent limitations, schedules of compliance, or other provisions which may be authorized under the Federal Clean Water Act or the CGS or regulations adopted thereunder, as amended. The permit as modified or renewed under this paragraph may also contain any other requirements of the Federal Clean Water Act or the CGS or regulations adopted thereunder which are then applicable.

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

- (A) The Permittee shall assure that the surface water affected by the subject discharge shall conform to the *Connecticut Water Quality Standards*.
- (B) No discharge shall contain, or cause in the receiving stream, a visible oil sheen or floating solids, or cause visible discoloration or foaming in the receiving stream.

- (C) No discharge shall cause acute or chronic toxicity in the receiving water body beyond any zone of influence specifically allocated to that discharge in this permit.
- (D) The temperature of any discharge shall not increase the temperature of the receiving stream above 85 °F, or in any case, raise the temperature of the receiving stream by more than 4 °F.

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

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

**Table A**

Discharge Serial Number: <b>DSN 001-1</b>	Monitoring Location: <b>1 (EXTERNAL OUTFALL)</b>
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Wastewater Description: **Non-contact cooling water, cooling tower blowdown, cooling tower system maintenance drains, incidental system leakage, maintenance drains from cooling tower, condenser condensate, steam condensate, filtrates, laboratory wastewater, still bottoms, steam jet ejector condensates, steam jet ejector intercooler water, produced water, seal water, patty box drainage, sluice pelletizer, decant water, wash water, wet scrubber, building roof and containment structure water, sampling sink or valve drainage, maintenance sinks, eye wash and safety shower, boiler blowdown, water treatment wastewater, air compressor condensates, air conditioner condensate, activated carbon regeneration, boiler system drains, fire water, sanitary sewage, fire suppression test water, fire water storage tank overflow, and engine cooling water for emergency diesel pump.**

Monitoring Location Description: **Final effluent chamber**

Discharge is to: <b>Quinnipiac River</b>	ZOI: <b>269,450 gph</b>	Outfall Location: <b>41 26'04" 72 50' 52"</b>
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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
Acute Aquatic Toxicity <sup>3</sup> <i>Daphnia pulex</i>	TAA3 D	%	NA	LC <sub>50</sub> ≥ 100	Quarterly	Daily Composite	LC <sub>50</sub> ≥ 33	NR	Grab
Acute Aquatic Toxicity <sup>3</sup> <i>Pimephales promelas</i>	TAA6 C	%	NA	LC <sub>50</sub> ≥ 100	Quarterly	Daily Composite	LC <sub>50</sub> ≥ 33	NR	Grab
Chronic Aquatic Toxicity <sup>4,9</sup> (Survival) <i>Pimephales promelas</i>	TOP6 C	%	NA	C-NOEC ≥ 26	Quarterly	Daily Composite	NA	NR	NA
Chronic Aquatic Toxicity <sup>4,9</sup> (Growth) <i>Pimephales promelas</i>	TPP6 C	%	NA	C-NOEC ≥ 26	Quarterly	Daily Composite	NA	NR	NA
Chronic Aquatic Toxicity <sup>4,9</sup> (Survival) <i>Ceriodaphnia dubia</i>	TOP3 B	%	NA	C-NOEC ≥ 26	Quarterly	Daily Composite	NA	NR	NA
Chronic Aquatic Toxicity <sup>4,9</sup> (Reproduction) <i>Ceriodaphnia dubia</i>	TPP3 B	%	NA	C-NOEC ≥ 26	Quarterly	Daily Composite	NA	NR	NA
Acenaphthene	34205	ug/l	5.8	8.9	Annually	Daily Composite	13.3	NR	Grab
Acenaphthene	34205	g/d	26	71	Annually	Daily Composite	NA	NR	NA
Acenaphthylene	34200	ug/l	5.8	15	Annually	Daily Composite	22	NR	Grab
Acenaphthylene	34200	g/d	26	71	Annually	Daily Composite	NA	NR	NA
Acrylonitrile <sup>7</sup>	34215	ug/l	0.25	0.36	Monthly	Grab Sample Average	0.55	NR	Grab



**Table A**

Discharge Serial Number: **DSN 001-1** Monitoring Location: **1 (EXTERNAL OUTFALL)**

**Wastewater Description: Non-contact cooling water, cooling tower blowdown, cooling tower system maintenance drains, incidental system leakage, maintenance drains from cooling tower, condenser condensate, steam condensate, filtrates, laboratory wastewater, still bottoms, steam jet ejector condensates, steam jet ejector intercooler water, produced water, seal water, patty box drainage, sluice pelletizer, decant water, wash water, wet scrubber, building roof and containment structure water, sampling sink or valve drainage, maintenance sinks, eye wash and safety shower, boiler blowdown, water treatment wastewater, air compressor condensates, air conditioner condensate, activated carbon regeneration, boiler system drains, fire water, sanitary sewage, fire suppression test water, fire water storage tank overflow, and engine cooling water for emergency diesel pump.**

Monitoring Location Description: **Final effluent chamber**

Discharge is to: **Quinnipiac River** ZOI: **269,450 gph** Outfall Location: **41 26'04" 72 50' 52"**

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 <sup>7</sup>	34215	g/d	2.2	3.2	Monthly	Grab Sample Average	NA	NR	NA
Anthracene	34220	ug/l	0.105	0.211	Annually	Daily Composite	0.316	NR	Grab
Anthracene	34220	g/d	0.475	0.953	Annually	Daily Composite	NA	NR	NA
Benzene	34030	ug/l	9.9	36	Monthly	Grab Sample Average	54	NR	Grab
Benzene	34030	g/d	44	164	Monthly	Grab Sample Average	NA	NR	NA
Benzo(a)anthracene	34526	ug/l	0.018	0.026	Annually	Daily Composite	0.039	NR	Grab
Benzo(a)anthracene	34526	g/d	0.16	0.23	Annually	Daily Composite	NA	NR	NA
3,4-Benzofluoranthene	79531	ug/l	0.018	0.026	Annually	Daily Composite	0.039	NR	Grab
3,4-Benzofluoranthene	79531	g/d	0.16	0.23	Annually	Daily Composite	NA	NR	NA
Benzo(k)fluoranthene	34242	ug/l	0.018	0.026	Annually	Daily Composite	0.039	NR	Grab
Benzo(k)fluoranthene	34242	g/d	0.16	0.23	Annually	Daily Composite	NA	NR	NA
Benzo(a)pyrene	34247	ug/l	0.018	0.026	Annually	Daily Composite	0.039	NR	Grab
Benzo(a)pyrene	34247	g/d	0.16	0.23	Annually	Daily Composite	NA	NR	NA
Bis(2-ethylhexyl) phthalate	51315	ug/l	2.2	4.4	Weekly	Daily Composite	6.6	NR	Grab
Bis(2-ethylhexyl) phthalate	51315	g/d	19	38	Weekly	Daily Composite	NA	NR	NA

**Table A**

Discharge Serial Number: <b>DSN 001-1</b>	Monitoring Location: <b>1 (EXTERNAL OUTFALL)</b>
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**Wastewater Description: Non-contact cooling water, cooling tower blowdown, cooling tower system maintenance drains, incidental system leakage, maintenance drains from cooling tower, condenser condensate, steam condensate, filtrates, laboratory wastewater, still bottoms, steam jet ejector condensates, steam jet ejector intercooler water, produced water, seal water, patty box drainage, sluice pelletizer, decant water, wash water, wet scrubber, building roof and containment structure water, sampling sink or valve drainage, maintenance sinks, eye wash and safety shower, boiler blowdown, water treatment wastewater, air compressor condensates, air conditioner condensate, activated carbon regeneration, boiler system drains, fire water, sanitary sewage, fire suppression test water, fire water storage tank overflow, and engine cooling water for emergency diesel pump.**

Monitoring Location Description: **Final effluent chamber**

Discharge is to: <b>Quinnipiac River</b>	ZOI: <b>269,450 gph</b>	Outfall Location: <b>41 26'04" 72 50' 52"</b>
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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
Carbon Tetrachloride	32102	ug/l	1.6	2.3	Annually	Grab Sample Average	3.5	NR	Grab
Carbon Tetrachloride	32102	g/d	14	20	Annually	Grab Sample Average	NA	NR	NA
Chlorobenzene	34301	ug/l	4.0	7.5	Monthly	Grab Sample Average	11	NR	Grab
Chlorobenzene	34301	g/d	18	33	Monthly	Grab Sample Average	NA	NR	NA
Chloroethane	85811	ug/l	27	71	Monthly	Grab Sample Average	106	NR	Grab
Chloroethane	85811	g/d	125	323	Monthly	Grab Sample Average	NA	NR	NA
Chloroform	32106	ug/l	5.6	12	Monthly	Grab Sample Average	18	NR	Grab
Chloroform	32106	g/d	25	55	Monthly	Grab Sample Average	NA	NR	NA
2-Chlorophenol	34586	ug/l	8.3	26	Annually	Daily Composite	39	NR	Grab
2-Chlorophenol	34586	g/d	37	118	Annually	Daily Composite	NA	NR	NA
Chrysene	34320	ug/l	0.018	0.026	Annually	Daily Composite	0.039	NR	Grab

**Table A**

Discharge Serial Number: <b>DSN 001-1</b>	Monitoring Location: <b>1 (EXTERNAL OUTFALL)</b>
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**Wastewater Description: Non-contact cooling water, cooling tower blowdown, cooling tower system maintenance drains, incidental system leakage, maintenance drains from cooling tower, condenser condensate, steam condensate, filtrates, laboratory wastewater, still bottoms, steam jet ejector condensates, steam jet ejector intercooler water, produced water, seal water, patty box drainage, sluice pelletizer, decant water, wash water, wet scrubber, building roof and containment structure water, sampling sink or valve drainage, maintenance sinks, eye wash and safety shower, boiler blowdown, water treatment wastewater, air compressor condensates, air conditioner condensate, activated carbon regeneration, boiler system drains, fire water, sanitary sewage, fire suppression test water, fire water storage tank overflow, and engine cooling water for emergency diesel pump.**

Monitoring Location Description: **Final effluent chamber**

Discharge is to: <b>Quinnipiac River</b>	ZOI: <b>269,450 gph</b>	Outfall Location: <b>41 26'04" 72 50' 52"</b>
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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
Chrysene	34320	g/d	0.16	0.23	Annually	Daily Composite	NA	NR	NA
Di-n-butyl phthalate	39110	ug/l	7.2	15	Annually	Daily Composite	22	NR	Grab
Di-n-butyl phthalate	39110	g/d	32	68	Annually	Daily Composite	NA	NR	NA
1,2-Dichlorobenzene	34536	ug/l	20	43	Annually	Grab Sample Average	64	NR	Grab
1,2-Dichlorobenzene	34536	g/d	92	196	Annually	Grab Sample Average	NA	NR	NA
1,3-Dichlorobenzene	34566	ug/l	8.3	11	Annually	Grab Sample Average	16	NR	Grab
1,3-Dichlorobenzene	34566	g/d	37	53	Annually	Grab Sample Average	NA	NR	NA
1,4-Dichlorobenzene	34571	ug/l	4.0	7.5	Annually	Grab Sample Average	11	NR	Grab
1,4-Dichlorobenzene	34571	g/d	18	33	Annually	Grab Sample Average	NA	NR	NA
1,1-Dichloroethane	34496	ug/l	5.8	15	Annually	Grab Sample Average	22	NR	Grab
1,1-Dichloroethane	34496	g/d	26	71	Annually	Grab Sample Average	NA	NR	NA

**Table A**

Discharge Serial Number: **DSN 001-1** Monitoring Location: **1 (EXTERNAL OUTFALL)**

**Wastewater Description: Non-contact cooling water, cooling tower blowdown, cooling tower system maintenance drains, incidental system leakage, maintenance drains from cooling tower, condenser condensate, steam condensate, filtrates, laboratory wastewater, still bottoms, steam jet ejector condensates, steam jet ejector intercooler water, produced water, seal water, patty box drainage, sluice pelletizer, decant water, wash water, wet scrubber, building roof and containment structure water, sampling sink or valve drainage, maintenance sinks, eye wash and safety shower, boiler blowdown, water treatment wastewater, air compressor condensates, air conditioner condensate, activated carbon regeneration, boiler system drains, fire water, sanitary sewage, fire suppression test water, fire water storage tank overflow, and engine cooling water for emergency diesel pump.**

Monitoring Location Description: **Final effluent chamber**

Discharge is to: **Quinnipiac River** ZOI: **269,450 gph** Outfall Location: **41 26'04" 72 50' 52"**

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
1,2-Dichloroethane	32103	ug/l	18	56	Annually	Grab Sample Average	84	NR	Grab
1,2-Dichloroethane	32103	g/d	82	254	Annually	Grab Sample Average	NA	NR	NA
1,1-Dichloroethylene	34501	ug/l	3.2	4.7	Annually	Grab Sample Average	7.0	NR	Grab
1,1-Dichloroethylene	34501	g/d	19	30	Annually	Grab Sample Average	NA	NR	NA
1,2-trans-Dichloroethylene	34546	ug/l	5.6	14	Annually	Grab Sample Average	21	NR	Grab
1,2-trans-Dichloroethylene	34546	g/d	25	65	Annually	Grab Sample Average	NA	NR	NA
2,4-Dichlorophenol	34601	ug/l	10	30	Annually	Grab Sample Average	45	NR	Grab
2,4-Dichlorophenol	34601	g/d	47	135	Annually	Daily Composite	NA	NR	NA
1,2-Dichloropropane	34541	ug/l	41	61	Annually	Daily Composite	91	NR	Grab
1,2-Dichloropropane	34541	g/d	184	277	Annually	Grab Sample Average	NA	NR	NA

**Table A**

Discharge Serial Number: <b>DSN 001-1</b>	Monitoring Location: <b>1 (EXTERNAL OUTFALL)</b>
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**Wastewater Description: Non-contact cooling water, cooling tower blowdown, cooling tower system maintenance drains, incidental system leakage, maintenance drains from cooling tower, condenser condensate, steam condensate, filtrates, laboratory wastewater, still bottoms, steam jet ejector condensates, steam jet ejector intercooler water, produced water, seal water, patty box drainage, sluice pelletizer, decant water, wash water, wet scrubber, building roof and containment structure water, sampling sink or valve drainage, maintenance sinks, eye wash and safety shower, boiler blowdown, water treatment wastewater, air compressor condensates, air conditioner condensate, activated carbon regeneration, boiler system drains, fire water, sanitary sewage, fire suppression test water, fire water storage tank overflow, and engine cooling water for emergency diesel pump.**

**Monitoring Location Description: Final effluent chamber**

Discharge is to: <b>Quinnipiac River</b>	ZOI: <b>269,450 gph</b>	Outfall Location: <b>41 26'04" 72 50' 52"</b>
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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
1,3-Dichloropropylene	51044	ug/l	7.7	11	Annually	Grab Sample Average	16	NR	Grab
1,3-Dichloropropylene	51044	g/d	35	53	Annually	Grab Sample Average	NA	NR	NA
Diethyl phthalate	34336	ug/l	21	54	Annually	Grab Sample Average	81	NR	Grab
Diethyl phthalate	34336	g/d	97	245	Annually	Grab Sample Average	NA	NR	NA
2,4-Dimethylphenol	34606	ug/l	4.8	9.6	Annually	Grab Sample Average	14	NR	Grab
2,4-Dimethylphenol	34606	g/d	21	43	Annually	Grab Sample Average	NA	NR	NA
Dimethyl phthalate	34342	ug/l	5.0	12	Monthly	Daily Composite	18	NR	Grab
Dimethyl phthalate	34342	g/d	22	56	Monthly	Daily Composite	NA	NR	NA
4,6-Dinitro-o-cresol	34657	ug/l	20	74	Annually	Daily Composite	111	NR	Grab
4,6-Dinitro-o-cresol	34657	g/d	94	334	Annually	Daily Composite	NA	NR	NA
2,4-Dinitrophenol	34616	ug/l	19	32	Annually	Daily Composite	48	NR	Grab
2,4-Dinitrophenol	34616	g/d	85	148	Annually	Daily Composite	NA	NR	NA
2,4-Dinitrotoluene	34611	ug/l	3.4	5.0	Annually	Daily Composite	7.4	NR	Grab

**Table A**

Discharge Serial Number: **DSN 001-1** Monitoring Location: **1 (EXTERNAL OUTFALL)**

**Wastewater Description: Non-contact cooling water, cooling tower blowdown, cooling tower system maintenance drains, incidental system leakage, maintenance drains from cooling tower, condenser condensate, steam condensate, filtrates, laboratory wastewater, still bottoms, steam jet ejector condensates, steam jet ejector intercooler water, produced water, seal water, patty box drainage, sluice pelletizer, decant water, wash water, wet scrubber, building roof and containment structure water, sampling sink or valve drainage, maintenance sinks, eye wash and safety shower, boiler blowdown, water treatment wastewater, air compressor condensates, air conditioner condensate, activated carbon regeneration, boiler system drains, fire water, sanitary sewage, fire suppression test water, fire water storage tank overflow, and engine cooling water for emergency diesel pump.**

Monitoring Location Description: **Final effluent chamber**

Discharge is to: **Quinnipiac River** ZOI: **269,450 gph** Outfall Location: **41 26'04" 72 50' 52"**

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
2,4-Dinitrotoluene	34611	g/d	30	43	Annually	Daily Composite	NA	NR	NA
2,6-Dinitrotoluene	34626	ug/l	68	171	Annually	Daily Composite	2256	NR	Grab
2,6-Dinitrotoluene	34626	g/d	307	773	Annually	Daily Composite	NA	NR	NA
Ethylbenzene	78113	ug/l	8.5	28	Monthly	Grab Sample Average	42	NR	Grab
Ethylbenzene	78113	g/d	38	130	Monthly	Grab Sample Average	NA	NR	NA
Fluoranthene	34376	ug/l	1.28	1.87	Annually	Daily Composite	2.8	NR	Grab
Fluoranthene	34376	g/d	11	16	Annually	Daily Composite	NA	NR	NA
Fluorene	34381	ug/l	5.8	15	Annually	Daily Composite	22	NR	Grab
Fluorene	34381	g/d	26	71	Annually	Daily Composite	NA	NR	NA
Hexachlorobenzene	39700	ug/l	0.00026	0.00042	Annually	Daily Composite	0.00063	NR	Grab
Hexachlorobenzene	39700	g/d	0.003	.004	Annually	Daily Composite	NA	NR	NA
Hexachlorobutadiene	39702	ug/l	5.3	13	Annually	Daily Composite	19	NR	Grab
Hexachlorobutadiene	39702	g/d	24	59	Annually	Daily Composite	NA	NR	NA
Hexachloroethane	34396	ug/l	3.3	4.8	Annually	Daily Composite	7.2	NR	Grab
Hexachloroethane	34396	g/d	25	65	Annually	Daily Composite	NA	NR	NA
Methyl Chloride	34418	ug/l	23	50	Annually	Grab Sample Average	75	NR	Grab

**Table A**

Discharge Serial Number: **DSN 001-1** Monitoring Location: **1 (EXTERNAL OUTFALL)**

**Wastewater Description: Non-contact cooling water, cooling tower blowdown, cooling tower system maintenance drains, incidental system leakage, maintenance drains from cooling tower, condenser condensate, steam condensate, filtrates, laboratory wastewater, still bottoms, steam jet ejector condensates, steam jet ejector intercooler water, produced water, seal water, patty box drainage, sluice pelletizer, decant water, wash water, wet scrubber, building roof and containment structure water, sampling sink or valve drainage, maintenance sinks, eye wash and safety shower, boiler blowdown, water treatment wastewater, air compressor condensates, air conditioner condensate, activated carbon regeneration, boiler system drains, fire water, sanitary sewage, fire suppression test water, fire water storage tank overflow, and engine cooling water for emergency diesel pump.**

Monitoring Location Description: **Final effluent chamber**

Discharge is to: **Quinnipiac River** ZOI: **269,450 gph** Outfall Location: **41 26'04" 72 50' 52"**

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
Methyl Chloride	34418	g/d	103	229	Monthly	Grab Sample Average	NA	NR	NA
Methylene Chloride	34423	ug/l	10	23	Monthly	Grab Sample Average	34	NR	Grab
Methylene Chloride	34423	g/d	48	107	Monthly	Grab Sample Average	NA	NR	NA
Naphthalene	34969	ug/l	5.8	15	Monthly	Daily Composite	22	NR	Grab
Naphthalene	34969	g/d	26	71	Monthly	Daily Composite	NA	NR	NA
Nitrobenzene	34447	ug/l	7.2	18	Annually	Daily Composite	27	NR	Grab
Nitrobenzene	34447	g/d	32	82	Annually	Daily Composite	NA	NR	NA
2-Nitrophenol	34591	ug/l	10	18	Annually	Daily Composite	27	NR	Grab
2-Nitrophenol	34591	g/d	49	83	Annually	Daily Composite	NA	NR	NA
4-Nitrophenol	34646	ug/l	19	33	Annually	Daily Composite	49	NR	Grab
4-Nitrophenol	34646	g/d	86	149	Annually	Daily Composite	NA	NR	NA
Phenanthrene	34461	ug/l	5.8	15	Annually	Daily Composite	22.5	NR	Grab
Phenanthrene	34461	g/d	26	71	Annually	Daily Composite	NA	NR	NA
Phenol	34694	ug/l	4.0	6.9	Monthly	Daily Composite	10	NR	Grab
Phenol	34694	g/d	18	31	Monthly	Daily Composite	NA	NR	NA
Pyrene	34469	ug/l	6.7	17	Annually	Daily Composite	25	NR	Grab

**Table A**

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

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

Wastewater Description: **Non-contact cooling water, cooling tower blowdown, cooling tower system maintenance drains, incidental system leakage, maintenance drains from cooling tower, condenser condensate, steam condensate, filtrates, laboratory wastewater, still bottoms, steam jet ejector condensates, steam jet ejector intercooler water, produced water, seal water, patty box drainage, sluice pelletizer, decant water, wash water, wet scrubber, building roof and containment structure water, sampling sink or valve drainage, maintenance sinks, eye wash and safety shower, boiler blowdown, water treatment wastewater, air compressor condensates, air conditioner condensate, activated carbon regeneration, boiler system drains, fire water, sanitary sewage, fire suppression test water, fire water storage tank overflow, and engine cooling water for emergency diesel pump.**

Monitoring Location Description: **Final effluent chamber**

Discharge is to: **Quinnipiac River**

ZOI: **269,450 gph**

Outfall Location: **41 26'04" 72 50' 52"**

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
Pyrene	34469	g/d	30	80	Annually	Daily Composite	NA	NR	NA
Tetrachloroethylene	34475	ug/l	5.8	15	Monthly	Grab Sample Average	22	NR	Grab
Tetrachloroethylene	34475	g/d	26	67	Monthly	Grab Sample Average	NA	NR	NA
Toluene	34010	ug/l	6.9	21	Monthly	Grab Sample Average	31	NR	Grab
Toluene	34010	g/d	31	96	Monthly	Grab Sample Average	NA	NR	NA
Total Chromium	70028	ug/l	131	262	Monthly	Daily Composite	393	NR	Grab
Total Chromium	70028	g/d	1,138	2,282	Monthly	Daily Composite	NA	NR	NA
Total Copper	1042	ug/l	48.7	97.7	Monthly	Daily Composite	146	NR	Grab
Total Copper	1042	g/d	236	644	Monthly	Daily Composite	NA	NR	NA
Total Cyanide	720	ug/l	15	32.5	Monthly	Grab Sample Average	48.7	NR	Grab
Total Cyanide	720	g/d	130	283	Monthly	Grab Sample Average	NA	NR	NA
Total Lead	1051	ug/l	3.7	7.5	Monthly	Daily Composite	11	NR	Grab
Total Lead	1051	g/d	23	46.2	Monthly	Daily Composite	NA	NR	NA



**Table A**

Discharge Serial Number: **DSN 001-1** Monitoring Location: **1 (EXTERNAL OUTFALL)**

**Wastewater Description: Non-contact cooling water, cooling tower blowdown, cooling tower system maintenance drains, incidental system leakage, maintenance drains from cooling tower, condenser condensate, steam condensate, filtrates, laboratory wastewater, still bottoms, steam jet ejector condensates, steam jet ejector intercooler water, produced water, seal water, patty box drainage, sluice pelletizer, decant water, wash water, wet scrubber, building roof and containment structure water, sampling sink or valve drainage, maintenance sinks, eye wash and safety shower, boiler blowdown, water treatment wastewater, air compressor condensates, air conditioner condensate, activated carbon regeneration, boiler system drains, fire water, sanitary sewage, fire suppression test water, fire water storage tank overflow, and engine cooling water for emergency diesel pump.**

Monitoring Location Description: **Final effluent chamber**

Discharge is to: **Quinnipiac River** ZOI: **269,450 gph** Outfall Location: **41 26'04" 72 50' 52"**

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
Total Nickel	1067	ug/l	90	180	Monthly	Daily Composite	271	NR	Grab
Total Nickel	1067	g/d	783	1,571	Monthly	Daily Composite	NA	NR	NA
Total Zinc	1092	ug/l	123	247	Weekly	Daily Composite	371	NR	Grab
Total Zinc	1092	g/d	832	1,890	Weekly	Daily Composite	NA	NR	NA
1,2,4-Trichlorobenzene	34551	ug/l	26.3	52.8	Annually	Daily Composite	79.2	NR	Grab
1,2,4-Trichlorobenzene	34551	g/d	119	238	Annually	Daily Composite	NA	NR	NA
1,1,1-Trichloroethane	34506	ug/l	5.6	14	Monthly	Grab Sample Average	21	NR	Grab
1,1,1-Trichloroethane	34506	g/d	25	65	Monthly	Grab Sample Average	NA	NR	NA
1,1,2-Trichloroethane	34511	ug/l	5.6	14	Annually	Grab Sample Average	21	NR	Grab
1,1,2-Trichloroethane	34511	g/d	25	65	Annually	Grab Sample Average	NA	NR	NA
Trichloroethylene	39180	ug/l	5.6	14	Monthly	Grab Sample Average	21	NR	Grab
Trichloroethylene	39180	g/d	25	65	Monthly	Grab Sample Average	NA	NR	NA

**Table A**

Discharge Serial Number: <b>DSN 001-1</b>	Monitoring Location: <b>1 (EXTERNAL OUTFALL)</b>
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**Wastewater Description: Non-contact cooling water, cooling tower blowdown, cooling tower system maintenance drains, incidental system leakage, maintenance drains from cooling tower, condenser condensate, steam condensate, filtrates, laboratory wastewater, still bottoms, steam jet ejector condensates, steam jet ejector intercooler water, produced water, seal water, patty box drainage, sluice pelletizer, decant water, wash water, wet scrubber, building roof and containment structure water, sampling sink or valve drainage, maintenance sinks, eye wash and safety shower, boiler blowdown, water treatment wastewater, air compressor condensates, air conditioner condensate, activated carbon regeneration, boiler system drains, fire water, sanitary sewage, fire suppression test water, fire water storage tank overflow, and engine cooling water for emergency diesel pump.**

Monitoring Location Description: **Final effluent chamber**

Discharge is to: <b>Quinnipiac River</b>	ZOI: <b>269,450 gph</b>	Outfall Location: <b>41 26'04" 72 50' 52"</b>
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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
Vinyl Chloride	39175	ug/l	2.4	3.5	Annually	Grab Sample Average	5.3	NR	Grab
Vinyl Chloride	39175	g/day	21	30	Annually	Grab Sample Average	NA	NR	NA
Acetone	81522	mg/l	8.9	18	Monthly	Grab Sample Average	27	NR	NA
Acetonitrile	76997	mg/l	----	----	Monthly	Grab Sample Average	NA	NR	NA
Acrylamide	50796	ug/l	10.0	20.1	Weekly	Grab Sample Average	30.1	NR	Grab
Acrylamide	50796	g/d	44.4	89.1	Weekly	Grab Sample Average	NA	NR	NA
Alkalinity (as CaCO <sub>3</sub> )	410	mg/l	----	----	Three per week	Daily Composite	NA	NR	NA
Aluminum, Total	1105	mg/l	0.271	0.543	Monthly	Daily Composite	0.815	NR	Grab
Aluminum, Total	1105	kg/day	1.2	2.41	Monthly	Daily Composite	NA	NR	NA
Ammonia Nitrogen	610	mg/l	2.33	9.66	Three per week	Daily Composite	14.5	NR	Grab

**Table A**

Discharge Serial Number: <b>DSN 001-1</b>	Monitoring Location: <b>1 (EXTERNAL OUTFALL)</b>
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**Wastewater Description: Non-contact cooling water, cooling tower blowdown, cooling tower system maintenance drains, incidental system leakage, maintenance drains from cooling tower, condenser condensate, steam condensate, filtrates, laboratory wastewater, still bottoms, steam jet ejector condensates, steam jet ejector intercooler water, produced water, seal water, patty box drainage, sluice pelletizer, decant water, wash water, wet scrubber, building roof and containment structure water, sampling sink or valve drainage, maintenance sinks, eye wash and safety shower, boiler blowdown, water treatment wastewater, air compressor condensates, air conditioner condensate, activated carbon regeneration, boiler system drains, fire water, sanitary sewage, fire suppression test water, fire water storage tank overflow, and engine cooling water for emergency diesel pump.**

Monitoring Location Description: **Final effluent chamber**

Discharge is to: <b>Quinnipiac River</b>	ZOI: <b>269,450 gph</b>	Outfall Location: <b>41 26'04" 72 50' 52"</b>
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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
Ammonia Nitrogen	610	kg/day	10.35	42.89	Three per week	Daily Composite	NA	NR	NA
Barium	1007	mg/l	0.637	1.23	Monthly	Daily Composite	1.84	NR	Grab
Benzoic Acid	77247	ug/l	----	----	Monthly	Daily Composite	NA	NR	NA
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	ug/l	----	----	Monthly	Daily Composite	NA	NR	NA
Boron, Total	82057	mg/l	----	----	Monthly	Daily Composite	NA	NR	NA
Butanol	45365	mg/l	----	----	Weekly	Grab Sample Average	NA	NR	NA
Butyl acetate	78531	ug/l	----	----	Monthly	Grab Sample Average	NA	NR	NA
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

**Table A**

Discharge Serial Number: **DSN 001-1** Monitoring Location: **1 (EXTERNAL OUTFALL)**

**Wastewater Description: Non-contact cooling water, cooling tower blowdown, cooling tower system maintenance drains, incidental system leakage, maintenance drains from cooling tower, condenser condensate, steam condensate, filtrates, laboratory wastewater, still bottoms, steam jet ejector condensates, steam jet ejector intercooler water, produced water, seal water, patty box drainage, sluice pelletizer, decant water, wash water, wet scrubber, building roof and containment structure water, sampling sink or valve drainage, maintenance sinks, eye wash and safety shower, boiler blowdown, water treatment wastewater, air compressor condensates, air conditioner condensate, activated carbon regeneration, boiler system drains, fire water, sanitary sewage, fire suppression test water, fire water storage tank overflow, and engine cooling water for emergency diesel pump.**

Monitoring Location Description: **Final effluent chamber**

Discharge is to: **Quinnipiac River** ZOI: **269,450 gph** Outfall Location: **41 26'04" 72 50' 52"**

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
Chlorine, Total Residual (See Remark)	50060	ug/l	34	69	Weekly	GSA Modified	103	NR	Grab
Chlorine, Total Residual (See Remark)	50060	g/day	151	306	Weekly	GSA Modified	NA	NR	NA
Cresol, meta	77151	ug/l	----	----	Monthly	Daily Composite	NA	NR	NA
Cresol, ortho	78395	ug/l	----	----	Monthly	Daily Composite	NA	NR	NA
Cresol, para	77146	ug/l	----	----	Monthly	Daily Composite	NA	NR	NA
Diethyl amine	77030	mg/l	----	----	Monthly	Grab Sample Average	NA	NR	NA
Dimethyl amine	77003	mg/l	----	----	Monthly	Grab Sample Average	NA	NR	NA
Di-n-octyl phthalate	34596	ug/l	----	----	Monthly	Daily Composite	NA	NR	NA
Epichlorohydrin	81679	ug/l	----	----	Monthly	Grab Sample Average	NA	NR	NA
<i>Escherichia coli</i> <sup>5</sup>	51040	cfus/100ml	126	---	NR	Grab	400	Weekly	Grab
Ethanol	77004	mg/l	----	----	Weekly	Grab Sample Average	NA	NR	NA

**Table A**

Discharge Serial Number: **DSN 001-1** Monitoring Location: **1 (EXTERNAL OUTFALL)**

**Wastewater Description: Non-contact cooling water, cooling tower blowdown, cooling tower system maintenance drains, incidental system leakage, maintenance drains from cooling tower, condenser condensate, steam condensate, filtrates, laboratory wastewater, still bottoms, steam jet ejector condensates, steam jet ejector intercooler water, produced water, seal water, patty box drainage, sluice pelletizer, decant water, wash water, wet scrubber, building roof and containment structure water, sampling sink or valve drainage, maintenance sinks, eye wash and safety shower, boiler blowdown, water treatment wastewater, air compressor condensates, air conditioner condensate, activated carbon regeneration, boiler system drains, fire water, sanitary sewage, fire suppression test water, fire water storage tank overflow, and engine cooling water for emergency diesel pump.**

Monitoring Location Description: **Final effluent chamber**

Discharge is to: **Quinnipiac River** ZOI: **269,450 gph** Outfall Location: **41 26'04" 72 50' 52"**

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
Ethyl acrylate	51661	ug/l	----	----	Monthly	Grab Sample Average	NA	NR	NA
Ethylene glycol	77023	mg/l	----	----	Monthly	Grab Sample Average	NA	NR	NA
Flow rate (Average daily) <sup>1</sup>	56	gpd	1,190,000	----	Continuous	Daily flow	NA	NR	NA
Flow, Maximum during 24-hour period <sup>1</sup>	50047	gpd	----	2,809,000	Continuous	Daily flow	NA	NR	NA
Formaldehyde	71880	mg/l	0.703	1.77	Weekly	Daily Composite	2.66	NR	Grab
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
Iron, Total	1045	mg/l	----	----	Monthly	Daily Composite	NA	NR	NA
Isobutanol	77033	mg/l	----	----	Monthly	Grab Sample Average	NA	NR	NA
Isophorone	34408	mg/l	3.65	5.32	Monthly	Daily Composite	7.98	NR	Grab
Isophorone	34408	kg/day	13.2	23.6	Monthly	Daily Composite	NA	NR	NA

**Table A**

Discharge Serial Number: <b>DSN 001-1</b>	Monitoring Location: <b>1 (EXTERNAL OUTFALL)</b>
---	--

**Wastewater Description: Non-contact cooling water, cooling tower blowdown, cooling tower system maintenance drains, incidental system leakage, maintenance drains from cooling tower, condenser condensate, steam condensate, filtrates, laboratory wastewater, still bottoms, steam jet ejector condensates, steam jet ejector intercooler water, produced water, seal water, patty box drainage, sluice pelletizer, decant water, wash water, wet scrubber, building roof and containment structure water, sampling sink or valve drainage, maintenance sinks, eye wash and safety shower, boiler blowdown, water treatment wastewater, air compressor condensates, air conditioner condensate, activated carbon regeneration, boiler system drains, fire water, sanitary sewage, fire suppression test water, fire water storage tank overflow, and engine cooling water for emergency diesel pump.**

Monitoring Location Description: **Final effluent chamber**

Discharge is to: <b>Quinnipiac River</b>	ZOI: <b>269,450 gph</b>	Outfall Location: <b>41 26'04" 72 50' 52"</b>
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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
Isopropanol	77015	mg/l	----	----	Monthly	Grab Sample Average	NA	NR	NA
Isopropylamine	77014	mg/l	----	----	Monthly	Grab Sample Average	NA	NR	NA
Kjeldahl Nitrogen, Total (as N)	625	mg/l	----	----	Three per week	Daily Composite	NA	NR	NA
Magnesium, Total	927	mg/l	----	----	Monthly	Daily Composite	NA	NR	NA
Methanol	77885	mg/l	1.57	3.85	Weekly	Grab Sample Average	5.77	NR	Grab
Methyl acrylate	51010	ug/l	----	----	Monthly	Grab Sample Average	NA	NR	NA
Methyl ethyl ketone	81595	ug/l	----	----	Monthly	Grab Sample Average	NA	NR	NA
Methyl methacrylate	81597	ug/l	----	----	Monthly	Grab Sample Average	NA	NR	NA
Nitrate (as N)	620	mg/l	----	----	Three per week	Daily Composite	NA	NR	NA
Nitrite (as N)	615	mg/l	----	----	Three per week	Daily Composite	NA	NR	NA

**Table A**

Discharge Serial Number: <b>DSN 001-1</b>	Monitoring Location: <b>1 (EXTERNAL OUTFALL)</b>
---	--

**Wastewater Description: Non-contact cooling water, cooling tower blowdown, cooling tower system maintenance drains, incidental system leakage, maintenance drains from cooling tower, condenser condensate, steam condensate, filtrates, laboratory wastewater, still bottoms, steam jet ejector condensates, steam jet ejector intercooler water, produced water, seal water, patty box drainage, sluice pelletizer, decant water, wash water, wet scrubber, building roof and containment structure water, sampling sink or valve drainage, maintenance sinks, eye wash and safety shower, boiler blowdown, water treatment wastewater, air compressor condensates, air conditioner condensate, activated carbon regeneration, boiler system drains, fire water, sanitary sewage, fire suppression test water, fire water storage tank overflow, and engine cooling water for emergency diesel pump.**

Monitoring Location Description: **Final effluent chamber**

Discharge is to: <b>Quinnipiac River</b>	ZOI: <b>269,450 gph</b>	Outfall Location: <b>41 26'04" 72 50' 52"</b>
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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
Nitrogen, Total <sup>6</sup>	600	lb/day	----	----	Three per week	Daily Composite Calculation	NA	NR	NA
Nitrogen, Total (Annual Loading) <sup>6</sup>	51445	lb/day	928	----	Annually (December)	Calculation	NA	NR	NA
Nonylphenol	51568	ug/l	----	----	Monthly	Daily Composite	NA	NR	NA
Oil & Grease, Total	556	mg/l	----	----	Monthly	Grab Sample Average	NA	NR	NA
Organic Nitrogen (as N)	605	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	300	mg/l	NA	NA	NR	NA	----	Weekly	Grab
PCBs (Polychlorinated Biphenyls as Total PCBs) <sup>8</sup>	51692	ng/l	0.64	0.093	Monthly	Daily Composite	0.14	NR	Grab
PCBs (Polychlorinated Biphenyls as Total PCBs) <sup>8</sup>	51692	g/day	0.00028	0.00041	Monthly	Daily Composite	NA	NR	NA
pH, Minimum	61942	S.U.	NA	NA	NR	NA	6.5	Continuous	Continuous

**Table A**

Discharge Serial Number: <b>DSN 001-1</b>	Monitoring Location: <b>1 (EXTERNAL OUTFALL)</b>
---	--

**Wastewater Description: Non-contact cooling water, cooling tower blowdown, cooling tower system maintenance drains, incidental system leakage, maintenance drains from cooling tower, condenser condensate, steam condensate, filtrates, laboratory wastewater, still bottoms, steam jet ejector condensates, steam jet ejector intercooler water, produced water, seal water, patty box drainage, sluice pelletizer, decant water, wash water, wet scrubber, building roof and containment structure water, sampling sink or valve drainage, maintenance sinks, eye wash and safety shower, boiler blowdown, water treatment wastewater, air compressor condensates, air conditioner condensate, activated carbon regeneration, boiler system drains, fire water, sanitary sewage, fire suppression test water, fire water storage tank overflow, and engine cooling water for emergency diesel pump.**

Monitoring Location Description: **Final effluent chamber**

Discharge is to: <b>Quinnipiac River</b>	ZOI: <b>269,450 gph</b>	Outfall Location: <b>41 26'04" 72 50' 52"</b>
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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
pH, Maximum	91941	S.U.	NA	NA	NR	NA	8.0	Continuous	Continuous
Phosphorus, Total (Effective from November 1 <sup>st</sup> to March 31 <sup>st</sup> )	665	mg/l	---	----	Three per week	Daily Composite	NA	NR	NA
Phosphorus, Total (Effective from November 1 <sup>st</sup> to March 31 <sup>st</sup> )	665	lbs/day	----	----	Three per week	Daily Composite	NA	NR	NA
Phosphorus, Total (Effective from April 1 <sup>st</sup> to October 31 <sup>st</sup> )	665	mg/l	----	----	Three per week	Daily Composite	NA	NR	NA
Phosphorus, Total (Effective from April 1 <sup>st</sup> to October 31 <sup>st</sup> )	665	lbs/day	1.49	----	Three per week	Daily Composite	NA	NR	NA
Propylene glycol	61163	mg/l	0.374	0.75	Monthly	Grab Sample Average	1.12	NR	NA
Silver, Total	1077	ug/l	0.316	0.634	Monthly	Daily Composite	0.951	NR	Grab
Silver, Total	1077	g/day	1.42	2.86	Monthly	Daily Composite	NA	NR	NA
Styrene	81708	ug/l	----	----	Monthly	Grab Sample Average	NA	NR	Grab
Tetrahydrofuran	81607	mg/l	34.1	68.5	Monthly	Grab Sample Average	102.8	NR	Grab



**Table A**

Discharge Serial Number: **DSN 001-1** Monitoring Location: **1 (EXTERNAL OUTFALL)**

**Wastewater Description: Non-contact cooling water, cooling tower blowdown, cooling tower system maintenance drains, incidental system leakage, maintenance drains from cooling tower, condenser condensate, steam condensate, filtrates, laboratory wastewater, still bottoms, steam jet ejector condensates, steam jet ejector intercooler water, produced water, seal water, patty box drainage, sluice pelletizer, decant water, wash water, wet scrubber, building roof and containment structure water, sampling sink or valve drainage, maintenance sinks, eye wash and safety shower, boiler blowdown, water treatment wastewater, air compressor condensates, air conditioner condensate, activated carbon regeneration, boiler system drains, fire water, sanitary sewage, fire suppression test water, fire water storage tank overflow, and engine cooling water for emergency diesel pump.**

Monitoring Location Description: **Final effluent chamber**

Discharge is to: **Quinnipiac River** ZOI: **269,450 gph** Outfall Location: **41 26'04" 72 50' 52"**

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
Tetrahydrofuran	81607	kg/day	151.4	304.1	Monthly	Grab Sample Average	NA	NR	NA
Tert-Butyl alcohol	51008	mg/l	----	----	Monthly	Grab Sample Average	NA	NR	NA
Tin, Total	1102	mg/l	----	----	Monthly	Daily Composite	NA	NR	NA
Titanium, Total	1152	mg/l	----	----	Monthly	Daily Composite	NA	NR	NA
Total Suspended Solids	530	mg/l	30	50	Three per week	Daily Composite	75	NR	Grab
Total Suspended Solids	530	kg/day	264	435	Three per week	Daily Composite	NA	NR	NA
Triethylamine	77111	mg/l	----	----	Monthly	Grab Sample Average	NA	NR	NA
Xylenes, Total (o,m,p)	81551	ug/l	----	----	Weekly	Grab Sample Average	NA	NR	NA

## TABLE A FOOTNOTES AND REMARKS

### Footnotes:

1. 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.
2. 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'.
3. Acute toxicity testing shall be conducted in accordance with Section 7(A) of this permit. The LC50 results (in %) for the acute toxicity testing shall be reported on the DMR. An LC50 of 100% means that a sample of 100% effluent (no dilution) shall cause no more than a 50% mortality rate.
4. 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. The reported value for this parameter shall be the lowest effluent concentration result showing an effect detected by the laboratory.
5. The effluent shall be monitored and the limit effective 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> and shall not exceed a monthly geometric mean of 126 cfu 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.
6. Daily total nitrogen concentration means the sum of the concentrations of: ammonia nitrogen + organic nitrogen + nitrate nitrogen + nitrite nitrogen for that day. Daily Total Nitrogen means the Total Nitrogen Concentration multiplied by the daily flow volume and converted to lbs/day. The average monthly Total Nitrogen shall be reported as the sum of the Daily Total Nitrogen divided by the number of nitrogen sampling days during the month and rounded to the nearest whole number. Total Nitrogen (Annual Loading) shall be reported as the sum of the average monthly Total Nitrogen from January through December divided by 12 and rounded to the nearest whole number.
7. Representative acrylonitrile sampling shall be conducted when Roehm America LLC is generating and discharging acrylonitrile wastewater. The Permittee shall document when acrylonitrile is used in production and the coordinated sampling dates to demonstrate compliance with this provision. If Roehm America LLC does not generate or discharge acrylonitrile wastewater in a month, sampling is still required.
8. Total PCBs is the sum of all congeners or all isomer or homolog or Aroclor analyses.
9. Laboratory water shall be used as dilution water for the dilution series when determining compliance with these limits. Additional testing shall occur on Quinnipiac River water at 0% effluent and a single dilution at 26% effluent. The laboratory report from this testing shall be submitted with the ATMR.

### 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; 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. If "---" is noted in the limits column in the table, this means that a limit is not specified but a value must be reported on the DMR.
3. "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. The Permittee may collect all four samples during the first shift of the sampling day. The Permittee shall report the arithmetic average of all the grab sample analyses taken.

**Table B**

Discharge Serial Number: **001-A**

Monitoring Location: **1**

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

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

Discharge is to: **DSN 001-1**

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
Acetonitrile	76997	mg/l	----	----	Monthly	Grab Sample Average	NA	NR	NA
Acrylonitrile <sup>2</sup>	34215	ug/l	----	----	Monthly	Grab Sample Average	NA	NR	Grab
Alkalinity (as CaCO <sub>3</sub> )	410	mg/l	----	----	Twice per month	Daily Composite	NA	NR	NA
Total Ammonia Nitrogen	610	mg/l	----	----	Three per week	Daily Composite	NA	NR	NA
Benzene	34030	ug/l	----	----	Monthly	Grab Sample Average	NA	NR	NA
Biochemical Oxygen Demand (BOD <sub>5</sub> )	85002	mg/l	----	----	Three per week	Daily Composite	NA	NR	NA
Chemical Oxygen Demand	81017	mg/l	----	----	Three per week	Daily Composite	NA	NR	NA
Butanol	45365	mg/l	----	----	Twice per month	Grab Sample Average	NA	NR	NA
Butyl acetate	78531	ug/l	----	----	Monthly	Grab Sample Average	NA	NR	NA
Chlorobenzene	34301	ug/l	----	----	Monthly	Grab Sample Average	NA	NR	NA
Ethanol	77004	mg/l	----	----	Twice per month	Grab Sample Average	NA	NR	NA

**Table B**

Discharge Serial Number: **001-A**

Monitoring Location: **1**

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

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

Discharge is to: **DSN 001-1**

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
Ethylbenzene	78113	ug/l	----	----	Monthly	Grab Sample Average	NA	NR	NA
Formaldehyde	71880	mg/l	----	----	Twice per month	Daily Composite	NA	NR	NA
Isobutanol	77033	mg/l	----	----	Monthly	Grab Sample Average	NA	NR	NA
Kjeldahl Nitrogen, Total (as N)	625	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	ug/l	----	----	Monthly	Grab Sample Average	NA	NR	NA
Methyl methacrylate	81597	ug/l	----	----	Monthly	Grab Sample Average	NA	NR	NA
Nitrate (as N)	620	mg/l	----	----	Three per week	Daily Composite	NA	NR	NA
Nitrite (as N)	615	mg/l	----	----	Three per week	Daily Composite	NA	NR	NA
Nitrogen, Total	600	lb/day	----	----	Three per week	Daily Composite	NA	NR	NA
Organic Nitrogen (as N)	605	mg/l	----	----	Three per week	Daily Composite	NA	NR	NA
Orthophosphate (as P)	70507	mg/l	----	----	Twice per month	Daily Composite	NA	NR	NA
pH, Minimum	61942	S.U.	NA	NA	NR	NA	----	Continuous	Continuous
pH, Maximum	91941	S.U.	NA	NA	NR	NA	----	Continuous	Continuous

**Table B**

Discharge Serial Number: **001-A**

Monitoring Location: **1**

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

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

Discharge is to: **DSN 001-1**

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
pH, Day of Sampling	400	S.U.	NA	NA	NR	NA	----	Three per week	RDS
Phosphorus, Total	665	mg/l	----	----	Twice per month	Daily Composite	NA	NR	NA
Styrene	81708	ug/l	----	----	Monthly	Grab Sample Average	NA	NR	NA
Toluene	34010	ug/l	----	----	Monthly	Grab Sample Average	NA	NR	NA
Trichloroethylene	39180	ug/l	----	----	Monthly	Grab Sample Average	NA	NR	NA
Volatiles, Method 624	----	mg/l	----	----	Monthly	Grab Sample Average	NA	NR	NA
Xylenes, Total (o,m,p)	81551	ug/l	----	----	Twice per month	Grab Sample Average	NA	NR	NA

**Table B**

Discharge Serial Number: **001-A** Monitoring Location: **1**

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

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

Discharge is to: **DSN 001-1**

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

**TABLE B FOOTNOTES AND REMARKS**

**Footnote:**

1. 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”.
2. Acrylonitrile sampling shall be conducted when Roehm America LLC is generating and discharging acrylonitrile wastewater. The Permittee shall document when acrylonitrile is used in production and the coordinated sampling dates to demonstrate compliance with this provision. If Roehm America LLC does not generate or discharge acrylonitrile wastewater in a month, sampling is still required.

**Remark:**

1. Abbreviations used for units are as follows: mg/L means milligrams per liter. Other abbreviations are as follows: NA means Not Applicable; NR means Not Reportable RDS means Range During Sampling.
2. 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**  
 Wastewater Description: **Treated domestic sewage**  
 Monitoring Location Description: **End of the chlorine contact chamber**  
 Discharge is to: **Influent to treatment system**

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
Chlorine, Total Residual	50060	mg/l	NA	NA	NR	NA	----	Twice per day	Grab
Flow, Day of Sampling <sup>2</sup>	74076	gpd	----	33,000	Twice per day	Daily Flow	NA	NR	NA

**TABLE B FOOTNOTES AND REMARKS**

**Footnote:**

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

<sup>2</sup> For this parameter the Permittee shall maintain at the facility a record of the Total Flow for each day and shall report the Average monthly Flow and the maximum Daily Flow for the Day of Sampling for each month.

**Remark:**

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

2. The Permittee shall disinfect/chlorinate the domestic sewage from May 1 until September 30<sup>th</sup> . 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**

Wastewater Description: **Contaminated ground water from the acrylonitrile spill area (at Building 10), Building 2 No. 6 fuel oil spill area, methyl formcel spill area, and Building 5B tank farm spill area**

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		
			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
Acrylonitrile	76997	mg/l	NA	NA	NR	NA	----	Quarterly	Grab
Benzene	34030	mg/l	NA	NA	NR	NA	----	Quarterly	Grab
Chemical Oxygen Demand	81017	mg/l	NA	NA	NR	NA	----	Quarterly	Grab
Ethylbenzene	78113	mg/l	NA	NA	NR	NA	----	Quarterly	Grab
Flow Rate (average daily) <sup>2</sup>	56	gpd	----	NA	Daily	Daily Flow	NA	NR	NA
Flow, Maximum during 24-hour period <sup>2</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	400	S.U.	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
Xylenes, Total (o,m,p)	81551	mg/l	NA	NA	NR	NA	----	Quarterly	Grab



**Table D**

Discharge Serial Number: **001-E** Monitoring Location: **1**

Wastewater Description: **Contaminated ground water from the acrylonitrile spill area (at Building 10), Building 2 No. 6 fuel oil spill area, methyl formcel spill area, and Building 5B tank farm spill area**

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		
			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

**TABLE B FOOTNOTES AND REMARKS**

**Footnote:**

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

<sup>2</sup> For this parameter the Permittee shall maintain at the facility a record of the Total Flow for each day and shall report the Average monthly Flow and the maximum Daily Flow for the Day of Sampling for each month.

**Remark:**

1. Abbreviations used for units are as follows: gpd means gallons per pay; mg/L means milligrams per liter; S.U. 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**

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		
			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
Acetonitrile	76997	mg/l	NA	NA	NR	NA	----	Quarterly	Grab
Benzene	34030	mg/l	NA	NA	NR	NA	----	Quarterly	Grab
Chemical Oxygen Demand	81017	mg/l	NA	NA	NR	NA	----	Quarterly	Grab
Ethylbenzene	78113	mg/l	NA	NA	NR	NA	----	Quarterly	Grab
Flow Rate (average daily) <sup>2</sup>	56	gpd	----	NA	Daily	Daily Flow	NA	NR	NA
Flow, Maximum during 24-hour period <sup>2</sup>	50047	gpd	NA	250,000	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	400	S.U.	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
Xylenes, Total (o,m,p)	81551	mg/l	NA	NA	NR	NA	----	Quarterly	Grab

**Table E**

Discharge Serial Number: <b>001-F</b>	Monitoring Location: <b>1</b>
Wastewater Description: <b>Landfill leachate</b>	
Monitoring Location Description: <b>Leachate inlet in the final manhole before the grit chamber</b>	
Discharge is to: <b>Influent to the treatment system (DSN 001A)</b>	

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

**TABLE B FOOTNOTES AND REMARKS**

**Footnote:**

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

<sup>2</sup> For this parameter the Permittee shall maintain at the facility a record of the Total Flow for each day and shall report the Average monthly Flow and the maximum Daily Flow for the Day of Sampling for each month.

**Remark:**

1. Abbreviations used for units are as follows: mg/L means milligrams per liter; S.U. 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**

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

Monitoring Location Description: **Roehm 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	ug/l	----	----	Annually	Daily Composite	NA	NR	NA
Acenaphthylene	34200	ug/l	----	----	Annually	Daily Composite	NA	NR	NA
Acetonitrile	51196	ug/l	----	-----	Monthly	Grab Sample Average	NA	NR	NA
Acrylonitrile	34215	ug/l	----	----	Monthly	Grab Sample Average	NA	NR	NA
Anthracene	34220	ug/l	----	----	Annually	Daily Composite	NA	NR	NA
Benzene	34030	ug/l	----	-----	Annually	Grab Sample Average	NA	NR	NA
Benzo(a)anthracene	34526	ug/l	----	----	Annually	Daily Composite	NA	NR	NA
3,4-Benzofluoranthene	79531	ug/l	----	----	Annually	Daily Composite	NA	NR	NA
Benzo(k)fluoranthene	34242	ug/l	----	-----	Annually	Daily Composite	NA	NR	NA
Benzo(a)pyrene	34247	ug/l	----	----	Annually	Daily Composite	NA	NR	NA
Bis(2-ethylhexyl) phthalate	51315	ug/l	----	----	Annually	Daily Composite	NA	NR	NA
Carbon Tetrachloride	32102	ug/l	----	-----	Annually	Grab Sample Average	NA	NR	NA
Chlorobenzene	34301	ug/l	----	----	Annually	Grab Sample Average	NA	NR	NA
Chloroethane	85811	ug/l	----	----	Annually	Grab Sample Average	NA	NR	NA

**Table F**

Discharge Serial Number: **001-I**

Monitoring Location: **1**

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

Monitoring Location Description: **Roehm 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
Chloroform	32106	ug/l	----	-----	Annually	Grab Sample Average	NA	NR	NA
2-Chlorophenol	34586	ug/l	----	----	Annually	Daily Composite	NA	NR	NA
Chrysene	34320	ug/l	----	----	Annually	Daily Composite	NA	NR	NA
Di-n-butyl phthalate	39110	ug/l	----	-----	Annually	Daily Composite	NA	NR	NA
1,2-Dichlorobenzene	34536	ug/l	----	----	Annually	Grab Sample Average	NA	NR	NA
1,3-Dichlorobenzene	34566	ug/l	----	----	Annually	Grab Sample Average	NA	NR	NA
1,4-Dichlorobenzene	34571	ug/l	----	-----	Annually	Grab Sample Average	NA	NR	NA
1,1-Dichloroethane	34496	ug/l	----	----	Annually	Grab Sample Average	NA	NR	NA
1,2-Dichloroethane	32103	ug/l	----	----	Annually	Grab Sample Average	NA	NR	NA
1,1-Dichloroethylene	34501	ug/l	----	-----	Annually	Grab Sample Average	NA	NR	NA
1,2-trans-Dichloroethylene	34546	ug/l	----	----	Annually	Grab Sample Average	NA	NR	NA
2,4-Dichlorophenol	34601	ug/l	----	----	Annually	Grab Sample Average	NA	NR	NA
1,2-Dichloropropane	34541	ug/l	----	-----	Annually	Daily Composite	NA	NR	NA

**Table F**

Discharge Serial Number: **001-I**

Monitoring Location: **1**

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

Monitoring Location Description: **Roehm 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
1,3-Dichloropropylene	51044	ug/l	----	----	Annually	Grab Sample Average	NA	NR	NA
Diethyl phthalate	34336	ug/l	----	----	Annually	Grab Sample Average	NA	NR	NA
2,4-Dimethylphenol	34606	ug/l	----	----	Annually	Grab Sample Average	NA	NR	NA
Dimethyl phthalate	34342	ug/l	----	----	Annually	Daily Composite	NA	NR	NA
4,6-Dinitro-o-cresol	34657	ug/l	----	----	Annually	Daily Composite	NA	NR	NA
2,4-Dinitrophenol	34616	ug/l	----	----	Annually	Daily Composite	NA	NR	NA
2,4-Dinitrotoluene	34611	ug/l	----	----	Annually	Daily Composite	NA	NR	NA
2,6-Dinitrotoluene	34626	ug/l	----	----	Annually	Daily Composite	NA	NR	NA
Ethylbenzene	78113	ug/l	----	----	Annually	Grab Sample Average	NA	NR	NA
Fluoranthene	34376	ug/l	----	----	Annually	Daily Composite	NA	NR	NA
Fluorene	34381	ug/l	----	----	Annually	Daily Composite	NA	NR	NA
Hexachlorobenzene	39700	ug/l	----	----	Annually	Daily Composite	NA	NR	NA
Hexachlorobutadiene	39702	ug/l	----	----	Annually	Daily Composite	NA	NR	NA
Hexachloroethane	34396	ug/l	----	----	Annually	Daily Composite	NA	NR	NA
Methyl Chloride	34418	ug/l	----	----	Annually	Grab Sample Average	NA	NR	NA
Methylene Chloride	34423	ug/l	----	----	Annually	Grab Sample Average	NA	NR	NA
Naphthalene	34969	ug/l	----	----	Annually	Daily Composite	NA	NR	NA

**Table F**

Discharge Serial Number: **001-I**

Monitoring Location: **1**

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

Monitoring Location Description: **Roehm 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
Nitrobenzene	34447	ug/l	----	-----	Annually	Daily Composite	NA	NR	NA
2-Nitrophenol	34591	ug/l	----	----	Annually	Daily Composite	NA	NR	NA
4-Nitrophenol	34646	ug/l	----	----	Annually	Daily Composite	NA	NR	NA
Phenanthrene	34461	ug/l	----	-----	Annually	Daily Composite	NA	NR	NA
Phenol	34694	ug/l	----	----	Annually	Daily Composite	NA	NR	NA
Pyrene	34469	ug/l	----	----	Annually	Daily Composite	NA	NR	NA
Tetrachloroethylene	34475	ug/l	----	-----	Annually	Grab Sample Average	NA	NR	NA
Toluene	34010	ug/l	----	----	Monthly	Grab Sample Average	NA	NR	NA
Total Chromium	70028	ug/l	----	----	Annually	Daily Composite	NA	NR	NA
Total Copper	1042	ug/l	----	----	Annually	Daily Composite	NA	NR	NA
Total Cyanide	720	ug/l	----	-----	Monthly	Grab Sample Average	NA	NR	NA
Total Lead	1051	ug/l	----	----	Annually	Daily Composite	NA	NR	NA
Total Nickel	1067	ug/l	----	----	Annually	Daily Composite	NA	NR	NA
Total Zinc	1092	ug/l	----	-----	Monthly	Daily Composite	NA	NR	NA
1,2,4-Trichlorobenzene	34551	ug/l	----	----	Annually	Daily Composite	NA	NR	NA
1,1,1-Trichloroethane	34506	ug/l	----	----	Annually	Grab Sample Average	NA	NR	NA
1,1,2-Trichloroethane	34511	ug/l	----	-----	Annually	Grab Sample Average	NA	NR	NA

**Table F**

Discharge Serial Number: **001-I**

Monitoring Location: **1**

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

**Monitoring Location Description: Roehm 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
Trichloroethylene	39180	ug/l	----	----	Annually	Grab Sample Average	NA	NR	NA
Vinyl Chloride	39175	ug/l	----	----	Annually	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	NA	NR	NA
Di-n-octyl phthalate	34596	ug/l	----	----	Monthly	Daily Composite	NA	NR	NA
Ethyl acrylate	51661	mg/l	----	----	Monthly	Grab Sample Average	NA	NR	NA
Flow Rate (average daily) <sup>2</sup>	56	gpd	----	NA	Continuous	Daily Flow	NA	NR	NA
Flow, Maximum during 24-hour period <sup>2</sup>	50047	gpd	NA	----	Continuous	Daily Flow	NA	NR	NA
Flow, Day of Sampling	74076	gpd	NA	----	Monthly	Daily Flow	NA	NR	NA
Methyl acrylate	51010	ug/l	----	----	Monthly	Grab Sample Average	NA	NR	NA
Methyl methacrylate	81597	ug/l	----	----	Monthly	Grab Sample Average	NA	NR	NA



**Table F**

Discharge Serial Number: **001-I**

Monitoring Location: **1**

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

Monitoring Location Description: **Roehm 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
Oil & Grease, Total	556	mg/l	----	----	Monthly	Grab Sample Average	NA	NR	NA
pH, Day of Sampling	400	S.U.	NA	NA	NR	NA	----	Monthly	Grab
Silver, Total	1077	mg/l	----	----	Monthly	Daily Composite	NA	NR	NA
Styrene	81708	ug/l	----	----	Monthly	Grab Sample Average	NA	NR	NA
Total Suspended Solids	530	mg/l	----	----	Monthly	Daily Composite	NA	NR	NA

**TABLE B FOOTNOTES AND REMARKS**

**Footnote:**

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

<sup>2</sup> For this parameter the Permittee shall maintain at the facility a record of the Total Flow for each day and shall report the Average monthly Flow and the maximum Daily Flow for the Day of Sampling for each month.

**Remark:**

1. Abbreviations used for units are as follows: gpd means gallons per pay; mg/L means milligrams per liter; S.U. means standard units; µg/l means micrograms per liter. Other abbreviations are as follows: NA means Not Applicable; NR means Not Reportable

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

- (A) All samples shall be collected, handled, and analyzed in accordance with the methods approved under 40 CFR 136, unless another method is required under 40 CFR subchapter N or unless an alternative method has been approved in writing pursuant to 40 CFR 136.5. To determine compliance with limits and conditions established in this permit, monitoring must be performed using sufficiently-sensitive methods approved pursuant to 40 CFR 136 for the analysis of pollutants having approved methods under that part, unless a method is required under 40 CFR subchapter N or unless an alternative method has been approved in writing pursuant to 40 CFR 136.5. Monitoring parameters which do not have approved methods of analysis defined in 40 CFR 136 shall be collected, handled, and analyzed in accordance with the methods in Section 6(B), below.
- (B) The latest, most up to date, of the following test method(s) as well as the following container, preservation, and hold time requirements, shall be used to analyze the parameters identified below:

PARAMETER	METHOD OF ANALYSIS	CONTAINER/PRESERVATION/MAXIMUM HOLDING TIME
Formaldehyde	EPA 1667	Per Method 1667

- (C) All metals analyses identified in this permit shall refer to analyses for Total Recoverable Metal as defined in 40 CFR 136, unless otherwise specified.
- (D) 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 Minimum Levels specified below represent the concentrations at which quantification must be achieved and verified during the chemical analyses for the parameters identified in Section 5 Tables A - F. Analyses for these parameters must include check standards within ten percent of the specified Minimum Level or calibration points equal to or less than the specified Minimum Level.

<u>Parameter</u>	<u>Minimum Level</u>
Aluminum	10.0 µg/L
Chlorine, total residual	20.0 µg/L
Copper	5.0 µg/L
Epichlorohydrin	20.0 µg/L
Lead	5.0 µg/L
Mercury	0.05 µg/L
Nickel	5.0 µg/L
Zinc	10.0 µg/L
PCBs	0.5 µg/L
Benzo(k)fluoranthene	5 µg/L
Benzo(a)pyrene	5 µg/L

- (E) 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.
- (F) Analyses for which quantification was verified to be at or below an ML, and which indicate that a parameter was not detected, shall be reported as “less than non-detect” where ‘non-detect’ is the numerical value equivalent to the ML 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.
- (G) Results of analyses which indicate that a parameter was not present at a concentration greater than or equal to the ML specified for that analysis shall be considered equivalent to zero for purposes of determining compliance with effluent limitations or conditions specified in this permit.
- (H) It is a violation of this permit for a Permittee or his/her designated agent, to manipulate test samples in any manner, to delay sample shipment, or to terminate or to cause to terminate a toxicity test. Once initiated, all toxicity tests must be completed.
- (I) Analyses required under this permit shall be performed in accordance with CGS Section 19a-29a. An “environmental laboratory”, as that term is defined in the referenced section, that is performing analyses required by this permit, shall be registered and have certification acceptable to the Commissioner, as such registration and certification is necessary.

## SECTION 7: AQUATIC TOXICITY TESTING

- (A) **ACUTE TESTING REQUIREMENTS.** The Permittee shall conduct acute aquatic toxicity testing for DSN 001-1 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) Tests for acute aquatic toxicity shall be conducted as prescribed for static non-renewal tests.
  - (b) Multi-concentration (definitive) testing shall be conducted. The following effluent dilution series concentrations shall be used: 100%, 75%, 50%, 25%, 12.5% and 6.25%.
  - (c) 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.
  - (d) Organisms shall not be fed during the tests.
  - (e) Copper nitrate shall be used as the reference toxicant.
  - (f) 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.
  - (g) Specific conductance, pH, alkalinity, hardness, and total residual chlorine shall be measured in the undiluted effluent sample and in the dilution (control) water at the beginning of the test and at test termination. If total residual chlorine is not detected at test initiation, it does not need to be measured at test termination.
- (6) **CHEMICAL ANALYSIS:** All samples of the discharge used in the acute

toxicity test shall, at a minimum, be analyzed and results reported in accordance with the provisions listed in Section 6(A) of this permit for the following parameters:

pH	Copper (Total recoverable and dissolved)
Hardness	Lead (Total recoverable and dissolved)
Alkalinity	Nitrogen, Ammonia (Total as N)
Conductivity	Nitrogen, Nitrate (Total as N)
Chlorine, Total Residual	Solids, Total Suspended
Nitrogen, Nitrate	(Total as N) Zinc
Phosphorus, Total	Aluminum, Total
Iron, Total	Manganese, Total
Total Kjeldhal Nitrogen	Phosphate
BOD <sub>5</sub>	Chemical Oxygen Demand
Total Cyanide	Total Oil and Grease
Formaldehyde	Total Chromium
Tin, Total	Silver, Total
Titanium, Total	Barium, Total
Acetone	Acrylamide
Acrylonitrile	Benzene
Bis-2-ethyl Hexyl Phthalate	Butanol
Chlorobenzene	Chloroform
Ethylbenzene	Methyl Ethyl Ketone
Methyl acrylate	Methyl N-Amyl Ketone
Methylene Chloride	Naphthalene
Phenols	2-Propanol
Styrene	Tetrahydrofuran
Tetrachloroethylene	Toluene
1,1,1 Trichloroethane	Xylene
Bisphenol A	Di-n-Octyl Phthalate
Nonylphenol	Furfural
PCBs	Dissolved Organic Carbon
Methanol	Methyl Methacrylate

- (7) **TEST ACCEPTABILITY CRITERIA:** 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.
- (8) **TEST COMPLIANCE:** Compliance with limits on Aquatic Toxicity shall be determined as follows:
- (a) For limits expressed as a minimum LC50 value, compliance shall be demonstrated when the results of a valid definitive acute aquatic toxicity test indicates that the LC50 value for the test is greater than the acute toxicity limit.

(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 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. 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/conditions in the permit shall be conducted as follows:

(a) For seven days utilizing neonatal *Ceriodaphnia dubia* (less 24 hours old)

(b) For seven days utilizing newly-hatched *Pimephales promelas* (less 24 hours old).

(4) **CHRONIC ENDPOINTS:**

(a) *Ceriodaphnia dubia*: Survival and Reproduction

(b) *Pimephales promelas*: Survival and Growth

(5) **DILUTION WATER:** 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 for toxicity tests used for compliance with the limits found in this permit. Additional dilutions at 0% and 26% effluent shall be conducted using Quinnipiac River collected upstream of the area influenced by the discharge in accordance with footnote 9 in Table A. The Permittee shall document the receiving water sampling location by providing coordinates and/or a map of the location.

(6) **TEST CONDITIONS:**

- (a) Testing for chronic aquatic toxicity shall be conducted as prescribed in the reference document for static daily renewal tests.
  - (b) Daily composite samples of the discharge and grab samples of the Quinnipiac River for use as site water and dilution water for the monitoring requirement found in footnote 9 Table A 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.
  - (c) Test concentrations for compliance with permit limits shall be comprised of a minimum of five dilutions, including 100%, 50%, 26%, 12.5%, and 6.25% effluent, including one on the control. Laboratory water shall be used as the dilution water. Additional tests shall occur at 0% and 26% dilutions using the receiving water, collected in accordance with Section 7(B)(5).
  - (d) 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.
  - (e) 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.
- (7) **CHEMICAL ANALYSIS:** Chemical analysis for the parameters identified below shall be conducted on an undiluted aliquot of each effluent sample and each sample of Quinnipiac River used in the test. The chemical analysis shall be analyzed and results reported in accordance with the provisions listed in Section 6(A):

pH	Copper (Total recoverable and dissolved)
Hardness	Lead (Total recoverable and dissolved)
Alkalinity	Nitrogen, Ammonia (Total as N)
Conductivity	Nitrogen, Nitrate (Total as N)
Chlorine, Total Residual	Solids, Total Suspended
Nitrogen, Nitrate (Total as N)	Zinc
Phosphorus, Total	Aluminum, Total
Iron, Total	Manganese, Total
Total Kjeldhal Nitrogen	Phosphate
BOD <sub>5</sub>	COD
Total Cyanide	Total Oil and Grease

Formaldehyde	Total Chromium
Tin, Total	Silver, Total
Titanium, Total	Barium, Total
Acetone	Acrylamide
Acrylonitrile	Benzene
Bis-2-ethyl Hexyl Phthalate	Butanol
Chlorobenzene	Chloroform
Ethylbenzene	Methyl Ethyl Ketone
Methyl acrylate	Methyl N-Amyl Ketone
Methylene Chloride	Naphthalene
Phenols	2-Propanol
Styrene	Tetrahydrofuran
Tetrachloroethylene	Toluene
1,1,1 Trichloroethane	Xylene
Bisphenol A	Di-n-Octyl Phthalate
Nonylphenol	Furfural
PCBs	Dissolved Organic Carbon
Methanol	Methyl Methacrylate

- (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) **TEST COMPLIANCE:** For limits expressed as a minimum NOEC value, compliance shall be demonstrated when the results of a valid definitive chronic aquatic toxicity test indicates that the NOEC value for the test is greater than or equal to the chronic toxicity limit.
- (10) **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. A hard copy of the report shall be submitted to the address in Section 8(B) and an electronic copy shall be submitted consistent with Section 8. The report shall include the items identified in Section 8(B) of this permit. Endpoints to be reported are: 48-hour LC<sub>50</sub> (survival), 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).

## SECTION 8: REPORTING REQUIREMENTS

- (A) The results of chemical analyses and any aquatic toxicity test required by this permit shall be submitted electronically using NetDMR. Monitoring results shall be reported at the monitoring frequency specified in this permit. Any monitoring required more frequently than monthly shall be reported on an attachment to the DMR, and any additional monitoring conducted in accordance with 40 CFR 136, or another method required for an



industry-specific waste stream under 40 CFR subchapter N, or other methods approved by the Commissioner, shall also be included on the DMR, or as an attachment, if necessary, and the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Commissioner in the permit. All aquatic toxicity reports shall also be included as an attachment to the DMR. A report shall also be included with the DMR which includes a detailed explanation of any violations of the limitations specified. DMRs, attachments, and reports, shall continue to be submitted electronically in accordance with Section 8(E) below. However, if the DMRs, attachments, and reports are required to be submitted in hard copy form, they shall be received at this address by the last day of the month following the month in which samples are collected:

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

- (B) The Aquatic Toxicity Monitoring Report (ATMR) shall include all applicable items identified in Section 12 of EPA-821-R-02-012 and in Section 10 of EPA-821-R-02-013, including complete and accurate aquatic toxicity test data, including percent survival of test organisms in each replicate test chamber, LC<sub>50</sub> values and 95% confidence intervals for definitive test protocols, and all supporting chemical/physical measurements performed in association with any aquatic toxicity test, including measured daily flow and hours of operation for the 30 consecutive operating days prior to sample collection. The ATMR shall be submitted electronically and a hard copy shall be sent to the Bureau of Water Protection and Land Reuse at the address below. The ATMR required by Section 7(A) and 7(B) shall be received at this address by the last day of the month following the month in which the samples are collected. The ATMR required by Section 7(B) shall be provided in accordance with the timeframe identified in Section 7(B)(10) above to:

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

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

(D) NetDMR Reporting Requirements:

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

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

(A) *Noncompliance Notifications:*

- (1) In accordance with Section 22a-430-3(j)(8), 22a-430-3(j)(11)(D), 22a-430-3(k)(4), and 22a-430-3(i)(3) of the RSCA, the Permittee shall notify the Commissioner of the following actual or anticipated noncompliance with the terms or conditions of this permit within two hours of becoming aware of the circumstances. All other actual or anticipated violations of the permit shall be reported to the Commissioner within 24 hours of becoming aware of the circumstances:
  - (a) A noncompliance that is greater than two times an effluent limitation;
  - (b) A noncompliance of any minimum or maximum daily limitation or excursion beyond a minimum or maximum daily range;
  - (c) Any condition that may endanger human health or the environment, including but not limited to noncompliance with whole effluent toxicity WET limitations;
  - (d) Any condition that may endanger the operation of a POTW, including sludge handling and disposal;
  - (e) A failure or malfunction of monitoring equipment used to comply with the monitoring requirements of this permit;
  - (f) Any actual or potential bypass of the Permittee's collection system or treatment facilities; or

- (g) Expansions or significant alterations of any wastewater collection, treatment facility, or its method of operation for the purpose of correcting or avoiding a permit violation.
- (2) Notifications shall be submitted via the Commissioner's online Noncompliance Notification Form:  
<https://portal.ct.gov/deep/water-regulating-and-discharges/industrial-wastewater/compliance-assistance/notification-requirements>.
- (3) Within five days of any notification of noncompliance in accordance with Sections 9(A)(a) through 9(A)(f) of this permit, the Permittee shall submit a follow-up report using the Commissioner's online Noncompliance Follow-up Report Form:  
<https://portal.ct.gov/deep/water-regulating-and-discharges/industrial-wastewater/compliance-assistance/notification-requirements>.  

The follow-up report shall contain, at a minimum, the following information: (i) A description of the noncompliance and its cause; (ii) the period of noncompliance, including exact dates and times; (iii) if the noncompliance has not been corrected, the anticipated time it is expected to continue; and (iv) steps taken or planned to correct the noncompliance and reduce, eliminate and prevent recurrence of the noncompliance.
- (4) Within 30 days of any notification of facility modifications reported in accordance with Section 9(A)(g) of this permit, the Permittee shall submit a written follow-up report by submitting a "Facility and Wastewater Treatment System Modification Request for Determination" for the review and approval of the Commissioner. The report shall fully describe the changes made to the facility and reasons therefor.
- (5) Notification of an actual or anticipated noncompliance or facility modification does not stay any term or condition of this permit.
- (B) In accordance with Section 22a-430-3(j)(11)(E) of the RSCA, the Permittee shall notify the Commissioner within 72 hours and in writing within 30 days when he or she knows or has reason to believe that the concentration in the discharge of any substance listed in the application, or any toxic substance as listed in Appendix B or D of RSCA Section 22a-430-4, has exceeded or will exceed the highest of the following levels: (1) One hundred micrograms per liter; (2) Two hundred micrograms per liter for acrolein and acrylonitrile, five hundred micrograms per liter for 2,4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter for antimony; (3) An alternative level specified by the Commissioner, provided such level shall not exceed the level which can be achieved by the Permittee's treatment system; or (4) A level two times the level specified in the Permittee's application.

72 hour initial notifications shall be submitted via the Commissioner's online Noncompliance Notification Form. 30 day follow-up reports shall be submitted via the

Commissioner's online Noncompliance Follow-up Report Form. The Forms are available at the Commissioner's website, here: <https://portal.ct.gov/deep/water-regulating-and-discharges/industrial-wastewater/compliance-assistance/notification-requirements>.

- (C) In addition to any other written reporting requirements, the Permittee shall report any instances of noncompliance with this permit with its DMR. Such reporting shall be due no later than the last day of the month following the reporting period in which the noncompliant event occurred. The information provided in the DMR shall include, at a minimum: the type of violation, the duration of the violation, the cause of the violation, and any corrective action(s) or preventative measure(s) taken to address the violation.
- (D) 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 7. The exceedance or invalid test shall be reported to Commissioner in accordance with Section 9(A). The results shall be submitted to the Commissioner within 30 days of the exceedance or invalid test. The results and the associated ATMR shall be reported with the DMR and to the Bureau of Water Protection and Land Reuse in accordance with Section 8(B) of the permit. Results of all tests, whether valid or invalid, shall be reported.
- (E) If any two consecutive test results or any three test results in a twelve-month period indicate that an aquatic toxicity limit has been exceeded, the Permittee shall immediately take all reasonable steps to eliminate toxicity wherever possible and shall also submit a report, for the review and written approval of the Commissioner, which describes in detail the steps taken or that shall be taken to eliminate the toxic impacts of the discharge on the receiving water and it shall also include a proposed schedule for implementation. Such report shall be submitted in accordance with the timeframe set forth in Section 22a-430-3(j)(10)(C) of the RCSA. The Permittee shall implement all actions in accordance with the approved report and schedule.

## **SECTION 10: COMPLIANCE SCHEDULE**

The Permittee shall assure compliance with the terms and conditions of this permit and Sections 22a-430-3 and 4 of the RCSA in accordance with the following schedule:

### **(A) PFAS SAMPLING PLAN**

- (1) On or before thirty (30) days after the effective date of this permit, the Permittee shall employ or retain one or more qualified professionals 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 professionals. Such professionals employed or retained by the Permittee shall have demonstrated knowledge of the per – and polyfluoroalkyl substances (PFAS) and the sampling protocols and analytical laboratory methods associated with identifying and quantifying PFAS. The Permittee shall employ or retain one or more qualified professionals

acceptable to the Commissioner until the actions required by this section of the permit have been completed, and within ten (10) days after employing or retaining any professional(s) other than one(s) originally identified under this paragraph, the Permittee shall notify the Commissioner in writing of the identity of such other professional. The Permittee shall submit to the Commissioner a description of a professional's education, experience and training, which is relevant to the work required by this permit within ten (10) days after a request for such a description. Nothing in this paragraph shall preclude the Commissioner from finding a previously acceptable professional unacceptable.

- (2) On or before one-hundred and twenty (120) days after the effective date of this permit, the Permittee shall submit for the Commissioner's review and approval a sampling plan on which to take a minimum of two (2) separate and distinct samples of the discharge associated with DSN 001-1 for analysis. A sampling location must be selected in a location prior to dilution with waste streams with no suspected source of PFAS. PFAS analyses shall be performed using the methods approved by EPA pursuant to 40 CFR 136 and by a laboratory certified to conduct such test methods. If no such test method is approved by EPA pursuant to 40 CFR 136, PFAS analyses shall be performed in accordance with EPA Method 1633 (see <https://www.epa.gov/cwa-methods/cwa-analytical-methods-and-polyfluorinated-alkyl-substances-pfas>). At a minimum this plan must identify the test method, laboratory, schedule of sampling events, sampling protocols including sample quality control procedures to be implemented, sampling locations, and number and volume of samples to be collected at each location.
- (3) The Permittee shall perform the approved actions in accordance with the approved sampling plan, but in no event shall the approved actions be completed later than ninety (90) days after the approval of the sampling plan submitted pursuant to Section 10(A)(2) of this permit. Within thirty (30) days after receiving analysis results, the Permittee shall submit all sample results generated as a result of executing the approved plan to the Commissioner in writing.

(B) Whole Effluent Toxicity

The Permittee shall conduct a comprehensive investigation into the potential sources of chronic aquatic toxicity. The Permittee shall identify and evaluate remedial alternatives, propose a schedule, and implement actions necessary to comply with its chronic aquatic toxicity limits and reduce chronic toxicity in accordance with the following schedule but no longer than two (2) years from the permits effective date:

- (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 (10) 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 consistently achieve compliance with aquatic toxicity 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 that is relevant to the work required by this permit within ten (10) 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 ninety (90) days after the date of issuance of this permit, the Permittee shall submit for the Commissioner's review and written approval an aquatic toxicity scope of study for an investigation and evaluation of remedial alternatives with a proposed schedule and implement actions necessary to comply with its NPDES permit. The scope shall include an evaluation of the effluent for other conditions that may contribute to effluent toxicity, identification of effluent toxicants and their sources, a study on the possible synergistic effects of the discharge and receiving stream that may lead to toxicity, treatment system operation and treatment efficiency, and a review of influent and effluent monitoring data.
- (3) The Permittee shall submit for the Commissioner's review and written approval a comprehensive and thorough report in accordance with the scope of study approved pursuant to Section 10 (B)(2) that describes and evaluates alternative actions which may be taken by the Permittee to ensure compliance with its aquatic toxicity limits. Such report shall:
  - (a) Identify and evaluate alternative actions needed to comply with the

Permittee's NPDES permit and to be consistent with the Connecticut Water Quality Standards including, but not limited to, pollutant source reduction, process changes/innovations, chemical substitutions 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.
- (4) The Permittee shall submit to the Commissioner quarterly status reports beginning sixty (60) days after the date of approval of the report referenced in Section 10(A)(3) above. Status reports shall include, but not be limited to, a summary of all effluent monitoring data collected by the Permittee during the previous ninety (90) day period and 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 specified in the program approved pursuant to paragraph (B)(3) of this section.
- (5) If the investigation carried out under an approved scope of study does not fully address the requirements of this permit and protect surface waters from pollution to the satisfaction of the Commissioner, additional investigation 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.
- (C) The Permittee shall 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 (30) 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.

- (D) 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 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 (3) 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 of the permit to be submitted, or performed, by a date which falls on, Saturday, Sunday, or a Connecticut or federal holiday, shall be submitted or performed on or before the next day which is not a Saturday, Sunday, or Connecticut or federal holiday.
- (E) 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 or of any document required hereunder, the Permittee shall notify the Commissioner within twenty-four (24) hours and shall take all reasonable steps to ensure that any noncompliance or delay is avoided or, if unavoidable, 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, which 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.
- (F) Notice to Commissioner of changes. Within (14) 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.
- (G) 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:



[DEEP.WaterPermittingEnforcement@ct.gov](mailto:DEEP.WaterPermittingEnforcement@ct.gov) with the subject line "CT0000086"  
and

NPDES Permitting Program  
Department of Energy and Environmental Protection  
Bureau of Materials Management and Compliance Assurance  
Water Permitting and Enforcement Division  
79 Elm Street  
Hartford, CT 06106-5127

## **SECTION 11: ALUMINUM OPTIMIZATION PLAN**

- (A) The Permittee shall develop and submit an Aluminum Optimization Plan (Plan) to minimize aluminum discharged through DSN 001-1. The Plan shall be submitted for the Commissioner's review no later than 180 days after the effective date of this permit.
- (1) On or before thirty (30) days after the date of issuance of this permit, the Permittee shall retain one or more qualified professionals 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 professional. The Permittee shall retain one or more qualified professional acceptable to the Commissioner until the actions required by this section of the permit have been completed, and within ten (10) days after retaining any professional other than one originally identified under this paragraph, the Permittee shall notify the Commissioner in writing of the identity of such other professional. The professional retained to perform the Plan shall be a qualified professional with experience in the operational and/or design of industrial wastewater treatment facilities. The Permittee shall submit to the Commissioner a description of a professional's education, experience and training that is relevant to the work required by this permit within ten (10) days after a request for such a description. Nothing in this paragraph shall preclude the Commissioner from finding a previously acceptable professional unacceptable.
  - (2) The Plan shall evaluate and identify methods for the Permittee to minimize aluminum discharged through DSN 001-1 to the Quinnipiac River by implementing optimization techniques that minimize the aluminum discharge using primarily existing facilities and equipment, to the maximum extent practicable. At a minimum the Plan shall:
    - (a) Evaluate current and alternative methods of operating the Permittee's manufacturing and wastewater treatment facility, including operational, process, treatment, material and chemical substitutions, and equipment changes to reduce aluminum from the DSN 001-1 discharge. At a

minimum, the methods evaluated shall include: operational and process changes to enhance effluent aluminum removal by the wastewater treatment facility; optimization of chemical usage and feed systems to minimize aluminum entering the wastewater discharge; chemical or material substitutions to eliminate or reduce aluminum entering the wastewater treatment facility; and pollution prevention and source reduction strategies to minimize aluminum usage at the manufacturing facility and entering the wastewater discharge;

- (b) Determine which current or alternative methods will be most effective at minimizing aluminum levels in the discharge. Current methods of operating the facility may be most effective at minimizing aluminum if demonstrated by the Section 11(A)(2)(a) of the Plan; and
  - (c) Include a proposed implementation schedule for those methods which were determined to be most effective at minimizing aluminum.
- (3) The Permittee shall implement the Plan sixty (60) days following submittal to the Commissioner, unless the Commissioner rejects the Plan prior to that date.
  - (4) The Permittee shall submit to the Commissioner annual status reports as an attachment to the December DMR. 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 proposed schedule including, but not limited to, a description of the optimization methods implemented under the Plan during the previous calendar year; whether the techniques are performing as expected; and the aluminum discharge trends relative to the previous year.
  - (5) The Permittee shall revise and maintain the Plan upon the Commissioner's request or by the Permittee to address equipment or operational changes.

This permit is hereby issued on November 26, 2024



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Jennifer Perry, P.E.  
Bureau Chief

JP/ PB

# National Pollutant Discharge Elimination System Factsheet

## SECTION 1 FACILITY SUMMARY

<b>APPLICANT</b>	Allnex USA Inc.
<b>PERMIT NO.</b>	CT0000086
<b>APPLICATION NO.</b>	201508943
<b>DATE APPLICATION RECEIVED</b>	11/18/2015
<b>LOCATION ADDRESS</b>	528 South Cherry Street, Wallingford, CT 06492
<b>FACILITY CONTACT</b>	Virginia Ryan, Safety, Health, and Environmental Manager Office Phone: 203-233-7967 Email: virginia.ryan@allnex.com
<b>MAILING ADDRESS</b>	528 South Cherry Street, Wallingford, CT 06492
<b>DMR CONTACT</b>	Virginia Ryan Office Phone: 203-233-7967 Email: virginia.ryan@allnex.com
<b>SECRETARY OF STATE BUSINESS ID</b>	1099389
<b>PERMIT TERM</b>	5 Years
<b>PERMIT CATEGORY</b>	Major NPDES
<b>SIC &amp; NAICS CODE(S)</b>	2821, 325211
<b>APPLICABLE EFFLUENT GUIDELINES</b>	40 Code of Federal Regulations (CFR) Part 414
<b>PERMIT TYPE</b>	Reissuance
<b>OWNERSHIP</b>	Private
<b>RECEIVING WATER</b>	DSN 001 Quinnipiac River
<b>WATERBODY SEGMENT ID'S</b>	CT5200-00_02
<b>WATERBODY CLASSIFICATION</b>	Class B

<b>DISCHARGE LOCATIONS</b>	DSN 001 Latitude 41 26'04" Longitude 72 50'52"
<b>COMPLIANCE ACTIONS</b>	Yes
<b>DEEP STAFF ENGINEER</b>	Patrick Bieger, Environmental Engineer <a href="mailto:Patrick.bieger@ct.gov">Patrick.bieger@ct.gov</a>

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**1.1 PERMIT FEES**

***Application Fee:***

Filing Fee	Invoice No.: DEP255635	Amount: \$1,300	Date Paid: 11/18/2015
Processing Fee	Invoice No.: NA	Amount: NA	Date Paid: NA

***Annual Fee:***

	<b>WASTEWATER CATEGORY (per RCSA Sec. 22a-430-7)</b>	<b>FLOW CATEGOR Y</b>	<b>DSN</b>	<b>ANNUAL FEE (per RCSA Sec. 22a-430-7 and CGS Sec. 22a- 6f)</b>
	<i>Organic Chemicals Manufacturing</i>	>50,000	001	\$8,425
	<i>Sanitary Sewage to Surface Water</i>	20,000- 999,999	001	\$3,445
	<i>Non-Contact Cooling Water</i>	100,001- 10,000,000	001	\$2,290
	<i>Groundwater Contamination Recovery Systems</i>	----	001	\$4,337.50
	<i>Blowdown from Heating/Cooling Equipment</i>	>5,000	001	\$4,337.50
	<i>Water Production Wastewaters</i>	----	001	\$660
	<i>Fire Suppression Test Water</i>	----	001	----
	<i>Stormwater</i>	----	001	\$2,912.50
<b>TOTAL</b>				<b>\$26,407.50</b>

## **1.2 OTHER PERMITS**

Allnex USA Inc. has other water discharges that are covered under different permitting mechanisms as follows:

- Stormwater from the site is permitted under the General Permit for the Discharge of Stormwater Associated with Industrial Activity (GSI002603).

## **1.3 APPLICATION SUBMITTAL INFORMATION**

On November 18, 2015, the Department of Energy and Environmental Protection (“DEEP”) received an application (Application 201508943) from Allnex USA Inc. (“Permittee”, “Applicant”, “the Facility”) (formerly Cytec Industries Inc.) in the Town of Wallingford for the renewal of its National Pollution Discharge Elimination System (“NPDES”) Permit #CT0000086, which expired on May 16, 2016 (“the previous permit”). Consistent with the requirements of Section 22a-6g of the Connecticut General Statutes (“CGS”), the Applicant caused a Notice of Permit Application to be published in the Record-Journal on October 23, 2015. On December 29, 2015, the application was determined to be timely and administratively sufficient.

The Permittee seeks authorization for the following in Application 201508943:

DSN	PROPOSED AVERAGE DAILY FLOW (gpd)	PROPOSED MAXIMUM DAILY FLOW (gpd)	PROPOSED WASTESTREAMS	TREATMENT TYPE	DISCHARGE TO
001-1	1,190,000	2,809,000	Non-contact cooling water, cooling tower blowdown, cooling tower system maintenance drains, incidental system leakage, maintenance drains from cooling tower, condenser condensate, steam condensate, filtrates, laboratory wastewater, still bottoms, steam jet ejector condensates, steam jet ejector intercooler water, produced water, seal water, patty box drainage, sluice pelletizer, decant water, wash water, wet scrubber, building roof and containment structure water, sampling sink or valve drainage, maintenance sinks, eye wash and safety shower, boiler blowdown, water treatment wastewater, air compressor condensates, air conditioner condensate, activated carbon regeneration, boiler system drains, fire training water, sanitary sewage, fire suppression test water, fire water storage tank overflow, and engine cooling water for emergency diesel pump	Biological Treatment	Quinnipiac River

**1.4 DESCRIPTION OF INDUSTRIAL PROCESS**

Allnex USA Inc. is a business that performs organic chemical manufacturing of thermoplastic resins. Roehm America LLC (“Roehm”) is an company co-located on the site that manufactures thermosetting resins. The Permittee has an agreement with Roehm to receive and treat their wastewater generated from OCPSF and non-OCPSF operations. Roehm is an independent company from Allnex USA Inc. that uses utilities from Allnex USA Inc. and discharges into the Permittee’s wastewater treatment plant through internal DSN 001-I. Roehm is a business that also performs organic chemical manufacturing of thermosetting resins.



The facility has a wastewater treatment plant that is used to treat wastewater from organic chemical manufacturing, water treatment wastewater, non-process wastewaters, and sanitary sewage. This wastewater is discharged to the Quinnipiac River by way of DSN 001 under this proposed permit.

This permit also authorizes the discharge from a capped landfill historically used to manage the facility's solid wastes. The closed landfill onsite only received wastes from the Permittee's facility. This permit also authorizes the discharge of groundwater remediation wastewater from historic spill sites.

## **1.5 FACILITY DESCRIPTION**

This facility has one external outfall, DSN 001, which discharges to the Quinnipiac River. There are five internal outfalls to evaluate compliance with the process and non-process wastewater at the facility. DSN 001-A is the influent to the wastewater treatment plant (process and non-process water); 001-B is the domestic sewage from the facility that flows into the aeration basin at the wastewater treatment plant (non-process water); 001-E is contaminated ground water (Acrylonitrile spill area) from Building A that enters into DSN 001-A (non-Organic Chemicals, Plastics and Synthetic Fibers ("OCPSF") categorical waters); 001-F is an internal outfall representing landfill leachate that enters the grit chamber (non-OCPSF waters); and 001-I is the discharge from Roehm (formerly Evonik, and Cyro).

DSN 002-1 represents fire water suppression systems that discharge into a stormwater basin. This DSN was requested to be removed from the permit during a site visit on March 21, 2024. During the inspection, DEEP was made aware that the wastewaters previously discharged under DSN 002 have either been rerouted to DSN 001, are being containerized and shipped off site, or are authorized under the Comprehensive General Permit for Discharges to Surface Water and Groundwater.

Building 30, 40, and 45 (cooling towers) (non-OCPSF) – The Facility has recirculating cooling towers that generate non-contact cooling water (NCCW). There are three towers at the facility labeled Building 30 (servicing Building 5B production), Building 40 (servicing Buildings 6, 6B, and 6C production) and Building 45 (servicing Evonik's production). The towers use groundwater as the source of water.

Building 2 (utility operations) (non-OCPSF waters) – Produces steam for the site and compressed air for operations.

Remediation Areas (non-OCPSF waters) – The facility has four remediation areas which have groundwater pumping systems. The first remediation area includes the Building 10 tank farm and offsite wells along Route 5, this area includes a system for the removal of various organic chemicals. The second remediation area is Building 2, which has a system for the removal of No. 6 Fuel Oil. The third remediation area is the methyl formcel area, with its system for the removal of formaldehyde and several alcohols. The final remediation area is the Building 5B tank farm, which has a system for removal of several organic chemicals. These remediation areas are independent of each other and operate on an as-needed basis. These four remediation areas discharge through DSN 001-E to the wastewater treatment plant.

The landfill leachate collection system includes the southern leachate interceptor, the north-south interceptor, and east-west interceptor. The landfill leachate system discharges through DSN 001-F to the wastewater treatment plant.

Buildings 15, 34, and 37 (ancillary operations) (non-OCPSF waters) – These buildings contain floor drains that are connected to the facility’s wastewater treatment plant. Operations in these buildings are not considered OCPSF categorical wastewaters.

Buildings 4, 7, 16, 26, and 32 (sanitary wastewater) (non-OCPSF waters) – These buildings do not perform industrial activities, but the sanitary wastewater from these buildings discharge to the onsite wastewater treatment plant.

Buildings 5B (resin manufacturing) (OCPSF waters) – This building uses reactor trains in kettle tanks for the manufacture of amino resins, acrylamide resins, coating catalysts, formaldehyde free resins, and urethane and acrylic-modified alkyd resins. Kettle tanks can be cleaned with washing alcohols which are then pumped back to wash tanks for reuse or discharged with wastewater that is piped to the wastewater treatment plant. All floor drains are hard piped inside the buildings and routed to the wastewater treatment plant.

Building 6 (resin manufacturing) (OCPSF waters) – This building is separated into three sections (6, 6B, and 6C). The building uses reactor trains for the manufacture of amino (methylated) resins (Building 6B and 6C), phenolic resins, and M-3 resins.

Buildings 5 and 6 are capable of producing other resins on an as-needed basis (OCPSF waters). Both buildings are supplied from storage tanks holding raw materials, intermediates, or final products. These tanks can be equipped with water scrubbers or condensers when required.

Building 2 (boiler house and air compression) (non-OCPSF waters) – This building contains two boilers to generate steam for on-site process and area heating. The air compressors in the building service both Allnex USA Inc. and Roehm. Adjacent to this building is a diesel-powered air compressor and generator for emergency use. Discharges from this building include boiler blowdown, compressor cooling water, boiler water treatment system clean ups, steam condensate, and water softener drainage.

### **Roehm America LLC (Formerly Evonik Cyro LLC)**

Building 10 and 10A are used for manufacturing of methyl methacrylate-based polymers. These buildings contain product workshops, product development, and analytical laboratories. The laboratory is used for QA/QC purposes and no water from the laboratory comes into contact with the manufactured product. Therefore, those waters do not fall within the OCPSF categorical discharge definition. These buildings also produce acrylic polymer. The discharges from these buildings go through a latex screener and a fine-mesh vibrating screen separator prior to discharge to the Permittee’s wastewater treatment plant. The application indicates Roehm discharges up to a maximum of 250,000 gallons per day. A review of the reported flows from October 2018 to September 2023 indicates the average discharge volume from Roehm to Allnex is 37,620 gallons per day.

Building 10 and 10A weir – The weir is an under and over covered weir that is vented to the atmosphere. The inlet chamber allows any organics that may have escaped from process upsets or spills to float the top of the weir. A low effluent level sensor in the vent line can detect when organics accumulate to an elevated concentration and triggers an alarm. The alarm triggers operating personnel to open the weir and remove the organic layer from the weir.

Building 10 is equipped with secondary containment. The diked area around the monomer blend tanks is designed with piping to convey spills to the secondary containment. The basin is a buried concrete vault with 20,000-gallon capacity. The system is not connected to the wastewater treatment plant.

Fire Fighting – Firefighting water, including foam used to suppress flammable liquid fires, can enter the wastewater treatment plant through collection and hauling to the treatment system. Additionally, the plant has a firefighting training area containment pad that is connected to the wastewater treatment plant. Training exercises are conducted monthly.

The facility’s stormwater from both Roehm and Allnex USA Inc. is collected in a separate stormwater sewer system that drains by gravity to an unnamed tributary of the Quinnipiac River and authorized under the stormwater industrial general permit. The non-stormwater discharges have been removed from this outfall and have been rerouted to the treatment system or to ground (see discussion of DSN-002).

### **1.6 FACILITY CHANGES**

The Regulations of the Connecticut State Agencies (“RCSA”) require that permittees notify DEEP and obtain written approval of any facility expansion or process change that may result in an increased or new discharge or constitute a new source, and of any expansion or significant changes made to a wastewater collection system, treatment system, or its method of operation in accordance with RCSA Section 22a-430-3(i). These regulatory provisions are commonly referred to as “3(i) determinations”. DEEP will review the notification and determine if the change can be implemented under the current permit or if the requested change requires a permit modification to protect waters of the State in accordance with RCSA Section 22a-430-4(p).

The following are a list of 3(i) determinations since the previous permit:

<b>3(i) Number</b>	<b>3(i) Description</b>	<b>Date Issued</b>	<b>Change Implemented</b>
201816158	Authorize use of Hydrex 6521, Hydrex 6033, and Hydrex 9622.	1/24/2019	Yes
201911812	Authorize use of secondary butanol, ethylene glycol mono (2-ethylhexyl) ether, and ethylene glycol monoisopropyl ether.	10/31/2019	Yes
201810314	Authorize use of pentanol, octanol, methyl diethanolamine, and methyl carbitol, add chemical stabilizer butylated hydroxytoluene, and add new process for plasticizing ester resin. A duplicate 3(i) application #201810285 for this project was received on September 4, 2018.	9/07/2018	Yes

202206109	Authorize use of ethyl acid phosphate.	7/1/2022	Yes
202308134	Allow use of methyl amyl ketone and ZAY4335.	1/17/2024	Ongoing

The facility added a floating sphere cover to the equalization basin to decrease evaporation during the previous permit term.

## **1.7 TREATMENT SYSTEM DESCRIPTION**

Wastewater enters the grit chamber. The grit chamber includes a rake and conveyor system to remove both floating and settled material as they enter the plant. An early warning system is in place in the chamber to alert personnel of any potential material that could impact the wastewater treatment plant operation. This system consists of an in-line total organic carbon sensor, pH sensor and temperature sensor. Ammonia or urea are added at the grit chamber when needed for treatment and a composite sampler takes samples at programmed intervals for analysis using an in-house lab.

Following the grit chamber, wastewater flows into the equalization basin. The equalization basin is a flow-through storage basin. It is covered with spheres across the entire surface to suppress evaporation. The basin equalizes flow and prevents slug load of organic chemicals into the aeration basin with the help of four mixers. The basin has a volume of about 2.4 million gallons. At the maximum previously permitted average flow, the average detention time was 48 hours. The lower volume in this draft permit will allow for greater retention time. At the basin outlet, a continuous ammonia and phosphorus analyzer are used to maintain proper nutrient levels for treatment. A composite sampler takes samples at programmed intervals. The pH and temperature are also monitored.

The activated sludge aeration basin follows the equalization basin and consists of six aerators. Phosphorus or alcohol distillate is added to the inlet when necessary to provide nutrients for the activated sludge. Nitrogen, phosphorus, dissolved oxygen, and pH are monitored in this basin. The domestic sewage flows through a septic tank before entering a chlorination basin. After the chlorination basin the wastewater discharges through DSN 001-B and into the aeration basin of the wastewater treatment plant.

Aeration basin effluent flows into two clarifiers where the activated sludge separates from the treated wastewater by settling. Cationic polymers are added at the splitter box and anionic polymers are added to the center wells of the clarifiers to assist in settling. The flocculation is aided by a slow-speed mixer in each clarifier. The settled sludge is returned from the clarifiers to the aeration basin or wasted to a gravity thickener tank. Treated wastewater overflows the effluent weirs. Any scum that escapes the center well is collected by surface skimmers and pushed into a trough and pumped into the thickener tank.

Solids from the thickener tank are pumped into chemical condition tanks for processing in the belt filter press. The dewatered sludge is pumped to roll off boxes and disposed off-site in a non-hazardous landfill.

Waters from the clarifiers flow thru the effluent chamber, where they are monitored for flow, pH, turbidity and dissolved oxygen. There are three composite samplers installed to provide samples

for the final effluent testing for the NPDES permit. The wastewater then enters a pipe that discharges directly into the Quinnipiac River via DSN 001.

### **1.8 COMPLIANCE HISTORY**

A violations report is included as Attachment A.

Is the Permittee subject to an ongoing enforcement action?  Yes  No

The Permittee is subject to the following recent enforcement actions:

Consent Order No.: COWRIN22001 3/31/2022

The Permittee completed steps of their previous compliance schedule, including studies and evaluations to reduce the phosphorus concentrations in the discharge. However, they were not able to reliably meet the average monthly limit specified in the Step 2 concentration limits for total phosphorus in the previous NPDES permit. Due to this, DEEP and the Permittee signed a consent order creating interim limits for the facility to follow, including decreased average and maximum effluent flow limits, and an increased average monthly phosphorus limit. This consent order will be closed after the issuance of this permit renewal because updated phosphorus limits incorporated into the new permit will supersede the interim limits published in the consent order. For additional information on the basis of why the phosphorus limit was changed in the consent order, see Section 10(H) below regarding the previous compliance schedule in this Section of the fact sheet.

Stipulated Judgment: HHD-CV-13-6039473-S 5/7/2014

The Permittee was subject to a stipulated judgement due to the frequency of spills at their site. On June 9, 2023, DEEP recognized that the Permittee completed all steps required under this stipulated judgement. No further action is required under the judgement in this permit.

Did the previous permit have a compliance schedule?  Yes  No

Section 10(A) of the previous permit required the Permittee to combine discharges DSN 001-G and DSN 001-H into one outfall, with a single representative monitoring point, known as DSN 001-I. This work was completed in 2011 and the permit condition was removed from the previous permit during the permit modification dated May 12, 2016.

Section 10(B) of the previous permit required the Permittee to submit a completed permit application Attachment O for the consolidated monitoring point. The information was provided, and the permit condition was removed from the previous permit during the permit modification dated May 12, 2016.

Section 10(C) of the previous permit required the Permittee to provide a list of materials that would be present in the discharge including final products, intermediates in the chemical processes, byproducts of production, chemical additives, or substances used to treat wastewater. The information was submitted for both Allnex USA Inc. and Roehm America LLC (previously Cytec and Cyro) and the permit condition was removed from the previous permit during the permit modification dated May 12, 2016.

Section 10(D) and (E) of the previous permit were superseded by stipulated judgement HHD-CV-13-6039473. The Permittee completed all actions required by the stipulated judgement and on June 9, 2023, DEEP transmitted a closure letter, documenting the completion of all permit conditions and compliance with this portion of the permit.

Section 10(F) of the previous permit required the Permittee to comply with the final limitations for acrylamide for DSN 001-1. In July 2011, the Permittee submitted a report entitled “Acrylamide Water Criteria Development”. On November 21, 2012, the Permittee submitted its plan to meet the permit effluent limit by discontinuing production of many acrylamide-based products and evaluating the treatment feasibility for acrylamide. The discontinuation of product lines has reduced the levels of acrylamide in the effluent. The plan was accepted by DEEP.

Section 10(G) of the previous permit required the Permittee to address the chronic toxicity in DSN 001-1. The Permittee addressed this requirement during the previous permit term with a TIE (“Toxicity Identification Evaluation”) report completed in 2014 to address toxicity at 26% effluent, as required in Section 10G(2). The Permittee currently uses three laboratories to analyze split samples for chronic toxicity. Split sample results demonstrate variability in toxicity data between the certified labs and the results indicate exceedances of the chronic toxicity limits. This permit includes a compliance schedule for the Permittee to build on previous TIE efforts and address the variance between the three laboratories.

Section 10(H) of the previous permit required the Permittee to submit a plan to reduce their phosphorus discharge pursuant to Public Act (PA) 12-155: An Act Concerning Phosphorus Reductions in State Waters and DEEP’s Phosphorus Reduction Strategy for Inland Non-Tidal Waters. During the previous permit term, the Permittee completed several steps to determine what methods are available to achieve the Step 2 limits in the permit. The Permittee evaluated optimization of phosphoric acid to the wastewater treatment plant, using polyaluminum chloride, evaluating biological phosphorus removal, and testing several different flocculants. The most recent treatability evaluation was submitted on June 9, 2020, and evaluated ballasted flocculation and filtration. It was determined that these technologies could not reduce the phosphorus to below the Step 2 concentration limits consistently.

To help further reduce their total phosphorus discharge, the Permittee reduced the average and max flow of wastewater discharge from 2,298,333 gallons per day and 4,367,030 gallons per day, to 1,190,000 gallons per day and 2,809,000 gallons per day, respectively. With the flow reductions, the Permittee was able to meet the total phosphorus loading limits but could not consistently meet the concentration-based limits. To address the violations of the concentration-based limits, consent order no. COWRIN22001 was issued on March 31, 2022, requiring the Permittee to maintain the decreased flow of 1,190,000 gallons per day monthly average and 2,809,000 gallons per day maximum day, and to meet an interim seasonal monthly average phosphorus limit of 0.15 mg/l. They have been able to achieve this limit consistently.

Paragraph B.1. of the consent order established that the interim limits shall continue in effect until the NPDES permit is renewed, revoked, or otherwise modified. Paragraph B.3. establishes that the Permittee shall be considered in full compliance with the consent order when all actions required by the consent order have been completed as approved, or such time that the interim limits

are no longer in effect, whichever is sooner. The renewal of this NPDES permit with phosphorus limits satisfies the provisions of B.1. and B.3. of the consent order and the consent order will be closed upon the issuance and effective date of the permit. Please refer to Section 3 of this fact sheet for information about the new total phosphorus limits.

Section 10(I) of the previous permit required the Permittee to relocate DSN 001-1 out of the unnamed tributary and into the Quinnipiac River. Additionally, the Permittee was required to perform a dye study after the completion of the relocation project to determine the zone of influence in the river. Both the relocation and dye study have been completed and this step was removed from the permit during the permit modification dated May 12, 2016.

## **1.9 GENERAL ISSUES RELATED TO THE APPLICATION**

### **1.9.1 Federally Recognized Indian Land**

As provided in the permit application, the site is not located on federally recognized Indian land.

### **1.9.2 Coastal Area/Coastal Boundary**

The activity is not located within a coastal boundary as defined in CGS 22a-94(b).

### **1.9.3 Endangered Species**

Based on the National Diversity Data Base and Fisheries Division review, there are no activities at the site that will impact endangered or protected species at this location.

### **1.9.4 Aquifer Protection Areas**

As provided in the permit application, the site is not located within a protected area identified on a Level A or B map.

### **1.9.5 Conservation or Preservation Restriction**

As provided in the permit application, the property is not subject to a conservation or preservation restriction.

### **1.9.6 Public Water Supply Watershed**

As provided in the permit application, the site is not located within a public water supply watershed.

## **SECTION 2 RECEIVING WATER BODY INFORMATION**

The receiving waterbody, the Quinnipiac River, is identified as CT5200-00\_02. The segment of the Quinnipiac River is classified as B.

The Quinnipiac River is listed on the State's 303(d) list of impaired waters and is impaired for its designated uses of fish consumption and habitat for fish, other aquatic life and wildlife ([FINAL-2022-IWQR-Appendix-B-1-List-of-Impaired-Waters-for-Connecticut-EPA-Category-5.pdf](#)).

Impairment of habitat for fish, other aquatic life, and wildlife are due to total phosphorus and other unknown causes. The facility is known to discharge phosphorus and has a wastewater treatment plant that can reduce phosphorus loading into the river. See Section 1.4 of this fact sheet for the discussion on phosphorus in the previous permit's compliance schedule.

There is a Total Maximum Daily Load (TMDL) for this section of the Quinnipiac River for *Escherichia coli* ([A Total Maximum Daily Load Analysis for the Quinnipiac River Regional Basin](#)). The discharge has sanitary sewage that is treated by chlorine before being treated in the wastewater treatment plant. A geometric mean limit for *Escherichia coli* of 126 col/100ml has been maintained to comply with the TMDL.

The Permittee is subject to *A Total Maximum Daily Load Analysis to Achieve Water Quality Standards for Dissolved Oxygen in Long Island* (December 2000) ([Total Maximum Daily Load for Long Island Sound \(ct.gov\)](#)). The TMDL requires a decrease in nitrogen loading to the Long Island Sound by 58.5 % by 2014. The Permittee received a waste load allocation (WLA) of 928 lbs/day Total Nitrogen under this TMDL. This WLA was implemented in the previous permit and the Permittee has met the reduction required by the TMDL. The effluent limit of 928 lbs/day is included in this renewal pursuant to the TMDL.

Outside of this river segment, the receiving water is impaired for fish consumptions due to polychlorinated biphenyls (PCBs).

### **SECTION 3 PERMIT CONDITIONS AND EFFLUENT LIMITATIONS**

#### **3.1 EFFLUENT GUIDELINES**

The following federal Effluent Limits Guidelines were reviewed to determine their applicability to the facility's industrial processes and discharge, DSN 001-1:

The Permittee manufactures thermoplastic resins and thermosetting resins including amino resins, acrylamide resins, coating catalysts, urethane and acrylic-modified alkyd resins, formaldehyde free resins, amino (methylated) resins phenolic resins, and m-3 amino resins. These processes subject the facility to the Effluent Limit Guidelines at 40 CFR Part 414: Organic Chemicals, Plastics, and Synthetic Fibers, Subpart D Thermoplastic Resins, and Subpart E Thermosetting Resins categorical standards. Additionally, the facility has a biological wastewater treatment plant, which is subject to Subpart I: Direct Discharge Point Sources That Use End-of-Pipe Biological Treatment.

This permit also authorizes the discharge from a capped landfill historically used to manage the facility's solid wastes. The closed landfill onsite only received wastes from the Permittee's facility; therefore, it is not subject to the Landfill Point Source Category at 40 CFR 445.1. Specifically, 40 CFR 445.1(e) states, "the category does not apply to landfills operated in conjunction with other industrial or commercial operations when the landfill only receives wastes generated by the industrial or commercial operation directly associated with the landfill."



### 3.2 POLLUTANTS OF CONCERN

The following pollutants are included as monitoring requirements in the permit for the reasons noted below:

#### DSN 001

POLLUTANT	REASON FOR INCLUSION			
	POLLUTANT WITH AN APPLICABLE TECHNOLOGY- BASED LIMIT	POLLUTANT WITH A WASTE LOAD ALLOCATION FROM A TMDL	POLLUTANT IDENTIFIED AS PRESENT IN THE EFFLUENT THROUGH SAMPLING	POLLUTANT OTHERWISE EXPECTED TO BE PRESENT IN THE EFFLUENT
Acenaphthene	X			
Acenaphthylene	X			
Acrylonitrile	X			
Anthracene	X			
Benzene	X			
Benzo(a)anthracene	X			
3,4-Benzofluoranthene	X			
Benzo(k)fluoranthene	X			
Benzo(a)pyrene	X			
Bis(2-ethylhexyl) phthalate	X			
Carbon Tetrachloride	X			
Chlorobenzene	X			
Chloroethane	X			
Chloroform	X			
2-Chlorophenol	X			
Chrysene	X			
Di-n-butyl phthalate	X			
1,2-Dichlorobenzene	X			
1,3-Dichlorobenzene	X			
1,4-Dichlorobenzene	X			
1,1-Dichloroethane	X			
1,2-Dichloroethane	X			
1,1-Dichloroethylene	X			

POLLUTANT	REASON FOR INCLUSION			
	POLLUTANT WITH AN APPLICABLE TECHNOLOGY- BASED LIMIT	POLLUTANT WITH A WASTE LOAD ALLOCATION FROM A TMDL	POLLUTANT IDENTIFIED AS PRESENT IN THE EFFLUENT THROUGH SAMPLING	POLLUTANT OTHERWISE EXPECTED TO BE PRESENT IN THE EFFLUENT
1,2-trans-Dichloroethylene	X			
2,4-Dichlorophenol	X			
1,2-Dichloropropane	X			
1,3-Dichloropropylene	X			
Diethyl phthalate	X			
2,4-Dimethylphenol	X			
Dimethyl phthalate	X			
4,6-Dinitro-o-cresol	X			
2,4-Dinitrophenol	X			
2,4-Dinitrotoluene	X			
2,6-Dinitrotoluene	X			
Ethylbenzene	X			
Fluoranthene	X			
Fluorene	X			
Hexachlorobenzene	X			
Hexachlorobutadiene	X			
Hexachloroethane	X			
Methyl Chloride	X			
Methylene Chloride	X			
Naphthalene	X			
Nitrobenzene	X			
2-Nitrophenol	X			
4-Nitrophenol	X			
Phenanthrene	X			
Phenol	X			
Pyrene	X			
Tetrachloroethylene	X			
Toluene	X			
Total Chromium	X			
Total Copper	X			
Total Cyanide	X			
Total Lead	X			
Total Nickel	X			

POLLUTANT	REASON FOR INCLUSION			
	POLLUTANT WITH AN APPLICABLE TECHNOLOGY- BASED LIMIT	POLLUTANT WITH A WASTE LOAD ALLOCATION FROM A TMDL	POLLUTANT IDENTIFIED AS PRESENT IN THE EFFLUENT THROUGH SAMPLING	POLLUTANT OTHERWISE EXPECTED TO BE PRESENT IN THE EFFLUENT
Total Zinc	X			
1,2,4-Trichlorobenzene	X			
1,1,1-Trichloroethane	X			
1,1,2-Trichloroethane	X			
Trichloroethylene	X			
Vinyl Chloride	X			
Acetone			X	
Acetonitrile			X	
Acrylamide			X	
Alkalinity (as CaCO <sub>3</sub> )			X	
Aluminum, Total			X	
Ammonia			X	
Barium			X	
Benzoic Acid			X	
Biochemical Oxygen Demand (BOD <sub>5</sub> )			X	
Bisphenol A				X
Boron, Total			X	
Butanol			X	
Butyl acetate				X
Chemical Oxygen Demand			X	
Chlorine, Total Residual			X	
Cresol, meta				X
Cresol, ortho				X
Cresol, para				X
Diethyl amine				X
Dimethyl amine				X
Di-n-octyl phthalate				X
Epichlorohydrin				X
Escherichia coli		X	X	

POLLUTANT	REASON FOR INCLUSION			
	POLLUTANT WITH AN APPLICABLE TECHNOLOGY- BASED LIMIT	POLLUTANT WITH A WASTE LOAD ALLOCATION FROM A TMDL	POLLUTANT IDENTIFIED AS PRESENT IN THE EFFLUENT THROUGH SAMPLING	POLLUTANT OTHERWISE EXPECTED TO BE PRESENT IN THE EFFLUENT
Ethanol			X	
Ethyl acrylate				X
Ethylene glycol				X
Formaldehyde			X	
Furfural				X
Iron, Total			X	
Isobutanol			X	
Isophorone				X
Isopropanol			X	
Isopropylamine				X
Kjeldahl Nitrogen, Total (as N)			X	
Magnesium, Total			X	
Methanol			X	
Methyl acrylate				X
Methyl ethyl ketone			X	
Methyl methacrylate			X	
Nitrate (as N)			X	
Nitrite (as N)			X	
Nitrogen, Total			X	
Nitrogen, Total (Annual Loading)			X	
Nonylphenol				X
Oil & Grease, Total			X	
Organic Nitrogen (as N)			X	
Orthophosphate (as P)			X	
Oxygen, Dissolved			X	
PCBs (Polychlorinated Biphenyls as Aroclors)				X
pH			X	
Phosphorus, Total			X	
Propylene glycol				X

POLLUTANT	REASON FOR INCLUSION			
	POLLUTANT WITH AN APPLICABLE TECHNOLOGY- BASED LIMIT	POLLUTANT WITH A WASTE LOAD ALLOCATION FROM A TMDL	POLLUTANT IDENTIFIED AS PRESENT IN THE EFFLUENT THROUGH SAMPLING	POLLUTANT OTHERWISE EXPECTED TO BE PRESENT IN THE EFFLUENT
Silver, Total			X	
Styrene				X
Tetrahydrofuran			X	
Tert-Butyl alcohol				X
Tin, Total			X	
Titanium, Total			X	
Total Suspended Solids			X	
Triethylamine				X
Xylenes, Total (o, m, p)			X	

### **3.3 BASIS FOR LIMITS**

Technology and water-quality based requirements are considered when developing permit limits. Technology-based effluent limits (“TBELs”) represent the minimum level of control imposed under the Clean Water Act (“CWA”). Industry-specific technology-based limits are set forth in 40 CFR 405 – 471 (EPA’s Effluent Limitation Guidelines) and in RCSA Section 22a-430-4(s)(2). Water quality-based effluent limits (“WQBELs”) are designed to protect water quality and are determined using the procedures set for in EPA’s *Technical Support Document for Water Quality-Based Toxics Control*, 1991 (“TSD”). When both technology and water quality-based limits apply to a particular pollutant, the more stringent limit would apply. In addition, water quality-based limits are required when any pollutant or pollutant parameter (conventional, non-conventional, toxic, and whole effluent toxicity) is or may be discharged at a level that causes, has reasonable potential to cause, or contributes to an excursion above any water quality criteria. Numeric water quality criteria are found in RCSA Section 22a-429-9 of the *Connecticut Water Quality Standards* (“WQS”).

### **3.4 ZONE OF INFLUENCE**

A dye study was completed in 2015 after DSN 001 was relocated to the Quinnipiac River. The dye study showed the previous allowable dilution ration of 3.8 to 1 was met within 70 feet of the discharge. Complete mixing was achieved within 270 feet of the discharge. Therefore, the zone of influence from the previous permit of 269,450 gph is maintained in this permit. The instream waste concentration at the zone of influence at the new reduced permitted flow of 1,100,000 gpd is 15.5%.

### **3.5 RESONABLE POTENTIAL ANALYSIS**

Pursuant to CWA Part 301(b)(1)(C) and 40 CFR Part 122.44(d)(1), NPDES permits must contain any requirements in addition to TBELs that are necessary to achieve water quality standards established under Part 303 of the CWA. *See also* 33 U.S.C. Part 1311(b)(1)(C). In addition, limitations “must control any pollutant or pollutant parameter (conventional, non-conventional, or toxic) which the permitting authority determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any water quality standard, including State narrative criteria for water quality.” 40 CFR Part 122.44(d)(1)(i). To determine if the discharge causes, or has the reasonable potential to cause, or contribute to an excursion above any WQS, EPA considers: 1) existing controls on point and non-point sources of pollution; 2) the variability of the pollutant or pollutant parameter in the effluent; 3) the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity); and 4) where appropriate, the dilution of the effluent by the receiving water. *See* 40 CFR Part 122.44(d)(1)(ii).

If the permitting authority determines that the discharge of a pollutant will cause, has the reasonable potential to cause, or contribute to an excursion above WQSs, the permit must contain WQBELs or require additional monitoring if there is insufficient data to develop a WQBEL, for that pollutant. *See* 40 CFR Part 122.44(d)(1)(i).

A reasonable potential analysis was completed using data from the Permittee from October 2018 to September 2023. Based on the analysis, there is a reasonable potential to exceed the water quality standards for the following parameters: Total ammonia nitrogen, aluminum, barium, copper, lead, zinc, chlorine, silver, acetone, trichlorobenzene 1,2,4, acrylonitrile, anthracene, benzo(a)anthracene, benzo(a)pyrene, 3,4-benzofluoranthene, benzo(k)fluoranthene, bis(2-ethylhexyl)phthalate, di-n-butyl phthalate, dinitrophenol 2,4, hexachlorobenzene, fluorene, methanol, phenanthrene, and propylene glycol. Limits will be included for these parameters in the permit for DSN 001.

#### **DSN 001-1**

See Attachment B for the reasonable potential analysis calculations for DSN 001-1.

##### *Total Ammonia Nitrogen:*

The freshwater acute and chronic water quality criteria for Ammonia were determined using equations, as specified in Section 22a-426-9 of the WQS. The values for pH and Temperature were found using the USGS gage stations along the Quinnipiac River. The temperature and pH data

from Jan 2013- Jan 2024 were used to create ammonia criteria for the whole waterbody. The criteria were calculated based on each month's pH and Temperature data and presence of salmonids and early life stages. The most stringent criteria was used in the reasonable potential analysis. Below are the calculated ammonia criteria. The derivation of the ammonia criteria can be found in Attachment C. The results of the reasonable potential analysis are present in Attachment B.

**Calculated Ammonia Criteria (mg/l)**

Waterbody: Quinnipiac River, Freshwater Segments			
Months	Acute	30 Day Average	4 Day Average
April - October	3.83	2.10	5.24
November - March	3.83	3.98	9.94

### **3.6 WATERBODY AMBIENT CONDITIONS**

Parameter	Value
7Q10	33.6 CFS (determined in the dye study from 2015 using data from the USGS gage 01196500)
Temperature	0.2-27.8 C
pH	6.2-8.7 S.U.

A review of the Quinnipiac River chemistry that was collected with chronic toxicity tests between October 2018 and December 2023 showed detections for ammonia (average concentration 154 ug/l), cyanide (average concentration 0.15 ug/l), chromium (average concentration 0.58 ug/l), copper (average concentration 4.1 ug/l), lead (average concentration 0.27 ug/l), zinc (average concentration 15.6 ug/l), silver (average concentration 0.09 ug/l), and barium (average concentration 119 ug/l). The ambient data was considered in determining WQBELs.

### **3.7 WHOLE EFFLUENT TOXICITY**

The Permittee shall comply with effluent standards or prohibitions established by CWA Part 307(a) and RCSA Section 22a-430-4(l) and may not discharge toxic pollutants in concentrations or combinations that are harmful to humans, animals, or aquatic life.

A reasonable potential analysis was performed for DSN 001 using toxicity sampling data from October 2018 to December 2023 and the analysis concluded there was reasonable potential for the discharge to cause toxicity to the river. The estimated toxic units for both acute and chronic toxicity were above the action levels for those parameters. As a result of the evaluation this permit renewal will include toxicity testing and numeric limits for both acute and chronic toxicity.

Summary Table for DSN 001 Toxicity Reasonable Potential Analysis:

	Most Toxic Sample	CV	Toxic Units	Estimated Max Toxic Units (Accounting for Dilution)	Action Level
Acute	85%	0.065	1.54	0.47	0.3
Chronic*	12.5%	NA	15.4	4.7	1.0

\* For Chronic Toxic Units EPA Guidance of an acute to chronic ration (“ACR”) of 10 was used.  $TU_a * ACR = TU_c$

The limits for acute and chronic toxicity will be maintained from the previous permit. The limits for acute toxicity will be  $LC50 \geq 100\%$  for a Minimum Daily Limit and a Minimum Instantaneous Limit of  $LC50 \geq 33\%$ .

The limits for Chronic Toxicity will be  $C-NOEC \geq 26\%$ .

### **3.8 WATER QUALITY BASED EFFLUENT LIMITATIONS**

The CWA and federal regulations require that effluent limitations based on water quality considerations be established for point source discharges when such limitations are necessary to meet state or federal water quality standards that are applicable to the designated receiving water. This is necessary when less stringent TBELs would interfere with the attainment or maintenance of water quality criteria in the receiving water. See CWA Part 301(b)(1)(C) and 40 CFR Part 122.44(d)(1), 122.44(d)(5), 125.84(e) and 125.94(i).

See Attachment B for the WQBELs calculations and effluent limits for DSN 001-1.

#### **Total Phosphorus**

The “Recommendations for Phosphorus Strategy Pursuant to PA 12-155 Final Report,” (CT DEEP, February 16, 2017) (Phosphorus Plan) establishes a state-wide strategy to reduce phosphorus loading for inland non-tidal waters in order to comply with water quality standards established by the EPA. The analysis determined that the Permittee is required to reduce its phosphorus discharge by 92.30% (from 2014 discharge levels) to meet the maximum allowable enrichment factor (“EF”) target necessary to achieve water quality standards (see “Interim Phosphorus Reduction Strategy for Connecticut Freshwater Non-Tidal Waste-Receiving Rivers and Streams Technical Support Document,” (CT DEEP, April 24, 2014)). To achieve these reductions, this permit incorporates a seasonal monthly average total phosphorus discharge limitation of 1.49 lbs/day, effective between April and October. The Permittee completed work pursuant to the previous permit’s compliance schedule to enable compliance with these mass based effluent limitations (see Section 1.8 of this fact sheet). This loading limit is maintained in this permit as it is protective of the river, its uses, and complies with the state of CT Phosphorus Strategy.



### **3.9 TECHNOLOGY BASED EFFLUENT LIMITATIONS**

Technology-based treatment requirements represent the minimum level of control that must be imposed under CWA Part 301(b) and 402 to meet best practicable control technology currently available (“BPT”) for conventional pollutants and some metals, best conventional control technology (“BCT”) for conventional pollutants, and best available technology economically achievable (“BAT”) for toxic and non-conventional pollutants. *See* 40 CFR Part 125 Subpart A and RCSA Section 22a-430-4(1)(4)(A).

Subpart A of 40 CFR Part 125 establishes criteria and standards for the imposition of technology-based treatment requirements in permits under Part 301(b) of the CWA, including the application of EPA promulgated Effluent Limitation Guidelines (“ELGs”) and case-by-case determinations of effluent limitations under CWA Part 402(a)(1). EPA promulgates New Source Performance Standards (“NSPS”) under CWA Part 306 and 40 CFR Part 401.12. *See also* 40 CFR Part 122.2 (definition of “new source”) and 122.29.

In the absence of published technology-based effluent guidelines, the permit writer is authorized under CWA Part 402(a)(1)(B) and RCSA Section 22a-430-4(m) to establish effluent limitations on a case-by-case basis using best professional judgment (“BPJ”).

This facility is required to meet NSPS for both thermosetting and thermoplastic resins. The NSPS for both of these Sections require the discharge to achieve limits based on Subpart I of 40 CFR 414. *See* Section 3.2 for the full list of pollutants of concern and associated TBELs. *See* Section 3.10 for a list of all limits calculated using TBELs.

In the case of chromium, copper, lead, zinc, and total cyanide, the mass limits were determined by only using the metal-bearing waste stream flows and cyanide bearing waste stream flows, consistent with 40 CFR Part 414.91 (b). Both metal-bearing and cyanide bearing waste stream volumes are 591,069 gpd.

Due to the comingling of non-process wastewaters at DSN 001-1, the combined waste stream formula was used to calculate end of pipe limits. The limits were found using the process flow volume of 591,069 gallons per day. Due to the batch operation of the facility and because several processes contain metals and cyanide, the same flow was used to calculate the metal and cyanide bearing limits. The average permitted flow was used for the combined waste stream formula to calculate end of pipe limits.

### **3.10 COMPARISON OF LIMITS**

After preparing and evaluating applicable TBELs and WQBELs, the most stringent limits are applied in the permit. Pollutants of concern that only require monitoring without limits with are not included in the below table. A summary of the calculations used to determine the reasonable potential and water-quality based effluent limitations can be found as an attachment to this document.

PARAMETER	UNITS	LIMITS							
		TECHNOLOGY (40 CFR 414.91)		WATER QUALITY <i>Water Quality Standards</i>			PREVIOUS PERMIT		
		Average Monthly Limit or pH Minimum	Maximum Daily Limit or pH Maximum	Average Monthly Limit or pH Minimum	Maximum Daily Limit or pH Maximum	Instantaneous Limit	Average Monthly Limit or pH Minimum	Maximum Daily Limit or pH Maximum	Instantaneous Limits
Acenaphthene	ug/l	5.8	15				6.1	8.9	13.3
Acenaphthene	g/d	26	71				53	77	
Acenaphthylene	ug/l	5.8	15				9	24	36
Acenaphthylene	g/d	26	71				79	211	
Acrylonitrile	ug/l	25	64	19.8	39.7		0.25	0.36	0.55
Acrylonitrile	g/d	115	292				2.2	3.2	
Anthracene	ug/l	5.8	15	0.105	0.211	0.316	4.92	7.18	10.77
Anthracene	g/d	26	71	0.475	0.953		43	62	
Benzene	ug/l	9.9	36				15	56	84
Benzene	g/d	44	164				132	486	
Benzo(a)anthracene	ug/l	5.8	15	4.89	9.82		0.018	0.026	0.039
Benzo(a)anthracene	g/d	26	71	22	44		0.16	0.23	
3,4-Benzofluoranthene	ug/l	6.1	16				0.018	0.026	0.039
3,4-Benzofluoranthene	g/d	27	73				0.16	0.23	
Benzo(k)fluoranthene	ug/l	5.8	15	4.89	9.82		0.018	0.026	0.039
Benzo(k)fluoranthene	g/d	26	71	22	44		0.16	0.23	
Benzo(a)pyrene	ug/l	6.1	16	0.052	0.10		0.018	0.026	0.039
Benzo(a)pyrene	g/d	27	73	0.237	0.476		0.16	0.23	
Bis(2-ethylhexyl)phthalate	ug/l	27	74	5.27	10.6		2.2	4.4	6.6
Bis(2-ethylhexyl)phthalate	g/d	124	336	23.7	47.6		19	38	
Carbon Tetrachloride	ug/l	4.8	10				1.6	2.3	3.5
Carbon Tetrachloride	g/d	21	45				14	20	
Chlorobenzene	ug/l	4.0	7.5				6	11	17
Chlorobenzene	g/d	18	33				54	100	

PARAMETER	UNITS	LIMITS							
		TECHNOLOGY (40 CFR 414.91)		WATER QUALITY <i>Water Quality Standards</i>			PREVIOUS PERMIT		
		Average Monthly Limit or pH Minimum	Maximum Daily Limit or pH Maximum	Average Monthly Limit or pH Minimum	Maximum Daily Limit or pH Maximum	Instantaneous Limit	Average Monthly Limit or pH Minimum	Maximum Daily Limit or pH Maximum	Instantaneous Limits
Chloroethane	ug/l	27	71				43	110	165
Chloroethane	g/d	125	323				372	958	
Chloroform	ug/l	5.6	12				9	19	28
Chloroform	g/d	25	55				75	164	
2-Chlorophenol	ug/l	8.3	26				13	40	60
2-Chlorophenol	g/d	37	118				111	350	
Chrysene	ug/l	5.8	15				0.018	0.026	0.039
Chrysene	g/d	26	71				0.16	0.23	
Di-n-butyl phthalate	ug/l	7.2	15	21.1	42.3		11	23	35
Di-n-butyl phthalate	g/d	32	68	95	191		97	204	
1,2- Dichlorobenzene	ug/l	20	43				32	67	100
1,2- Dichlorobenzene	g/d	92	196				275	583	
1,3- Dichlorobenzene	ug/l	8.3	11				13	18	27
1,3- Dichlorobenzene	g/d	37	53				111	157	
1,4- Dichlorobenzene	ug/l	4.0	7.5				6	11	17
1,4- Dichlorobenzene	g/d	18	33				54	100	
1,1- Dichloroethane	ug/l	5.8	15				9	12	36
1,1- Dichloroethane	g/d	26	71				79	211	
1,2- Dichloroethane	ug/l	18	56				28	54	81
1,2- Dichloroethane	g/d	82	254				243	470	
1,1- Dichloroethylene	ug/l	4.2	6.7				3.2	4.7	7.0
1,1- Dichloroethylene	g/d	19	30				28	41	
1,2-trans- Dichloroethylene	ug/l	5.6	14				9	22	33

PARAMETER	UNITS	LIMITS							
		TECHNOLOGY (40 CFR 414.91)		WATER QUALITY <i>Water Quality Standards</i>			PREVIOUS PERMIT		
		Average Monthly Limit or pH Minimum	Maximum Daily Limit or pH Maximum	Average Monthly Limit or pH Minimum	Maximum Daily Limit or pH Maximum	Instantaneous Limit	Average Monthly Limit or pH Minimum	Maximum Daily Limit or pH Maximum	Instantaneous Limits
1,2-trans-Dichloroethylene	g/d	25	65				75	193	
2,4-Dichlorophenol	ug/l	10	30				16	46	69
2,4-Dichlorophenol	g/d	47	135				139	400	
1,2-Dichloropropane	ug/l	41	61				57	83	125
1,2-Dichloropropane	g/d	184	277				496	724	
1,3-Dichloropropylene	ug/l	7.7	11				12	18	27
1,3-Dichloropropylene	g/d	35	53				104	157	
Diethyl phthalate	ug/l	21	54				33	83	125
Diethyl phthalate	g/d	97	245				290	726	
2,4-Dimethylphenol	ug/l	4.8	9.6				7	15	22
2,4-Dimethylphenol	g/d	21	43				64	129	
Dimethyl phthalate	ug/l	5.0	12				8	19	29
Dimethyl phthalate	g/d	22	56				68	168	
4,6-Dinitro-o-cresol	ug/l	20	74				32	114	171
4,6-Dinitro-o-cresol	g/d	94	334				279	990	
2,4-Dinitrophenol	ug/l	19	32	116	233		29	51	76
2,4-Dinitrophenol	g/d	85	148	522	1020		254	440	
2,4-Dinitrotoluene	ug/l	30	76				3.4	5.0	7.4
2,4-Dinitrotoluene	g/d	136	344				30	43	

PARAMETER	UNITS	LIMITS							
		TECHNOLOGY (40 CFR 414.91)		WATER QUALITY <i>Water Quality Standards</i>			PREVIOUS PERMIT		
		Average Monthly Limit or pH Minimum	Maximum Daily Limit or pH Maximum	Average Monthly Limit or pH Minimum	Maximum Daily Limit or pH Maximum	Instantaneous Limit	Average Monthly Limit or pH Minimum	Maximum Daily Limit or pH Maximum	Instantaneous Limits
2,6-Dinitrotoluene	ug/l	68	171				105	263	395
2,6-Dinitrotoluene	g/d	307	773				912	2292	
Ethylbenzene	ug/l	8.5	28				13	44	67
Ethylbenzene	g/d	38	130				114	386	
Fluoranthene	ug/l	6.7	18				1.28	1.87	2.80
Fluoranthene	g/d	30	82				11	16	
Fluorene	ug/l	5.8	15	20.5	41.2		9	24	36
Fluorene	g/d	26	71	92.6	186		79	211	
Hexachlorobenzene	ug/l	4.0	7.5	0.0231	0.0463		0.00026	0.00042	0.00063
Hexachlorobenzene	g/d	18	33	0.104	0.209		0.003	.004	
Hexachlorobutadiene	ug/l	5.3	13				8	20	30
Hexachlorobutadiene	g/d	24	59				71	175	
Hexachloroethane	ug/l	5.6	14				3.3	4.8	7.2
Hexachloroethane	g/d	25	65				29	42	
Methyl Chloride	ug/l	23	50				35	78	117
Methyl Chloride	g/d	103	229				307	679	
Methylene Chloride	ug/l	10	23				16	37	55
Methylene Chloride	g/d	48	107				143	318	
Naphthalene	ug/l	5.8	15				9	24	36
Naphthalene	g/d	26	71				79	211	
Nitrobenzene	ug/l	7.2	18				11	28	42
Nitrobenzene	g/d	32	82				97	243	
2-Nitrophenol	ug/l	10	18				17	28	43
2-Nitrophenol	g/d	49	83				147	247	
4-Nitrophenol	ug/l	19	33				30	51	76
4-Nitrophenol	g/d	86	149				257	443	
Phenanthrene	ug/l	5.8	15	12.1	24.3		9	24	36

PARAMETER	UNITS	LIMITS							
		TECHNOLOGY (40 CFR 414.91)		WATER QUALITY <i>Water Quality Standards</i>			PREVIOUS PERMIT		
		Average Monthly Limit or pH Minimum	Maximum Daily Limit or pH Maximum	Average Monthly Limit or pH Minimum	Maximum Daily Limit or pH Maximum	Instantaneous Limit	Average Monthly Limit or pH Minimum	Maximum Daily Limit or pH Maximum	Instantaneous Limits
Phenanthrene	g/d	26	71	54.6	110		79	211	
Phenol	ug/l	4.0	6.9				6	11	16
Phenol	g/d	18	31				54	93	
Pyrene	ug/l	6.7	17				10	28	41
Pyrene	g/d	30	80				89	240	
Tetrachloroethyl ene	ug/l	5.8	15				9	18	27
Tetrachloroethyl ene	g/d	26	67				79	159	
Toluene	ug/l	6.9	21				11	33	49
Toluene	g/d	31	96				93	286	
Total Chromium	ug/l	297	742				131	262	393
Total Chromium	g/d	1,340	3,344				1,138	2,282	
Total Copper	ug/l	388	906	52.4	143		48.7	97.7	146
Total Copper	g/d	1,750	4,080	236	644		424	850	
Total Cyanide	ug/l	112	321				15	32.5	48.7
Total Cyanide	g/d	507	1,448				130	283	
Total Lead	ug/l	85.7	184.9	5.11	10.2		3.7	7.5	11
Total Lead	g/d	386	833	23	46.2		33	65	
Total Nickel	ug/l	453	1,066				90	180	271
Total Nickel	g/d	2,040	4,805				783	1,571	
Total Zinc	ug/l	281	699	185	418		123	247	371
Total Zinc	g/d	1,267	3,151	832	1,890		1,072	2,150	
1,2,4- Trichlorobenzene	ug/l	18	37	26.3	52.8	79.2	28	57	86
1,2,4- Trichlorobenzene	g/d	82	169	119	238		263	500	
1,1,1- Trichloroethane	ug/l	5.6	14				9	22	33
1,1,1- Trichloroethane	g/d	25	65				75	193	
1,1,2- Trichloroethane	ug/l	5.6	14				9	22	33
1,1,2- Trichloroethane	g/d	25	65				75	193	
Trichloroethylen e	ug/l	5.6	14				9	22	33

PARAMETER	UNITS	LIMITS							
		TECHNOLOGY (40 CFR 414.91)		WATER QUALITY <i>Water Quality Standards</i>			PREVIOUS PERMIT		
		Average Monthly Limit or pH Minimum	Maximum Daily Limit or pH Maximum	Average Monthly Limit or pH Minimum	Maximum Daily Limit or pH Maximum	Instantaneous Limit	Average Monthly Limit or pH Minimum	Maximum Daily Limit or pH Maximum	Instantaneous Limits
Trichloroethylene	g/d	25	65				75	193	
Vinyl Chloride	ug/l	27	71				2.4	3.5	5.3
Vinyl Chloride	g/day	125	323				21	30	
Acetone	mg/l			8.9	18	27			
Acetonitrile	mg/l						----	----	
Acrylamide	ug/l						10.0	20.1	30.1
Acrylamide	g/d						44.4	89.1	
Alkalinity (as CaCO <sub>3</sub> )	mg/l						----	----	
Aluminum, Total	mg/l			0.347	1.02	1.53	0.271	0.543	0.815
Aluminum, Total	kg/day			1.56	4.59		1.20	2.41	
Ammonia (as N)	mg/l			4.39	12.7		2.33	9.66	14.5
Ammonia (as N)	kg/day			19.8	57.1		10.35	42.89	
Barium, Total	mg/l			0.637	1.23	1.84	----	----	
Benzoic Acid	ug/l						----	----	
Biochemical Oxygen Demand (BOD <sub>5</sub> )	mg/l						25	50	75
Biochemical Oxygen Demand (BOD <sub>5</sub> )	kg/day						222	435	
Bisphenol A	ug/l						----	----	
Boron, Total	mg/l						----	----	
Butanol	mg/l						----	----	
Butyl acetate	ug/l						----	----	
Chemical Oxygen Demand	mg/l						----	----	
Chemical Oxygen Demand	kg/day						----	----	
Chlorine, Total Residual	ug/l			58	116	174	34	69	103
Chlorine, Total Residual	g/day						151	306	
Cresol, meta	ug/l						----	----	
Cresol, ortho	ug/l						----	----	
Cresol, para	ug/l						----	----	

PARAMETER	UNITS	LIMITS							
		TECHNOLOGY (40 CFR 414.91)		WATER QUALITY <i>Water Quality Standards</i>			PREVIOUS PERMIT		
		Average Monthly Limit or pH Minimum	Maximum Daily Limit or pH Maximum	Average Monthly Limit or pH Minimum	Maximum Daily Limit or pH Maximum	Instantaneous Limit	Average Monthly Limit or pH Minimum	Maximum Daily Limit or pH Maximum	Instantaneous Limits
Diethyl amine	mg/l						----	----	
Dimethyl amine	mg/l						----	----	
Di-n-octyl phthalate	ug/l						----	----	
Epichlorohydrin	ug/l						----	----	
<i>Escherichia coli</i>	cfus/100ml						126**		400
Ethanol	mg/l						----	----	
Ethyl acrylate	ug/l						----	----	
Ethylene glycol	mg/l						----	----	
Formaldehyde	mg/l						0.703	1.77	2.66
Formaldehyde	mg/l						3.12	7.86	
Furfural	mg/l						----	----	
Iron, Total	mg/l						----	----	
Isobutanol	mg/l						----	----	
Isophorone	mg/l						3.65	5.32	7.98
Isophorone	kg/day						13.2	23.6	
Isopropanol	mg/l						----	----	
Isopropylamine	mg/l						----	----	
Kjeldahl Nitrogen, Total (as N)	mg/l						----	----	
Magnesium, Total	mg/l						----	----	
Methanol	mg/l			1.57	3.85	5.77	----	----	
Methyl acrylate	ug/l						----	----	
Methyl ethyl ketone	ug/l						----	----	
Methyl methacrylate	ug/l						----	----	
Nitrate (as N)	mg/l						----	----	
Nitrite (as N)	mg/l						----	----	
Nitrogen, Total	lb/day			----			928	----	
Nitrogen, Total (Annual Loading)	lb/day			928			----	----	
Nonylphenol	ug/l						----	----	



PARAMETER	UNITS	LIMITS							
		TECHNOLOGY (40 CFR 414.91)		WATER QUALITY <i>Water Quality Standards</i>			PREVIOUS PERMIT		
		Average Monthly Limit or pH Minimum	Maximum Daily Limit or pH Maximum	Average Monthly Limit or pH Minimum	Maximum Daily Limit or pH Maximum	Instantaneous Limit	Average Monthly Limit or pH Minimum	Maximum Daily Limit or pH Maximum	Instantaneous Limits
Oil & Grease, Total	mg/l						----	----	
Organic Nitrogen (as N)	mg/l						----	----	
Orthophosphate (as P)	mg/l						----	----	
Oxygen, Dissolved	mg/l								----
PCBs ( Polychlorinated Biphenyls as Aroclors)	ng/l						0.64	0.093	0.14
PCBs ( Polychlorinated Biphenyls as Aroclors)	g/day						0.00028	0.00041	
pH	S.U.			6.5	8.0		6.0	9.0	
Phosphorus, Total (Effective from November 1 <sup>st</sup> to March 31 <sup>st</sup> )	mg/l						----	----	
Phosphorus, Total ( Effective from November 1 <sup>st</sup> to March 31 <sup>st</sup> )	lb/day						----	----	
Phosphorus, Total (April 1 <sup>st</sup> to October 31 <sup>st</sup> )	mg/l			----	----		0.15*	0.31*	
Phosphorus, Total (April 1 <sup>st</sup> to October 31 <sup>st</sup> )	lb/day						1.49	----	
Propylene glycol	mg/l			0.374	0.750	1.12	----	----	
Silver, Total	ug/l			0.316	0.634	0.951	1.93	3.88	5.81
Silver, Total	g/day			1.42	2.86		8.57	17.2	
Styrene	ug/l						----	----	
Tetrahydrofuran	mg/l						34.1	68.5	102.8

PARAMETER	UNITS	LIMITS							
		TECHNOLOGY (40 CFR 414.91)		WATER QUALITY <i>Water Quality Standards</i>			PREVIOUS PERMIT		
		Average Monthly Limit or pH Minimum	Maximum Daily Limit or pH Maximum	Average Monthly Limit or pH Minimum	Maximum Daily Limit or pH Maximum	Instantaneous Limit	Average Monthly Limit or pH Minimum	Maximum Daily Limit or pH Maximum	Instantaneous Limits
Tetrahydrofuran	kg/day						151.4	304.1	
Tert-Butyl alcohol	mg/l						----	----	
Tin, Total	mg/l						----	----	
Titanium, Total	mg/l						----	----	
Total Suspended Solids	mg/l						30	50	75
Total Suspended Solids	kg/day						264	435	
Triethylamine	mg/l						----	----	
Xylenes, Total (o,m,p)	ug/l						----	----	

\*These limits will not be implemented into the permit see. Section 3.15 for additional information.

\*\* Expressed as a geometric mean.

---- In the table above means there is a monitoring only requirement for that parameter.

Acrylamide: The acrylamide limit is being carried forward from the previous permit. This limit was created through the previous permit's compliance schedule, where the Permittee was required to create a WQC for acrylamide following the EPA's guidance on water criteria development.

### 3.11 SAMPLING FREQUENCY, TYPE, AND REPORTING

Sample Type	Sample Frequency		Parameter	Reason
Composite Sample RCSA Section 22a-430-3(j) (7)	Monthly		Diethyl phthalate, phenol, naphthalene, phenol, chromium, copper, nickel, lead, aluminum, barium, benzoic acid, bisphenol a, boron, meta cresol, ortho cresol, para cresol, di-n-octyl phthalate, iron, isophorone, magnesium, nonylphenol, PCBs, silver, tin, titanium	RCSA Sections 22a-430-4(1)(4)(A) and 22a-430-4(m) Source: Process Water
	Weekly		zinc, alkalinity, ammonia, BOD <sub>5</sub> , COD, formaldehyde, kjeldahl nitrogen, nitrate, nitrite, nitrogen, organic nitrogen, orthophosphate, phosphorus, total suspended solids	RCSA Section 22a-430-4(1)(4)(A) and 22a-430-4(m) Source: Process Water
	Annually		chrysene, di-n-butyl phthalate, phenanthrene, pyrene, 2,4-dichlorophenol, 2,4-dimethylphenol, dimethyl phthalate, 4,6-dinitro-o-cresol, 2,4-dinitrophenol, 2,4-dinitrotoluene, 2,6-dinitrotoluene, fluoranthene, fluorene, hexachlorobenzene, hexachlorobutadiene, hexachloroethane, pyrene, nitrobenzene, 2-nitrophenol, 4-	RCSA Section 22a-430-4(1)(4)(A) and 22a-430-4(m) Source: Process Water

			nitrophenol, phenanthrene, 1,2,4- trichlorobenzene	
Grab Sample Average	Monthly		ethylbenzene, methylene chloride, tetrachloroethylene, toluene, cyanide, 1,1,1- trichloroethane, trichloroethylene, acetone, acetonitrile, butyl acetate, diethyl amine, epichlorohydrin, ethyl acrylate, ethylene glycol, furfural, isobutanol, isopropanol, isopropylamine, methyl acrylate, methyl ethyl ketone, methyl methacrylate, oil & grease, propylene glycol, styrene, tetrahydrofuran, tert- butyl alcohol, triethylamine	RCSA Section 22a-430- 4(1)(4)(A) and 22a-430-4(m) Source: Process Water
	Annually		1,2-dichlorobenzene, 1,3 dichlorobenzene, 1,4 dichlorobenzene, 1,1 dichloroethane, 1,2-dichloroethane, 1,1-dichloroethylene, 1,2-trans- dichloroethylene, 1,2-dichloropropane, 1,3- dichloropropylene, methyl chloride, 1,1,2- trichloroethane, vinyl chloride,	RCSA Section 22a-430- 4(1)(4)(A) and 22a-430-4(m) Source: Process Water
	Weekly		acrylamide, butanol, chlorine, ethanol, methanol, xylenes	RCSA Section 22a-430- 4(1)(4)(A) and 22a-430-4(m) Source: Process Water

Grab	Weekly		<i>Escherichia coli</i> , Dissolved Oxygen	Source: Domestic Sewer Water
Toxicity	Quarterly		Acute/Chronic Toxicity	Source: Process Water

### **3.12 OTHER PERMIT CONDITIONS**

*E. coli* is required to be monitored between March and September 30th. The effluent limit applies during this time period.

**Aluminum Optimization Plan:** This segment of the Quinnipiac River receives point source discharges of aluminum from multiple dischargers, including the Town of Wallingford Water Pollution Control Facility, Nucor Steel Connecticut, Inc., and the former Alleghany Ludlum Corporation (permit terminated on May 5, 2017). Elevated concentrations of aluminum have been observed within ambient monitoring data provided by the Permittee as part of their whole effluent toxicity testing requirements. Recognizing that wastewater treatment chemicals containing aluminum are used, as necessary, for the Permittee to comply with their phosphorus limitations, the permit will include a requirement for the Permittee to develop and implement an Aluminum Optimization Plan to minimize the discharge of aluminum to the receiving water, to the maximum extent practicable. This requirement will include a schedule for the Permittee to create an Aluminum Optimization Plan and submit annual reports as an attachment to the December DMR.

### **3.13 COMPLIANCE SCHEDULE**

The permit has a compliance schedule that follows the requirements found under 40 CFR 122.47 and RSCA Section 22a-430-4(1)(3).

Does the Permit contain a compliance schedule?  Yes  No

**Per- and polyfluoroalkyl substances:** Monitoring is required in this permit for per- and polyfluoroalkyl substances (PFAS), consistent with DEEP’s Industrial NPDES and Pretreatment PFAS Roadmap, dated September 30, 2023. This facility falls under SIC code 2821, which is an industry with the potential to utilize PFAS. In this permit term, the Permittee is required to: retain a professional to prepare, implement and oversee actions required under this compliance schedule; develop and submit a sampling plan for PFAS for a minimum of two separate and distinct samples; and submit sample results to DEEP.

**Whole Effluent Toxicity:** The permit requires the Permittee to review its discharge and processes to characterize and reduce the toxicity of their discharge. The compliance schedule requires a scope of study and a final report describing the corrective actions implemented during the compliance timeframe.

### **3.14 ANTIDegradation**

Implementation of the Antidegradation Policy follows a tiered approach pursuant to the federal regulations (40 CFR 131.12) and consistent with the Connecticut Antidegradation Policy included in the Connecticut Water Quality Standards (Section 22a-426-8(b-f) of the RCSA). Tier 1

Antidegradation review applies to all existing permitted discharge activities to all waters of the state. Tiers 1 and 2 Antidegradation reviews apply to new or increased discharges to high quality waters and wetlands, while Tiers 1 and 3 Antidegradation reviews apply to new or increased discharges to outstanding national resource waters.

This discharge is an existing discharge, and the Permittee does not propose an increase in volume or concentration of constituents. Therefore, only the Tier 1 Antidegradation Evaluation and Implementation Review was conducted to ensure that existing and designated uses of surface waters and the water quality necessary for their protection are maintained and preserved, consistent with Connecticut Water Quality Standards, RCSA Sec.22a-426-8(a)(1). This review involved:

- An evaluation of narrative and numeric water quality standards, criteria and associated policies;
- The discharge activity both independently and in the context of other dischargers in the affected waterbodies; and
- Consideration of any impairment listed pursuant to Section 303d of the federal Clean Water Act or any TMDL established for the waterbody.

The facility has reduced their flows and pollutant loading from the last permit issuance leading to a lower permitted flow and a reduction of mass pollutants discharged. By following the limits and conditions set forth in this permit, the Permittee will not independently or with influence of the surrounding discharges cause an excursion outside of the water quality standards in the receiving river. The limits and conditions in this permit are protective of the Quinnipiac River's designated uses.

### **3.15 ANTI-BACKSLIDING**

Except for total phosphorus, this permit has effluent limitations, standards and conditions that are at least as stringent as the final effluent limitations, standards, or conditions in the previous permit, as required in 40 CFR Part 122.44(l) and RCSA Section 22a-430-4(1)(4)(A)(xxiii).

The total phosphorus concentration limits from the previous permit have been removed from this permit, but the mass limitations have been maintained, consistent with phosphorus reduction goals, established in the Recommendations for Phosphorus Strategy Pursuant to PA 12-155 Final Report (CT DEEP, February 16, 2017).

The original concentration limit from the Phosphorus Strategy was based on the available technology at the time for phosphorus reduction for municipal water pollution control facilities. All wastewater treatment facilities reviewed in the Phosphorus Plan except for the Permittee's, have domestic sewage as the main source of phosphorus. The Permittee's main source of phosphorus is from industrial resin manufacturing processes. Unlike municipal wastewater treatment facilities, these industrial phosphorus sources include larger concentrations of non-reactive phosphorus and phosphate complexes. In this case, the best achievable technology is not feasible for a system that receives industrial strength wastewater. In response to this, the concentration limits were reduced as part of the Consent Order No.: COWRIN22001 and Stipulated Judgment: HHD-CV-13-6039473-S.

There have been significant alterations to the facility since the Phosphorus Plan was released and the previous permit was issued. The Permittee reduced its flow from an average of 1.7 million gallons per day to 1 million gallons per day, made material substitutions to reduce phosphorus in its processes, and has removed processes from its facility to reduce phosphorus loading and concentration in their discharge. Pursuant to 40 CFR Section 122.44 (L)(2)(i)(A) and RCSA Section 22a-430-4(l)(4)(B)(vi)(1), this permit will remove phosphorus concentration limits under the basis that there have been substantial changes to the facility since the limit was put into place, and consistent with the Phosphorus Plan, the mass limitations will ensure attainment of water quality standards. See Sections 1.4, 3.8 and 3.14 for additional discussions on phosphorus.

### **3.16 CATEGORICAL DISCHARGE CONDITIONS**

There are no special conditions in 40 CFR Part 414 that apply to this facility. The categorical standards for this facility can be found here: <https://www.ecfr.gov/current/title-40/chapter-I/subchapter-N/part-414>.

### **3.17 VARIANCES AND WAIVERS**

The facility did not request a variance or a waiver.

### **3.18 E-REPORTING**

The Permittee is required to electronically submit documents in accordance with 40 CFR Part 127.

## **SECTION 4 SUMMARY OF NEW PERMIT CONDITIONS AND LIMITS FROM THE PREVIOUS PERMIT**

- This permit requires PFAS sampling through a compliance schedule. Additionally, a compliance schedule for whole effluent toxicity has been included in the permit.
- The permit now requires Allnex to perform acrylonitrile sampling when Roehm is processing and has the potential to discharge acrylonitrile.
- The limits for pH have been changed to match the water quality criteria for a Class B waterbody.
- The total nitrogen limit of 928 lbs/day has been changed from an average monthly limit to an annual mass loading limitation (annual average), consistent with *A Total Maximum Daily Load Analysis to Achieve Water Quality Standards for Dissolved Oxygen in Long Island Sound*.
- The requirement to notify the local health department if an exceedance of *E.coli* has been removed from the permit.
- The frequency of monitoring for DSN 001-A has been decreased for the following parameters to match the frequency found in DSN 001-1: acetonitrile, benzene, butyl acetate, chlorobenzene, ethylbenzene, isobutanol, methylene chloride, methyl methacrylate, styrene, toluene, trichloroethylene, and volatiles method 624.
- The wastewater description for DSN 001-E has been updated to include all waters that flow through it.
- Methanol and methyl methacrylate have been added as required monitoring with acute and chronic toxicity sampling. Dissolved organic carbon sampling of the Quinnipiac River

have been added to the chronic toxicity sampling requirements. Additionally, chronic toxicity samples are required to be performed using lab water as dilution water. Additional analyses shall be performed at 26% and 0% effluent using receiving water as dilution water. Historically, the receiving water has contributed to toxicity measured in the chronic WET test. Therefore, lab water will be used to determine compliance with the effluent limits by measuring the absolute toxicity of the effluent without influence from upstream water quality.

- Additionally the following limits have been changed since the last permit: acenaphthene, acenaphthylene, benzene, anthracene, fluorene, chlorobenzene, chloroethane, chloroform, 2-chlorophenol, di-n-butyl phthalate, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 1,1-dichloroethane, 1,2-dichloroethane, 1,1-dichloroethylene, 1,2-trans-dichloroethylene, 2,4-dichlorophenol, 1,2-dichloropropane, 1,3-dichloropropylene, diethyl phthalate, 2,4-dimethylphenol, dimethyl phthalate, 4,6-dinitro-o-cresol, 2,4-dinitrophenol, 2,6-dinitrotoluene, ethylbenzene, polypropylene glycol, hexachlorobutadiene, hexachloroethane, methyl chloride, methylene chloride, naphthalene, nitrobenzene, 2-nitrophenol, 4-nitrophenol, phenanthrene, phenol, pyrene, tetrachloroethylene, toluene, 1,2,4-trichlorobenzene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethylene, methanol, chlorine, silver, barium, copper, and acetone.

## **SECTION 5 PUBLIC PARTICIPATION PROCEDURES**

On October 4, 2024, the Department of Energy & Environmental Protection's (DEEP) Water Permitting & Enforcement Division (WPED) published notice of its tentative decision to reissue the National Pollutant Discharge Elimination System Permit (NPDES) for Allnex USA Inc. in the Meriden Record. The notice of tentative decision as well as a draft copy of the permit and its fact sheet were concurrently posted on DEEP's website. The notice provided a thirty-day public comment period.

Public comments were received during the notice period. The comments have been evaluated and WPED has made no changes to the final permit. The public comments and WPED's responses are included in the Response to Comment document.



## Attachment A

End Date	Param	Parameter Desc	Loc	Type	Stat Base Code	Limit Value	DMR Value	Units	Vio Code
02/28/2022	01105	Aluminum, total [as Al]	1	C2	MO AVG	0.2710	0.2780	mg/L	E90
02/28/2022	01105	Aluminum, total [as Al]	1	C3	DAILY MX	0.5430	0.5450	mg/L	E90
02/28/2023	TPP3B	NOEC Sub-Lethal Static Renewal	1	C1	MINIMUM	26.0000	12.5000	%	E90
03/31/2023	00610	Nitrogen, ammonia total [as N]	1	C3	DAILY MX	9.6600	14.0000	mg/L	E90
03/31/2023	00610	Nitrogen, ammonia total [as N]	1	Q2	DAILY MX	42.8900	54.6000	kg/d	E90
12/31/2023	34215	Acrylonitrile	1	C2	MO AVG	0.2500	1.2000	ug/L	E90
12/31/2023	34215	Acrylonitrile	1	C3	DAILY MX	0.3600	1.2000	ug/L	E90
12/31/2023	34215	Acrylonitrile	1	Q1	MO AVG	2.2000	5.4000	g/d	E90
12/31/2023	34215	Acrylonitrile	1	Q2	DAILY MX	3.2000	5.4000	g/d	E90

### 0021

End Date	Param	Parameter Desc	Loc	Type	Stat Base Code	Limit Value	DMR Value	Units	Vio Code
11/30/2020	00400	H	1	C1	INST MIN	6.0000	5.4000	SU	E90

# Attachment B

## Water Quality Based Permit Evaluations

Discharger: **Allnex USA Inc.**  
 Permit Number: CT0000086  
 DSN: 1  
 Receiving Water: Quinipiac River  
 Average Flow per Day (gpd): 1,190,000  
 Avg Hours of Discharge (hrs/d): 24  
 Allocated ZOI (gph): 269,450  
 Date of Analysis: 11/30/2023

		Maximum Value	# of results >20=20	Coefficient of Variance	# Samples / Month for Permit Limit
<b>Metals &amp; Inorganics</b>					
Aluminum	7429905	550	20	1.60	4
Ammonia (Summer)	7664417	14000	20	1.50	4
Ammonia (W/Inter)	7664417	14000	20	1.50	4
Antimony	7440360		1	0.60	4
Arsenic	7440382		1	0.60	4
Barium	7440393	1000	20	0.55	4
Beryllium	7440417		1	0.60	4
Boron	7440428	1000	20	0.37	4
Cadmium	7440439		1	0.60	4
Chlorine	7782505	35000	20	0.60	4
Chromium, hexavalent	18540299		1	0.60	4
Chromium, trivalent	16065831	7	20	0.22	4
Cobalt	7440484		1	0.60	4
Copper	7440508	30	20	1.24	4
Copper CT Specific	7440508	30	20	1.24	4
Cyanide	57125	4	20	0.60	4
Lead	7439921	2.5	20	0.60	4
Lithium	7439932		1	0.60	4
Manganese	7439965		1	0.60	4
Mercury - inorganic	7487947		1	0.60	4
Nickel	7440020	6	20	0.18	4
Selenium	7782492		1	0.60	4
Silver	7440224	2000	20	0.60	4
Thallium	7791120		1	0.60	4
Tin	7440315	30	20	0.60	4
Uranium	7440611		1	0.60	4
Vanadium	1314621		1	0.60	4
Zinc	7440666	100	20	0.78	4

<b>Volatiles</b>					
Acetone	67641	2790000	20	0.60	4
Acetonitrile	75058	2.5	20	0.60	4
Acrolein	107028		1	0.60	4
Acrylonitrile	107131	50	20	0.60	4
Benzene	71432	0.5	20	0.60	4

		Maximum Value	# of results >20=20	Coefficient of Variance	# Samples / Month for Permit Limit
Bromodichloromethane	75274		1	0.60	4
Bromomethane	74839		1	0.60	4
Butanone, 2-	78933		1	0.60	4
Butylbenzene, n-	104518		1	0.60	4
Carbon disulfide	75150		1	0.60	4
Carbon Tetrachloride	56235	5	5	0.60	4
Chlorobenzene	108907	0.5	20	0.60	4
Chloroethane	75003	25	20	0.60	4
Chloroform	67663	5	5	0.60	4
Chloromethane	74873	25	5	0.60	4
Chloronaphthalene, 2-	91587		1	0.60	4
Chlorotoluene, 2-	95498		1	0.60	4
Chlorotoluene, 4-	106434		1	0.60	4
Cyclohexane	110827		1	0.60	4
Dibenzofuran	132649		1	0.60	4
Dichlorobenzene, 1,2-	95501	0.5	5	0.60	4
Dichlorobenzene, 1,3-	541731	0.5	5	0.60	4
Dichlorobenzene, 1,4-	106467	0.5	5	0.60	4
Dichlorobromomethane	75274		1	0.60	4
Dichlorobutene, 1,4-	31423924		1	0.60	4
Dichlorodifluoromethane	75718		1	0.60	4
Dichloroethane, 1,1-	75343	0.5	5	0.60	4
Dichloroethane, 1,2-	107062	0.5	5	0.60	4
Dichloroethene, 1,2-	540590		1	0.60	4
Dichloroethylene, 1,1-	75354	0.5	5	0.60	4
Dichloroethylene, cis-1,2-	156592		1	0.60	4
Dichloroethylene, trans-1,2-	156605	0.5	5	0.60	4
Dichloropropane, 1,2-	78875	0.5	5	0.60	4
Dichloropropene, 1,3-	542756		1	0.60	4
Ethyl acetate	141786		1	0.60	4
Ethylbenzene	100414	0.5	20	0.60	4
Ethylene dibromide	106934		1	0.60	4
Hexane, n-	110543		1	0.60	4
Isopropylbenzene	98828		1	0.60	4
Isopropyltoluene, 4-	99876		1	0.60	4
Methyl bromide	74839		1	0.60	4
Methyl chloride	74873	25	5	0.60	4
Methyl isobutyl ketone	108101		1	0.60	4
Methyl methacrylate	80626	1	20	0.60	4
Methyl tert butyl ether	1634044		1	0.60	4
Methylene chloride	75092	25	20	0.60	4
Methylnaphthalene, 2-	91576		1	0.60	4
Nitrobenzene	98953	5	5	0.60	4
Nitrophenol, 2-	88755		1	0.60	4
Propylbenzene, n-	103651		1	0.60	4
Pyridine	110861		1	0.60	4
Styrene	100425	50	20	0.60	4

		Maximum Value	# of results >20=20	Coefficient of Variance	# Samples / Month for Permit Limit
Tetrachloroethane, 1,1,1,2-	630206		1	0.60	4
Tetrachloroethane, 1,1,2,2-	79345		1	0.60	4
Tetrachloroethylene	127184	5	5	0.60	4
Tetrahydrofuran	109999	3	20	0.60	4
Toluene	108883	2.6	20	0.60	4
Trichloro-1,2,2-trifluoroethane, 1	76131		1	0.60	4
Trichlorobenzene, 1,2,4-	120821	5	5	0.60	4
Trichloroethane, 1,1,1-	71556	5	20	0.60	4
Trichloroethane, 1,1,2-	79005	5	5	0.60	4
Trichloroethylene	79016	5	20	0.60	4
Trichlorofluoromethane	75694		1	0.60	4
Trimethylbenzene, 1,2,4-	95636		1	0.60	4
Trimethylbenzene, 1,3,5-	108678		1	0.60	4
Vinyl acetate	108054		1	0.60	4
Vinyl chloride	75014	5	5	0.60	4
Xylenes	1330207	5.17	20	0.60	4

<b>Semi Volatiles:</b>					
Acenaphthene	83329	2.5	5	0.60	4
Acenaphthylene	208968	5	5	0.60	4
Aniline	62533		1	0.60	4
Anthracene	120127	2.5	5	0.60	4
Benzidine	92875		1	0.60	4
Benzo(a)anthracene	56553	5	5	0.60	4
Benzo(a)pyrene	50328	5	5	0.60	4
Benzo(b)fluoranthene	205992	5	5	0.60	4
Benzo(g,h,i)perylene	191242		1	0.60	4
Benzo(k)fluoranthene	207089	5	5	0.60	4
Bis(2-chloroethoxy)methane	111911		1	0.60	4
Bis(2-chloroethyl)ether	111444		1	0.60	4
Bis(2-chloroisopropyl)ether	108601		1	0.60	4
Bis(2-ethylhexyl)phthalate	117817	2.5	20	0.60	4
Bromoform	75252		1	0.60	4
Bromopheny ether, 4-	101553		1	0.60	4
Bromophenyl-phenylether, 4-	101553		1	0.60	4
Butylbenzyl phthalate	85687		1	0.60	4
Carbazole	86748		1	0.60	4
Chloroaniline, 4-	106478		1	0.60	4
Chlorophenol, 2-	95578	5	5	0.60	4
Chlorophenol, 3-methyl-4	59507		1	0.60	4
Chlorophenyl-phenylether, 4-	7005723		1	0.60	4
Chrysene	218019	2.5	5	0.60	4
Cresol, m-	108394		1	0.60	4
Dibenzo(a,h)anthracene	53703		1	0.60	4
Dibromo-3-chloropropane, 1,2-	96128		1	0.60	4
Dibromochloromethane	124481		1	0.60	4
Dichlorobenzidine, 3,3'-	91941		1	0.60	4

		Maximum Value	# of results >20=20	Coefficient of Variance	# Samples / Month for Permit Limit
Dichlorophenol, 2,4-	120832	5	5	0.60	4
Dichlorotrifluoroethane	34077877		1	0.60	4
Diethyl phthalate	84662	5	5	0.60	4
Dimethyl phthalate	131113	5	20	0.60	4
Dimethylphenol, 2,4-	105679		1	0.60	4
Di-n-butyl phthalate	84742	5	5	0.60	4
Dinitrophenol, 2,4-	51285	25	5	0.60	4
Dinitrophenol, 2-methyl-4,6-	534521		1	0.60	4
Dinitrotoluene, 2,4-	121142	5	5	0.60	4
Dinitrotoluene, 2,6-	606202	5	5	0.60	4
Di-n-octyl phthalate	117840	50	20	0.60	4
Dioxane, 1,4-	123911		1	0.60	4
Diphenylhydrazine, 1,2-	122667		1	0.60	4
Ethanol	64175	2500	20	0.60	4
Ethylene glycol	107211	12500	20	0.60	4
Fluoranthene	206440		1	0.60	4
Fluorene	86737	5	5	0.60	4
Formaldehyde	50000	1500	20	0.70	4
Hexachlorobenzene	118741	2.5	5	0.60	4
Hexachlorobutadiene	87683	5	5	0.60	4
Hexachloroethane	67721	2.5	5	0.60	4
Indeno(1,2,3-c,d)pyrene	193395		1	0.60	4
Isophorone	78591	0.25	20	0.60	4
Isopropanol	67630	2500	20	0.60	4
Methanol	67561	5800	20	0.94	4
Methylphenol, 2-	95487	5	20	0.60	4
Methylphenol, 4-	106445		1	0.60	4
Naphthalene	91203	5	20	0.60	4
Nitroaniline, 2-	88744		1	0.60	4
Nitroaniline, 3-	99092		1	0.60	4
Nitroaniline, 4-	100016		1	0.60	4
Nitrosodimethylamine, N-	62759		1	0.60	4
NitrosoDi-n-propylamine, N-	621647		1	0.60	4
Nitrosodiphenylamine, N-	86306		1	0.60	4
Pentachloronitrobenzene	82688		1	0.60	4
Pentachlorophenol	87865		1	0.60	4
Phenanthrene	85018	5	5	0.60	4
Phenol	108952	5	20	0.60	4
Polychlorinated terphenyls	61788338		1	0.60	4
Propylene glycol	57556	12500	20	0.60	4
Pyrene	129000	2.5	5	0.60	4
Tert-butyl alcohol	75650	2500	20	0.60	4
Tetrachlorobenzene, 1,2,4,5-	95943		1	0.60	4
Trichlorophenol, 2,4,5-	95954		1	0.60	4
Trichlorophenol, 2,4,6-	88062		1	0.60	4

**Pesticides & PCBs:**

		Maximum Value	# of results >20=20	Coefficient of Variance	# Samples / Month for Permit Limit
Alachlor	15972608		1	0.60	4
Aldicarb	116063		1	0.60	4
Aldrin	309002		1	0.60	4
Atrazine	1912249		1	0.60	4
Chlordane	12789036		1	0.60	4
D, 2,4-	94757		1	0.60	4
DDD, 4,4-	72548		1	0.60	4
DDE, 4,4-	72559		1	0.60	4
DDT, 4,4-	50293		1	0.60	4
Dicamba	1918009		1	0.60	4
Dichloroprop	120365		1	0.60	4
Dieldrin	60571		1	0.60	4
Endosulfan, alpha	959988		1	0.60	4
Endosulfan, beta	33213659		1	0.60	4
Endosulfan sulfate	1031078		1	0.60	4
Endrin	72208		1	0.60	4
Endrin aldehyde	7421934		1	0.60	4
Endrin ketone	53494705		1	0.60	4
Heptachlor	76448		1	0.60	4
Heptachlor epoxide	1024573		1	0.60	4
Hexachlorocyclohexane, alpha	319846		1	0.60	4
Hexachlorocyclohexane, beta-	319857		1	0.60	4
Hexachlorocyclohexane, delta-	319868		1	0.60	4
Hexachlorocyclopentadiene	77474		1	0.60	4
Lindane	58899		1	0.60	4
Methoxychlor	72435		1	0.60	4
Simazine	122349		1	0.60	4
Toxaphene	8001352		1	0.60	3
Polychlorinated biphenyls	1336363		1	0.60	4

# Water Quality Based Permit Limit Evaluations

Discharger: **Allnex USA Inc.**  
 Permit Number: CT0000086  
 DSN: 1  
 Receiving Water: Quinipiac River  
 Average Flow per Day (gpd): 1,190,000  
 Avg Hours of Discharge (hrs/d): 24  
 Allocated ZOI (gph): 269,450  
 Date of Analysis: 11/30/2023

Allnex USA Inc.	Estimated Maximum Concentration in Effluent	Waste Load Allocation	Limit Needed?	Governing WLA
<b>Metals &amp; Inorganics</b>				
Aluminum	3025	559.7828571	Yes	chronic
Ammonia (Summer)	72800	12672.97922	Yes	acute
Ammonia (Winter)	72800	23804.29351	Yes	acute
Antimony	0	1222.514286	No	chronic
Arsenic	0	0.13512	No	health
Barium	2000	765.89	Yes	chronic
Beryllium	0	1.672914286	No	health
Boron	1600	6112.571429	No	chronic
Cadmium	0	8.686285714	No	chronic
Chlorine	80500	70.77714286	Yes	chronic
Chromium, hexavalent	0	70.77714286	No	chronic
Chromium, trivalent	9.1	158.043189	No	chronic
Cobalt	0	154.4228571	No	chronic
Copper	126	30.88457143	Yes	chronic
Copper CT Specific	126	94.02355844	Yes	chronic
Cyanide	9.2	19.34727491	No	chronic
Lead	5.75	6.239	No	chronic
Lithium	0	221735.3816	No	health
Manganese	0	129.7378699	No	chronic
Mercury - inorganic	0	0.328148571	No	health
Nickel	7.2	185.9508571	No	chronic
Selenium	0	32.17142857	No	chronic
Silver	4600	0.386057143	Yes	chronic
Thallium	0	95.57488	No	health
Tin	69	1158.171429	No	chronic
Uranium	0	332603.0789	No	health
Vanadium	0	283.1085714	No	chronic
Zinc	260	333.25	No	chronic
			0	
<b>Volatiles</b>				
Acetone	6417000	10938.28571	Yes	chronic
Acetonitrile	5.75	52690.36571	No	chronic
Acrolein	0	0.643428571	No	chronic
Acrylonitrile	115	12.73988571	Yes	health
Benzene	1.15	456.8342857	No	health
Bromodichloromethane	0	896.65632	No	health
Bromomethane	0	18477.94311	No	health
Butanone, 2-	0	88484.29714	No	chronic
Butylbenzene, n-	0	6.434285714	No	chronic
Carbon disulfide	0	96.51428571	No	chronic
Carbon Tetrachloride	21	1544.228571	No	chronic
Chlorobenzene	1.15	302.4114286	No	chronic

Allnex USA Inc.	Estimated Maximum Concentration in Effluent	Waste Load Allocation	Limit Needed?	Governing WLA
Chloroethane	57.5	0	Yes	acute
Chloroform	21	900.8	No	chronic
Chloromethane	105	96085.33762	No	health
Chloronaphthalene, 2-	0	57.90857143	No	chronic
Chlorotoluene, 2-	0	8185.736891	No	health
Chlorotoluene, 4-	0	45.04	No	chronic
Cyclohexane	0	1775.862857	No	chronic
Dibenzofuran	0	25.73714286	No	chronic
Dichlorobenzene, 1,2-	2.1	147.9885714	No	chronic
Dichlorobenzene, 1,3-	2.1	141.5542857	No	chronic
Dichlorobenzene, 1,4-	2.1	60.48228571	No	chronic
Dichlorobromomethane	0	887.9314286	No	health
Dichlorobutene, 1,4-	0	0	No	acute
Dichlorodifluoromethane	0	7635516.026	No	health
Dichloroethane, 1,1-	2.1	2638.057143	No	chronic
Dichloroethane, 1,2-	2.1	1910.982857	No	health
Dichloroethene, 1,2-	0	6241.257143	No	chronic
Dichloroethylene, 1,1-	2.1	61.76914286	No	health
Dichloroethylene, cis-1,2-	0	3989.257143	No	chronic
Dichloroethylene, trans-1,2-	2.1	3603.2	No	chronic
Dichloropropane, 1,2-	2.1	501.8742857	No	health
Dichloropropene, 1,3-	0	10.93828571	No	chronic
Ethyl acetate	0	10275.55429	No	chronic
Ethylbenzene	1.15	392.4914286	No	chronic
Ethylene dibromide	0	41.03787429	No	health
Hexane, n-	0	34951.97941	No	health
Isopropylbenzene	0	135.12	No	chronic
Isopropyltoluene, 4-	0	106.1657143	No	chronic
Methyl bromide	0	51474.28571	No	health
Methyl chloride	105	6048.228571	No	health
Methyl isobutyl ketone	0	148978462	No	health
Methyl methacrylate	2.3	21320710.11	No	health
Methyl tert butyl ether	0	328148.5714	No	chronic
Methylene chloride	57.5	12225.14286	No	chronic
Methylnaphthalene, 2-	0	30.24114286	No	chronic
Nitrobenzene	21	1421.977143	No	chronic
Nitrophenol, 2-	0	469.7028571	No	chronic
Propylbenzene, n-	0	0	No	acute
Pyridine	0	167.2914286	No	chronic
Styrene	115	154.4228571	No	chronic
Tetrachloroethane, 1,1,1,2-	0	188.2157257	No	health
Tetrachloroethane, 1,1,2,2-	0	212.3314286	No	health
Tetrachloroethylene	21	113.8868571	No	health
Tetrahydrofuran	6.9	21944.29872	No	health
Toluene	5.98	398.9257143	No	chronic
Trichloro-1,2,2-trifluoroethane, 1,1,2-	0	19464131.43	No	health
Trichlorobenzene, 1,2,4-	21	32.17142857	No	chronic
Trichloroethane, 1,1,1-	11.5	489.0057143	No	chronic
Trichloroethane, 1,1,2-	21	810.72	No	health
Trichloroethylene	11.5	1415.542857	No	chronic
Trichlorofluoromethane	0	5947837.59	No	health
Trimethylbenzene, 1,2,4-	0	102.9485714	No	chronic
Trimethylbenzene, 1,3,5-	0	167.2914286	No	chronic
Vinyl acetate	0	6319458.473	No	health



Allnex USA Inc.	Estimated Maximum Concentration in Effluent	Waste Load Allocation	Limit Needed?	Governing WLA
Vinyl chloride	21	5983.885714	No	chronic
Xylenes	11.891	173.7257143	No	chronic

Semi Volatiles:				
Acenaphthene	10.5	39.24914286	No	health
Acenaphthylene	21	83.64571429	No	chronic
Aniline	0	8.364571429	No	chronic
Anthracene	10.5	0.128685714	Yes	chronic
Benzidine	0	0.003474514	No	health
Benzo(a)anthracene	21	3.1528	Yes	health
Benzo(a)pyrene	21	0.064342857	Yes	chronic
Benzo(b)fluoranthene	21	3.1528	Yes	health
Benzo(g,h,i)perylene	0	31.65668571	No	health
Benzo(k)fluoranthene	21	3.1528	Yes	health
Bis(2-chloroethoxy)methane	0	5057.348571	No	chronic
Bis(2-chloroethyl)ether	0	27.024	No	health
Bis(2-chloroisopropyl)ether	0	2187657.143	No	health
Bis(2-ethylhexyl)phthalate	5.75	6.434285714	No	chronic
Bromoform	0	797.8514286	No	chronic
Bromopheny ether, 4-	0	0	No	acute
Bromophenyl-phenylether, 4-	0	0	No	acute
Butylbenzyl phthalate	0	147.9885714	No	chronic
Carbazole	0	34.10171429	No	chronic
Chloroaniline, 4-	0	6.434285714	No	chronic
Chlorophenol, 2-	21	205.8971429	No	chronic
Chlorophenol, 3-methyl-4	0	45.04	No	chronic
Chlorophenyl-phenylether, 4-	0	0	No	acute
Chrysene	10.5	30.24114286	No	chronic
Cresol, m-	0	431.0971429	No	chronic
Dibenzo(a,h)anthracene	0	0.193028571	No	health
Dibromo-3-chloropropane, 1,2-	0	1.988194286	No	health
Dibromochloromethane	0	656.2971429	No	health
Dichlorobenzidine, 3,3'-	0	1.48632	No	health
Dichlorophenol, 2,4-	21	70.77714286	No	chronic
Dichlorotrifluoroethane	0	0	No	acute
Diethyl phthalate	21	1415.542857	No	chronic
Dimethyl phthalate	11.5	1994.628571	No	chronic
Dimethylphenol, 2,4-	0	96.51428571	No	chronic
Di-n-butyl phthalate	21	25.73714286	No	chronic
Dinitrophenol, 2,4-	105	141.5542857	No	chronic
Dinitrophenol, 2-methyl-4,6-	0	4.504	No	chronic
Dinitrotoluene, 2,4-	21	175.656	No	health
Dinitrotoluene, 2,6-	21	521.1771429	No	chronic
Di-n-octyl phthalate	115	0	Yes	acute
Dioxane, 1,4-	0	332603.0789	No	health
Diphenylhydrazine, 1,2-	0	6.434285714	No	chronic
Ethanol	5750	14650.86857	No	chronic
Ethylene glycol	28750	900800	No	chronic
Fluoranthene	0	5.147428571	No	chronic
Fluorene	21	25.09371429	No	chronic
Formaldehyde	3900	7579.588571	No	chronic
Hexachlorobenzene	10.5	0.0148632	Yes	health
Hexachlorobutadiene	21	965.1428571	No	health
Hexachloroethane	10.5	171.7954286	No	health

Allnex USA Inc.	Estimated Maximum Concentration in Effluent	Waste Load Allocation	Limit Needed?	Governing WLA
Indeno(1,2,3-c,d)pyrene	0	9.516308571	No	health
Isophorone	0.575	5919.542857	No	chronic
Isopropanol	5750	36586338.56	No	health
Methanol	18560	2123.314286	Yes	chronic
Methylphenol, 2-	11.5	431.0971429	No	chronic
Methylphenol, 4-	0	357.1028571	No	chronic
Naphthalene	11.5	135.12	No	chronic
Nitroaniline, 2-	0	135.12	No	chronic
Nitroaniline, 3-	0	45.04	No	chronic
Nitroaniline, 4-	0	759.2457143	No	chronic
Nitrosodimethylamine, N-	0	156.3531429	No	health
NitrosoDi-n-propylamine, N-	0	27.024	No	health
Nitrosodiphenylamine, N-	0	160.8571429	No	chronic
Pentachloronitrobenzene	0	16.08571429	No	chronic
Pentachlorophenol	0	96.51428571	No	chronic
Phenanthrene	21	14.79885714	Yes	chronic
Phenol	11.5	30241.14286	No	acute
Polychlorinated terphenyls	0	0	No	acute
Propylene glycol	28750	456.8342857	Yes	chronic
Pyrene	10.5	29.59771429	No	chronic
Tert-butyl alcohol	5750	151340.8343	No	chronic
Tetrachlorobenzene, 1,2,4,5-	0	12.86857143	No	chronic
Trichlorophenol, 2,4,5-	0	18.016	No	chronic
Trichlorophenol, 2,4,6-	0	21.23314286	No	chronic

Pesticides & PCBs:				
Alachlor	0	92.09393143	No	health
Aldicarb	0	8.364571429	No	chronic
Aldrin	0	0.0027024	No	health
Atrazine	0	10.29485714	No	chronic
Chlordane	0	0.027667429	No	chronic
D, 2,4-	0	32.17142857	No	chronic
DDD, 4,4-	0	0.0162144	No	health
DDE, 4,4-	0	0.011388686	No	health
DDT, 4,4-	0	0.006434286	No	chronic
Dicamba	0	1158.171429	No	chronic
Dichloroprop	0	77.21142857	No	chronic
Dieldrin	0	0.0027024	No	health
Endosulfan, alpha	0	0.36032	No	chronic
Endosulfan, beta	0	0.36032	No	chronic
Endosulfan sulfate	0	0.36032	No	chronic
Endrin	0	0.231634286	No	chronic
Endrin aldehyde	0	0.231634286	No	chronic
Endrin ketone	0	0.231634286	No	chronic
Heptachlor	0	0.024450286	No	chronic
Heptachlor epoxide	0	0.024450286	No	chronic
Hexachlorocyclohexane, alpha	0	0.250937143	No	health
Hexachlorocyclohexane, beta-	0	0.887931429	No	health
Hexachlorocyclohexane, delta-	0	12.86857143	No	chronic
Hexachlorocyclopentadiene	0	1.930285714	No	chronic
Lindane	0	0.366754286	No	chronic
Methoxychlor	0	0.193028571	No	chronic
Simazine	0	6.434285714	No	chronic
Toxaphene	0	0.012868571	No	chronic

<b>Allnex USA Inc.</b>	<b>Estimated Maximum Concentration in Effluent</b>	<b>Waste Load Allocation</b>	<b>Limit Needed?</b>	<b>Governing WLA</b>
Polychlorinated biphenyls	0	0.001093829	No	health

# Water Quality Based Permit Limit Calculations

Discharger: **Allnex USA Inc.**  
 Permit Number: CT0000086  
 DSN: 1 IWC 1 hr 26.30  
 Receiving Water: Quinipiac River  
 Average Flow per Day (gpd): 1,190,000 IWC 24 Hours: 26.3  
 Avg Hours of Discharge (hrs/d): 24  
 Allocated ZOI (gph): 269,450  
 Date of Analysis: 11/30/2023

Allnex USA Inc.	Governing Criteria	AML (ug/L)	MDL (ug/L)	AML (kg/d)	MDL (kg/d)
<b>Metals &amp; Inorganics</b>					
Aluminum	chronic	3.47E+02	1.02E+03	1.56E+00	4.59E+00
Ammonia (Summer)	acute	4.39E+03	1.27E+04	1.98E+01	5.71E+01
Ammonia (Winter)	acute	8.25E+03	2.38E+04	3.72E+01	1.07E+02
Antimony	chronic	1.00E+03	2.01E+03	4.51E+00	9.05E+00
Arsenic	health	2.10E-01	4.21E-01	9.46E-04	1.90E-03
Barium	chronic	6.37E+02	1.23E+03	2.87E+00	5.53E+00
Beryllium	health	2.60E+00	5.21E+00	1.17E-02	2.35E-02
Boron	chronic	5.39E+03	8.75E+03	2.43E+01	3.95E+01
Cadmium	acute	6.48E+00	1.30E+01	2.92E-02	5.86E-02
Chlorine	chronic	5.80E+01	1.16E+02	2.61E-01	5.24E-01
Chromium, hexavalent	acute	5.13E+01	1.03E+02	2.31E-01	4.64E-01
Chromium, trivalent	chronic	1.47E+02	2.00E+02	6.61E-01	8.99E-01
Cobalt	chronic	1.26E+02	2.54E+02	5.70E-01	1.14E+00
Copper	chronic	3.09E+01	1.70E+02	1.39E-01	7.67E-01
Copper CT Specific	acute	5.24E+01	1.43E+02	2.36E-01	6.44E-01
Cyanide	chronic	1.58E+01	3.18E+01	7.14E-02	1.43E-01
Lead	chronic	5.11E+00	1.02E+01	2.30E-02	4.62E-02
Lithium	health	3.44E+05	0.00E+00	1.55E+03	0.00E+00
Manganese	chronic	1.06E+02	2.13E+02	4.79E-01	9.61E-01
Mercury - inorganic	health	5.09E-01	1.02E+00	2.30E-03	4.61E-03
Nickel	chronic	1.75E+02	2.26E+02	7.88E-01	1.02E+00
Selenium	chronic	2.63E+01	5.28E+01	1.19E-01	2.38E-01
Silver	chronic	3.16E-01	6.34E-01	1.42E-03	2.86E-03
Thallium	chronic	8.96E+01	1.80E+02	4.04E-01	8.10E-01
Tin	chronic	9.48E+02	1.90E+03	4.27E+00	8.58E+00
Uranium	health	5.16E+05	0.00E+00	2.33E+03	0.00E+00
Vanadium	chronic	2.32E+02	4.65E+02	1.04E+00	2.10E+00
Zinc	acute	1.85E+02	4.18E+02	8.32E-01	1.89E+00

0.951

<b>Volatiles</b>					
Acetone	chronic	8.96E+03	1.80E+04	4.04E+01	8.10E+01
Acetonitrile	chronic	4.31E+04	8.66E+04	1.94E+02	3.90E+02
Acrolein	chronic	5.27E-01	1.06E+00	2.37E-03	4.76E-03
Acrylonitrile	health	1.98E+01	3.97E+01	8.91E-02	1.79E-01
Benzene	health	7.09E+02	1.42E+03	3.20E+00	6.41E+00
Bromodichloromethane	health	1.39E+03	0.00E+00	6.27E+00	0.00E+00
Bromomethane	chronic	2.63E-02	5.28E-02	1.19E-04	2.38E-04
Butanone, 2-	chronic	7.25E+04	1.45E+05	3.27E+02	6.55E+02
Butylbenzene, n-	chronic	5.27E+00	0.00E+00	2.37E-02	0.00E+00
Carbon disulfide	chronic	7.90E+01	1.59E+02	3.56E-01	7.15E-01

<b>Allnex USA Inc.</b>	<b>Governing Criteria</b>	<b>AML (ug/L)</b>	<b>MDL (ug/L)</b>	<b>AML (kg/d)</b>	<b>MDL (kg/d)</b>
Carbon Tetrachloride	chronic	1.26E+03	2.54E+03	5.70E+00	1.14E+01
Chlorobenzene	chronic	2.48E+02	4.97E+02	1.12E+00	2.24E+00
Chloroethane	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chloroform	chronic	7.38E+02	1.48E+03	3.32E+00	6.67E+00
Chloromethane	health	1.49E+05	0.00E+00	6.72E+02	0.00E+00
Chloronapthalene, 2-	chronic	4.74E+01	9.51E+01	2.14E-01	4.29E-01
Chlorotoluene, 2-	health	1.27E+04	0.00E+00	5.73E+01	0.00E+00
Chlorotoluene, 4-	chronic	3.69E+01	7.40E+01	1.66E-01	3.33E-01
Cyclohexane	chronic	1.45E+03	2.92E+03	6.55E+00	1.31E+01
Dibenzofuran	chronic	2.11E+01	0.00E+00	9.50E-02	0.00E+00
Dichlorobenzene, 1,2-	chronic	1.21E+02	2.43E+02	5.46E-01	1.10E+00
Dichlorobenzene, 1,3-	chronic	1.16E+02	2.33E+02	5.22E-01	1.05E+00
Dichlorobenzene, 1,4-	chronic	4.95E+01	9.94E+01	2.23E-01	4.48E-01
Dichlorobromomethane	health	1.38E+03	0.00E+00	6.21E+00	0.00E+00
Dichlorobutene, 1,4-	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dichlorodifluoromethane	health	1.19E+07	0.00E+00	5.34E+04	0.00E+00
Dichloroethane, 1,1-	chronic	2.16E+03	0.00E+00	9.74E+00	0.00E+00
Dichloroethane, 1,2-	health	2.97E+03	5.95E+03	1.34E+01	2.68E+01
Dichloroethene, 1,2-	chronic	5.11E+03	1.03E+04	2.30E+01	4.62E+01
Dichloroethylene, 1,1-	health	9.59E+01	1.92E+02	4.32E-01	8.67E-01
Dichloroethylene, cis-1,2-	chronic	3.27E+03	6.55E+03	1.47E+01	2.95E+01
Dichloroethylene, trans-1,2-	chronic	2.95E+03	5.92E+03	1.33E+01	2.67E+01
Dichloropropane, 1,2-	health	7.79E+02	1.56E+03	3.51E+00	7.05E+00
Dichloropropene, 1,3-	chronic	8.96E+00	1.80E+01	4.04E-02	8.10E-02
Ethyl acetate	chronic	8.41E+03	1.69E+04	3.79E+01	7.61E+01
Ethylbenzene	chronic	3.21E+02	6.45E+02	1.45E+00	2.91E+00
Ethylene dibromide	health	6.37E+01	0.00E+00	2.87E-01	0.00E+00
Hexane, n-	health	5.43E+04	0.00E+00	2.45E+02	0.00E+00
Isopropylbenzene	chronic	1.11E+02	2.22E+02	4.99E-01	1.00E+00
Isopropyltoluene, 4-	chronic	8.69E+01	1.74E+02	3.92E-01	7.86E-01
Methyl bromide	health	7.99E+04	0.00E+00	3.60E+02	0.00E+00
Methyl chloride	health	9.39E+03	0.00E+00	4.23E+01	0.00E+00
Methyl isobutyl ketone	health	2.31E+08	0.00E+00	1.04E+06	0.00E+00
Methyl methacrylate	health	3.31E+07	0.00E+00	1.49E+05	0.00E+00
Methyl tert butyl ether	chronic	2.69E+05	5.39E+05	1.21E+03	2.43E+03
Methylene chloride	chronic	1.00E+04	2.01E+04	4.51E+01	9.05E+01
Methylnapthalene, 2-	chronic	2.48E+01	4.97E+01	1.12E-01	2.24E-01
Nitrobenzene	chronic	1.16E+03	2.34E+03	5.25E+00	1.05E+01
Nitrophenol, 2-	chronic	3.85E+02	0.00E+00	1.73E+00	0.00E+00
Propylbenzene, n-	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Pyridine	chronic	1.37E+02	2.75E+02	6.17E-01	1.24E+00
Styrene	chronic	1.26E+02	2.54E+02	5.70E-01	1.14E+00
Tetrachloroethane, 1,1,1,2-	health	2.92E+02	5.86E+02	1.32E+00	2.64E+00
Tetrachloroethane, 1,1,2,2-	health	3.30E+02	6.61E+02	1.49E+00	2.98E+00
Tetrachloroethylene	health	1.77E+02	3.55E+02	7.97E-01	1.60E+00
Tetrahydrofuran	health	3.41E+04	6.83E+04	1.54E+02	3.08E+02
Toluene	chronic	3.27E+02	6.55E+02	1.47E+00	2.95E+00
Trichloro-1,2,2-trifluoroethane, 1,1,2-	health	3.02E+07	0.00E+00	1.36E+05	0.00E+00
Trichlorobenzene, 1,2,4-	chronic	2.63E+01	5.28E+01	1.19E-01	2.38E-01
Trichloroethane, 1,1,1-	chronic	4.00E+02	8.03E+02	1.80E+00	3.62E+00
Trichloroethane, 1,1,2-	health	1.26E+03	2.52E+03	5.67E+00	1.14E+01
Trichloroethylene	chronic	1.16E+03	2.33E+03	5.22E+00	1.05E+01
Trichlorofluoromethane	health	9.23E+06	0.00E+00	4.16E+04	0.00E+00

<b>Allnex USA Inc.</b>	<b>Governing Criteria</b>	<b>AML (ug/L)</b>	<b>MDL (ug/L)</b>	<b>AML (kg/d)</b>	<b>MDL (kg/d)</b>
Trimethylbenzene, 1,2,4-	chronic	8.43E+01	1.69E+02	3.80E-01	7.62E-01
Trimethylbenzene, 1,3,5-	chronic	1.37E+02	2.75E+02	6.17E-01	1.24E+00
Vinyl acetate	health	9.81E+06	0.00E+00	4.42E+04	0.00E+00
Vinyl chloride	chronic	4.90E+03	9.83E+03	2.21E+01	4.43E+01
Xylenes	chronic	1.42E+02	2.85E+02	6.41E-01	1.29E+00
5.775					
<b>Semi Volatiles:</b>					
Acenaphthene	health	6.09E+01	1.22E+02	2.75E-01	5.51E-01
Acenaphthylene	chronic	6.85E+01	1.37E+02	3.09E-01	6.19E-01
Aniline	chronic	6.85E+00	1.37E+01	3.09E-02	6.19E-02
Anthracene	chronic	1.05E-01	2.11E-01	4.75E-04	9.53E-04
Benzidine	health	5.39E-03	1.08E-02	2.43E-05	4.88E-05
Benzo(a)anthracene	health	4.89E+00	9.82E+00	2.21E-02	4.43E-02
Benzo(a)pyrene	chronic	5.27E-02	1.06E-01	2.37E-04	4.76E-04
Benzo(b)fluoranthene	health	4.89E+00	9.82E+00	2.21E-02	4.43E-02
Benzo(g,h,i)perylene	health	4.91E+01	0.00E+00	2.22E-01	0.00E+00
Benzo(k)fluoranthene	health	4.89E+00	9.82E+00	2.21E-02	4.43E-02
Bis(2-chloroethoxy)methane	chronic	4.14E+03	0.00E+00	1.87E+01	0.00E+00
Bis(2-chloroethyl)ether	health	4.20E+01	8.42E+01	1.89E-01	3.79E-01
Bis(2-chloroisopropyl)ether	health	3.40E+06	0.00E+00	1.53E+04	0.00E+00
Bis(2-ethylhexyl)phthalate	chronic	5.27E+00	1.06E+01	2.37E-02	4.76E-02
Bromoform	chronic	6.53E+02	1.31E+03	2.94E+00	5.91E+00
Bromopheny ether, 4-	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bromophenyl-phenylether, 4-	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Butylbenzyl phthalate	chronic	1.21E+02	2.43E+02	5.46E-01	1.10E+00
Carbazole	chronic	2.79E+01	5.60E+01	1.26E-01	2.53E-01
Chloroaniline, 4-	chronic	5.27E+00	1.06E+01	2.37E-02	4.76E-02
Chlorophenol, 2-	chronic	1.69E+02	3.38E+02	7.60E-01	1.52E+00
Chlorophenol, 3-methyl-4	chronic	3.69E+01	0.00E+00	1.66E-01	0.00E+00
Chlorophenyl-phenylether, 4-	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chrysene	chronic	2.48E+01	4.97E+01	1.12E-01	2.24E-01
Cresol, m-	chronic	3.53E+02	7.08E+02	1.59E+00	3.19E+00
Dibenzo(a,h)anthracene	health	3.00E-01	0.00E+00	1.35E-03	0.00E+00
Dibromo-3-chloropropane, 1,2-	health	3.09E+00	0.00E+00	1.39E-02	0.00E+00
Dibromochloromethane	health	1.02E+03	0.00E+00	4.59E+00	0.00E+00
Dichlorobenzidine, 3,3'-	health	2.31E+00	4.63E+00	1.04E-02	2.09E-02
Dichlorophenol, 2,4-	chronic	5.80E+01	1.16E+02	2.61E-01	5.24E-01
Dichlorotrifluoroethane	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Diethyl phthalate	chronic	1.16E+03	2.33E+03	5.22E+00	1.05E+01
Dimethyl phthalate	chronic	1.63E+03	3.28E+03	7.36E+00	1.48E+01
Dimethylphenol, 2,4-	chronic	7.90E+01	0.00E+00	3.56E-01	0.00E+00
Di-n-butyl phthalate	chronic	2.11E+01	4.23E+01	9.50E-02	1.91E-01
Dinitrophenol, 2,4-	chronic	1.16E+02	2.33E+02	5.22E-01	1.05E+00
Dinitrophenol, 2-methyl-4,6-	chronic	3.69E+00	7.40E+00	1.66E-02	3.33E-02
Dinitrotoluene, 2,4-	chronic	1.63E+02	3.28E+02	7.36E-01	1.48E+00
Dinitrotoluene, 2,6-	chronic	4.27E+02	0.00E+00	1.92E+00	0.00E+00
Di-n-octyl phthalate	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dioxane, 1,4-	health	5.16E+05	0.00E+00	2.33E+03	0.00E+00
Diphenylhydrazine, 1,2-	chronic	5.27E+00	1.06E+01	2.37E-02	4.76E-02
Ethanol	chronic	1.20E+04	2.41E+04	5.41E+01	1.08E+02
Ethylene glycol	chronic	7.38E+05	1.48E+06	3.32E+03	6.67E+03
Fluoranthene	chronic	4.21E+00	8.46E+00	1.90E-02	3.81E-02
Fluorene	chronic	2.05E+01	4.12E+01	9.26E-02	1.86E-01

<b>Allnex USA Inc.</b>	<b>Governing Criteria</b>	<b>AML (ug/L)</b>	<b>MDL (ug/L)</b>	<b>AML (kg/d)</b>	<b>MDL (kg/d)</b>
Formaldehyde	chronic	6.01E+03	1.30E+04	2.71E+01	5.84E+01
Hexachlorobenzene	health	2.31E-02	4.63E-02	1.04E-04	2.09E-04
Hexachlorobutadiene	health	1.50E+03	0.00E+00	6.75E+00	0.00E+00
Hexachloroethane	health	2.67E+02	0.00E+00	1.20E+00	0.00E+00
Indeno(1,2,3-c,d)pyrene	health	1.48E+01	0.00E+00	6.66E-02	0.00E+00
Isophorone	chronic	4.85E+03	9.72E+03	2.18E+01	4.38E+01
Isopropanol	health	5.68E+07	0.00E+00	2.56E+05	0.00E+00
Methanol	chronic	1.57E+03	3.85E+03	7.06E+00	1.74E+01
Methylphenol, 2-	chronic	3.53E+02	7.08E+02	1.59E+00	3.19E+00
Methylphenol, 4-	chronic	2.92E+02	5.87E+02	1.32E+00	2.64E+00
Naphthalene	chronic	1.11E+02	2.22E+02	4.99E-01	1.00E+00
Nitroaniline, 2-	chronic	1.11E+02	2.22E+02	4.99E-01	1.00E+00
Nitroaniline, 3-	chronic	3.69E+01	7.40E+01	1.66E-01	3.33E-01
Nitroaniline, 4-	chronic	6.22E+02	1.25E+03	2.80E+00	5.62E+00
Nitrosodimethylamine, N-	health	2.43E+02	0.00E+00	1.09E+00	0.00E+00
NitrosoDi-n-propylamine, N-	health	4.20E+01	0.00E+00	1.89E-01	0.00E+00
Nitrosodiphenylamine, N-	chronic	1.32E+02	2.64E+02	5.94E-01	1.19E+00
Pentachloronitrobenzene	chronic	1.32E+01	2.64E+01	5.94E-02	1.19E-01
Pentachlorophenol	acute	6.09E+01	1.22E+02	2.75E-01	5.51E-01
Phenanthrene	chronic	1.21E+01	2.43E+01	5.46E-02	1.10E-01
Phenol	acute	1.51E+04	3.02E+04	6.79E+01	1.36E+02
Polychlorinated terphenyls	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Propylene glycol	chronic	3.74E+02	7.50E+02	1.69E+00	3.38E+00
Pyrene	chronic	2.42E+01	4.86E+01	1.09E-01	2.19E-01
Tert-butyl alcohol	chronic	1.24E+05	2.49E+05	5.59E+02	1.12E+03
Tetrachlorobenzene, 1,2,4,5-	chronic	1.05E+01	2.11E+01	4.75E-02	9.53E-02
Trichlorophenol, 2,4,5-	chronic	1.48E+01	2.96E+01	6.65E-02	1.33E-01
Trichlorophenol, 2,4,6-	chronic	1.74E+01	3.49E+01	7.84E-02	1.57E-01

1125

<b>Pesticides &amp; PCBs:</b>					
Alachlor	health	1.43E+02	2.87E+02	6.44E-01	1.29E+00
Aldicarb	chronic	6.85E+00	1.37E+01	3.09E-02	6.19E-02
Aldrin	health	4.20E-03	8.42E-03	1.89E-05	3.79E-05
Atrazine	chronic	8.43E+00	1.69E+01	3.80E-02	7.62E-02
Chlordane	chronic	2.27E-02	4.54E-02	1.02E-04	2.05E-04
D, 2,4-	chronic	2.63E+01	5.28E+01	1.19E-01	2.38E-01
DDD, 4,4-	health	2.52E-02	0.00E+00	1.13E-04	0.00E+00
DDE, 4,4-	health	1.77E-02	0.00E+00	7.97E-05	0.00E+00
DDT, 4,4-	chronic	5.27E-03	1.06E-02	2.37E-05	4.76E-05
Dicamba	chronic	9.48E+02	1.90E+03	4.27E+00	8.58E+00
Dichloroprop	chronic	6.32E+01	1.27E+02	2.85E-01	5.72E-01
Dieldrin	health	4.20E-03	8.42E-03	1.89E-05	3.79E-05
Endosulfan, alpha	chronic	2.95E-01	5.92E-01	1.33E-03	2.67E-03
Endosulfan, beta	chronic	2.95E-01	5.92E-01	1.33E-03	2.67E-03
Endosulfan sulfate	chronic	2.95E-01	5.92E-01	1.33E-03	2.67E-03
Endrin	chronic	1.90E-01	3.80E-01	8.55E-04	1.72E-03
Endrin aldehyde	chronic	1.90E-01	3.80E-01	8.55E-04	1.72E-03
Endrin ketone	chronic	1.90E-01	3.80E-01	8.55E-04	1.72E-03
Heptachlor	chronic	2.00E-02	4.02E-02	9.02E-05	1.81E-04
Heptachlor epoxide	chronic	2.00E-02	4.02E-02	9.02E-05	1.81E-04
Hexachlorocyclohexane, alpha	health	3.90E-01	7.82E-01	1.76E-03	3.52E-03
Hexachlorocyclohexane, beta-	health	1.38E+00	2.77E+00	6.21E-03	1.25E-02
Hexachlorocyclohexane, delta-	chronic	1.05E+01	0.00E+00	4.75E-02	0.00E+00

<b>Allnex USA Inc.</b>	<b>Governing Criteria</b>	<b>AML (ug/L)</b>	<b>MDL (ug/L)</b>	<b>AML (kg/d)</b>	<b>MDL (kg/d)</b>
Hexachlorocyclopentadiene	chronic	1.58E+00	3.17E+00	7.12E-03	1.43E-02
Lindane	chronic	3.00E-01	6.02E-01	1.35E-03	2.72E-03
Methoxychlor	chronic	1.58E-01	0.00E+00	7.12E-04	0.00E+00
Simazine	chronic	5.27E+00	1.06E+01	2.37E-02	4.76E-02
Toxaphene	chronic	1.05E-02	2.11E-02	4.75E-05	9.53E-05
	0				
Polychlorinated biphenyls	health	1.70E-03	0.00E+00	7.65E-06	0.00E+00



# Attachment C

## Calculation of Ammonia Criteria for Freshwater Surface Waters

Quinnipiac River

### Calculation of Freshwater Water Quality Criteria For Ammonia

- 1 Criteria for ammonia, (mg/L as N) vary in response to ambient surface water temperature (T, degrees C) and pH. Biological integrity is considered impaired when:
  - A The one-hour average concentration of total ammonia exceeds:  
 $[0.275/(1+10^{(7.204-pH)})] + [39.0/(1+10^{(pH-7.204)})]$  when salmonids are present  
Or  
 $[0.411/(1+10^{(7.204-pH)})] + [58.4/(1+10^{(pH-7.204)})]$  when salmonids are absent
  - B The four-day average concentration of total ammonia exceeds 2.5 times the value obtained from the formula in 14.c. below.
  - C The 30-day average concentration of total ammonia exceeds:  
 $[0.0577/(1+10^{(7.688-pH)})] + [2.487/(1+10^{(pH-7.688)})] \times [\text{MIN}(2.85, 1.45 \times (10^{(0.028(25-T))}))]$   
when early life stages are present;  
or  
 $[0.0577/(1+10^{(7.688-pH)})] + [2.487/(1+10^{(pH-7.688)})] \times [1.45 \times (10^{(0.028(25-\text{MAX}(T,7))}))]$   
when early life stages are absent.

### Data

Used data from the USGS gage stations located on the Quinnipiac River at Wallingford, Meriden and Southington for Jan 2013- Jan 2024. Data was obtained through the EPA Water Quality Data Portal.

Data were parsed into two groups: April through October and November through March. Average, minimum, and maximum Ammonia concentrations were calculated along with the number of observations. Ammonia concentrations are expressed in mg/l.

Table 1: Measured Ambient Ammonia Concentration (mg/L)

Months	pH				Temperature, water			
	Average	Minimum	Maximum	N	Average	Minimum	Maximum	N
Apr	7.8	7.2	8.1	27	11.8	5.2	14.6	24
May	7.7	7.2	8.0	16	15.1	11.2	18.9	16
Jun	7.7	7.1	8.1	31	18.5	12.2	22.4	20
Jul	7.7	7.2	8.1	33	22.0	19.0	24.7	21
Aug	7.8	7.3	8.2	27	21.0	18.1	25.0	17
Sep	7.7	7.0	8.1	31	18.4	12.4	24.3	21
Oct	7.8	7.3	8.2	27	13.1	9.8	17.8	17
Jan	7.6	7.2	7.9	11	3.5	0.6	7.5	11
Feb	7.8	7.0	8.2	25	2.8	0.3	5.6	16
Mar	7.8	7.2	8.1	17	5.9	2.8	13.5	17
Nov	7.6	7.2	7.9	15	9.6	6.7	13.7	15
Dec	7.8	7.5	8.0	26	5.0	2.0	7.7	18

**Applicable Waterbody Segments**

These calculated criteria apply to the freshwater portions of the Quinnipiac River:

Table 2: Applicable Waterbody Segments

Applicable Water Segments	
CT5200-00_01	Quinnipiac River (North Haven/Wallingford)-01
CT5200-00_02	Quinnipiac River (North Haven/Meriden)-02
CT5200-00_03	Quinnipiac River (Meriden)-03
CT5200-00_04	Quinnipiac River (Cheshire/Meriden/Southington)-04
CT5200-00_05	Quinnipiac River (Southington)-05
CT5200-00_06	Quinnipiac River-06
CT5200-00_07	Quinnipiac River-07
CT5200-00-4-L2_01	Hanover Pond (Meriden)

## Salmonids

Salmonids are potentially present in the Quinnipiac River

### Early Life Stage Presence

Based on expected monthly conditions as follows

Table 3: Determination for Potential Presence of Early Life Stages

Months	Biological Condition	Early Life Stages Present
Apr	Habitat Forming	No
May	Clupeid Spawning	Yes
Jun	Resident Spawning	Yes
Jul	Rearing & Growth	Yes
Aug	Rearing & Growth	Yes
Sep	Rearing & Growth	Yes
Oct	Rearing & Growth	Yes
Jan	Overwinter	No
Feb	Overwinter	No
Mar	Habitat Forming	No
Nov	Salmonid Spawning	Yes
Dec	Overwinter	No

### Acute Criteria Calculation

- Criteria are pH dependent
- Assumes a 1 hour exposure period
- Used highest maximum daily value for each analysis period, since hourly values were not available.

### 30-Day Average and 4-Day Average Criteria

- Criteria are pH and temperature dependent
- Equations considering the presence of early life stages were used based on selections above
- 30-Day average criteria were calculated for each month using the monthly average values
- 4-Day average criteria were calculated based on the 30-Day average criteria

## **Criteria Summary**

*Table 4: Calculated Ammonia Water Quality Criteria*

### **Calculated Ammonia Criteria (mg/l)**

<b>Waterbody:</b>		Quinnipiac River, Freshwater Segments		
<b>Months</b>	<b>Acute</b>	<b>30 Day Average</b>	<b>4 Day Average</b>	
April - October	3.83	2.10	5.24	
November - March	3.83	3.98	9.94	