



Connecticut  
Department of  
**ENERGY &**

**NPDES/SPDES PERMIT**

issued to

Devon Power LLC  
(an asset of NRG Energy, Inc.)  
734 Naugatuck Avenue  
Milford, Connecticut 06461

**Location Address:**

Devon Power LLC  
734 Naugatuck Avenue  
Milford, Connecticut 06461

**Facility ID:** 084-007

**Permit ID:** CT0003107  
SP0002444

**Receiving Water Body:** Housatonic River  
Groundwater

**Permit Expires:**

**Receiving Water Body ID:** CT-C1\_020-SB (Housatonic River)

**SECTION 1: GENERAL PROVISIONS**

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

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

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

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Section 22a-430-4 Procedures and Criteria

- (a) Duty to Apply
  - (b) Duty to Reapply
  - (c) Application Requirements
  - (d) Preliminary Review
  - (e) Tentative Determination
  - (f) Draft Permits, Fact Sheets
  - (g) Public Notice, Notice of Hearing
  - (h) Public Comments
  - (i) Final Determination
  - (j) Public Hearings
  - (k) Submission of Plans and Specifications. Approval.
  - (l) Establishing Effluent Limitations and Conditions
  - (m) Case by Case Determinations
  - (n) Permit issuance or renewal
  - (o) Permit Transfer
  - (p) Permit revocation, denial or modification
  - (q) Variances
  - (r) Secondary Treatment Requirements
  - (s) Treatment Requirements for Metals and Cyanide
  - (t) Discharges to POTWs - Prohibitions
- (C) Violations of any of the terms, conditions, or limitations contained in this permit may subject the Permittee to enforcement action including, but not limited to, seeking penalties, injunctions and/or forfeitures pursuant to applicable sections of the CGS and RCSA.
- (D) Any false statement in any information submitted pursuant to this permit may be punishable as a criminal offense under section 22a-438 or 22a-131a of the CGS or in accordance with section 22a-6, under section 53a-157b of the CGS.
- (E) The authorization to discharge under this permit may not be transferred without prior written approval of the Commissioner of Energy and Environmental Protection (“Commissioner”). To request such approval, the Permittee and proposed Transferee shall register such proposed Transfer with the Commissioner, at least 30 days prior to the transferee becoming legally responsible for creating or maintaining any discharge which is the subject of the permit transfer. Failure, by the Transferee, to obtain the Commissioner's approval prior to commencing such discharge(s) may subject the transferee to enforcement action for discharging without a permit pursuant to applicable sections of the CGS and RCSA.
- (F) No provision of this permit and no action or inaction by the Commissioner shall be construed to constitute an assurance by the Commissioner that the actions taken by the Permittee pursuant to this permit will result in compliance or prevent or abate pollution.
- (G) Nothing in this permit shall relieve the Permittee of other obligations under applicable federal, state and local law.
- (H) An annual fee shall be paid for each year this permit is in effect as set forth in section 22a-430-7 of the Regulations of Connecticut State Agencies.
- (I) The permitted discharge, DSN 301, is consistent with the applicable goals and policies of the Connecticut Coastal Management Act (Section 22a-92 of the CGS).
- (J) Among other discharges, this permit authorizes the discharge of wastewater from Units 15-18 at the facility. Units 15-18 are owned by GenConn Devon LLC (“GenConn”) and operated by Devon Power. GenConn is a 50/50 joint venture between NRG Energy, Inc. and United Illuminating LLC.

## SECTION 2: DEFINITIONS

(A) The definitions of the terms used in this permit shall be the same as the definitions contained in section 22a-423 of the CGS and section 22a-430-3(a) and 22a-430-6 of the RCSA.

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

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

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

“Annually” means sampling is required in the month of August.

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

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

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

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

“In-stream Waste Concentration” means the concentration of the effluent in the receiving water after mixing. It is the inverse of the dilution factor.

“LC” means Lethal Concentration

“LC<sub>50</sub>” means the concentration lethal to 50 per cent of the test organisms.

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

“NA” as a Monitoring Table abbreviation means “Not Applicable”.

“NR” as a Monitoring Table abbreviation means “Not Required”.

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

“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.

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

- (A) The Commissioner has issued a final determination and found that: 1) with respect to DSN 002-1, continuance of the existing system will not cause pollution of the waters of the state; and 2) with respect to DSNs 004-1, 005-1, 013-1, 014-1, 024-1, 055-1 continuance of the existing discharges would not cause pollution to the waters of the state. This permit also includes a determination regarding Section 316(a) of the Federal Water Pollution Control Act 33 U.S.C. § 1326(a) and CGS § 22a-430(a) relative to DSN 002. The Commissioner’s decision is based on Application 201106187 for permit re-issuance received on August 8, 2011 and the administrative record established in the processing of that application.
- (B) The Commissioner has issued a final determination and found that with respect to DSN 301-1, the proposed system to treat the discharge will protect the waters of the state from pollution. The Commissioner’s decision is based on Application 201106189 for permit issuance received on October 20, 2011 and the administrative record established in the processing of that application.
- (C) The Commissioner hereby authorizes the Permittee to discharge in accordance with the provisions of this permit, the above referenced applications, and all approvals issued by the Commissioner or the Commissioner’s authorized agent for the discharges and/or activities authorized by, or associated with, this permit.
- (D) The Commissioner reserves the right to make appropriate revisions to the permit in order to establish any appropriate effluent limitations, schedules of compliance, or other provisions which may be authorized under the Federal Clean Water Act or the CGS or regulations adopted thereunder, as amended. The permit as modified or renewed under this paragraph may also contain any other requirements of the Federal Clean Water Act or CGS or regulations adopted thereunder which are then applicable.

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

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

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

- (A) The discharges are restricted by, and shall be monitored in accordance with, the table below. Additionally, the discharges shall not exceed, and shall otherwise conform to the specific terms and conditions listed below:
  - (1) All samples shall be comprised of only the wastewater described in this table. Samples shall be collected prior to combination with receiving waters or wastewater of any other type, and after all

approved treatment units, if applicable. All samples collected shall be representative of the discharge during standard operating conditions.

- (2) In cases where limits and sample type are specified but sampling is not required by this permit, the limits specified shall apply to all samples which may be collected and analyzed by the Department of Energy and Environmental Protection personnel, the Permittee, or other parties.
- (3) This permit becomes effective on the first day of the month following the date of signature.

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**Table A**

| Discharge Serial Number: <b>DSN 002-1</b>  |          |                            |                        |   |   | Monitoring Location: <b>1</b>         |  |   |                            |   |
|--|----------|----------------------------|------------------------|---|---|---------------------------------------|--|---|----------------------------|---|
| Wastewater Description: <b>Jet Turbine Engine Wastewater; Lubrication Oil Cooling Water Leakage; Chiller Coil Condensate; Heating Water Leakage; Cooling Tower Blowdown; Equipment Leakage/Drainage; Maintenance Washwaters; Compressed Air Tank Condensate and System Blowdown; Wastewater Treatment System Wastestreams; Regeneration Wastewater; Laboratory Wastewater; Stormwater; Groundwater</b> |          |                            |                        |   |   |                                       |  |   |                            |   |
| Monitoring Location Description: <b>Discharge access chamber immediately upstream of the discharge flow monitoring flume</b>   |          |                            |                        |   |   |                                       |  |   |                            |   |
| Discharge is to: <b>Housatonic River</b>   |          |                            |                        | Dilution Factor: <b>39:1</b>            |   |                                       | In-stream Waste Concentration: <b>2.6%</b> |   |                            |   |
| PARAMETER  | UNITS    | FLOW/TIME BASED MONITORING |                        |   |   | INSTANTANEOUS MONITORING              |  |   | Minimum Level <sup>3</sup> | Monitoring Required with Toxicity Testing |
|  |          | 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 <sup>1</sup>    | Sample Type or measurement to be reported |                            |   |
| Acute Toxicity, <i>Mysidopsis bahia</i><br>[See Remark 2]  | %        | NA                         | LC <sub>50</sub> ≥100% | Semi-annual                             | Daily Composite                           | LC <sub>50</sub> ≥33%                 | NR   | Grab                                      |                            |   |
| Acute Toxicity, <i>Cyprinodon variegatus</i><br>[See Remark 2]   | %        | NA                         | LC <sub>50</sub> ≥100% | Semi-annual                             | Daily Composite                           | LC <sub>50</sub> ≥33%                 | NR   | Grab                                      |                            |   |
| Chronic Toxicity, <i>Mysidopsis bahia</i><br>[See Remark 3]  | %        | NA                         | ---                    | Annually                                | Daily Composite                           | NA                                    | NR   | NA  |                            |   |
| Chronic Toxicity, <i>Cyprinodon variegatus</i><br>[See Remark 3]   | %        | NA                         | ---                    | Annually                                | Daily Composite                           | NA                                    | NR   | NA  |                            |   |
| Aluminum, Total  | mg/L     | ---                        | ---                    | Monthly                                 | Daily Composite                           | NA                                    | NR   | NA  | 0.01                       | ✓   |
| Ammonia (as N)   | mg/L     | NA                         | ---                    | Monthly                                 | Daily Composite                           | NA                                    | NR   | NA  |                            | ✓   |
| Chlorine, Total Residual   | mg/L     | 0.201                      | 0.541                  | Weekly                                  | Grab Sample Average                       | 0.811                                 | NR   | Grab                                      | 0.020                      | ✓   |
| Copper, Total  | µg/L     | ---                        | 25                     | Weekly                                  | Daily Composite                           | NA                                    | NR   | NA  | 3                          | ✓   |
| Duration of Discharge  | days/mth | NA                         | ---                    | Continuous                              | Flow                                      | NA                                    | NR   | NA  |                            |   |
| Flow Rate (Average Daily) <sup>2</sup>   | gpd      | 216,000                    | NA                     | Continuous                              | Flow                                      | NA                                    | NR   | NA  |                            |   |
| Flow, Maximum during 24 hour period <sup>2</sup>   | gpd      | NA                         | 432,000                | Continuous                              | Flow                                      | NA                                    | NR   | NA  |                            |   |
| Flow (Day of Sampling)   | gpd      | NA                         | 432,000                | Weekly                                  | Flow                                      | NA                                    | NR   | NA  |                            |   |
| Iron, Total  | mg/L     | ---                        | ---                    | Monthly                                 | Daily Composite                           | NA                                    | NR   | NA  |                            | ✓   |
| Kjeldahl Nitrogen, Total (as N)  | mg/L     | NA                         | ---                    | Monthly                                 | Daily Composite                           | NA                                    | NR   | NA  |                            | ✓   |
| Lead, Total  | mg/L     | ---                        | ---                    | Monthly                                 | Daily Composite                           | NA                                    | NR   | NA  | 0.005                      | ✓   |
| Nickel, Total  | µg/L     | 73                         | 157                    | Weekly                                  | Daily Composite                           | 235                                   | NR   | Grab                                      | 5                          | ✓   |
| Nickel, Total  | gm/day   | 60                         | 128                    | Weekly                                  | Daily Composite                           | NA                                    | NR   | NA  |                            |   |
| Nitrate (as N)   | mg/L     | NA                         | ---                    | Monthly                                 | Daily Composite                           | NA                                    | NR   | NA  |                            | ✓   |
| Nitrite (as N)   | mg/L     | NA                         | ---                    | Monthly                                 | Daily Composite                           | NA                                    | NR   | NA  |                            | ✓   |
| Nitrogen, Total [See Remark 4]   | lbs/day  | NA                         | ---                    | Monthly                                 | Calculated                                | NA                                    | NR   | NA  |                            |   |
| Oil & Grease, Total  | mg/L     | ---                        | ---                    | Monthly                                 | Grab Sample Average                       | NA                                    | NR   | NA  |                            | ✓   |

**Table A**

| Discharge Serial Number: <b>DSN 002-1</b>  |       |                            |                     |   |   | Monitoring Location: <b>1</b>         |  |   |                            |   |
|--|-------|----------------------------|---------------------|---|---|---------------------------------------|--|---|----------------------------|---|
| Wastewater Description: <b>Jet Turbine Engine Wastewater; Lubrication Oil Cooling Water Leakage; Chiller Coil Condensate; Heating Water Leakage; Cooling Tower Blowdown; Equipment Leakage/Drainage; Maintenance Washwaters; Compressed Air Tank Condensate and System Blowdown; Wastewater Treatment System Wastestreams; Regeneration Wastewater; Laboratory Wastewater; Stormwater; Groundwater</b> |       |                            |                     |   |   |                                       |  |   |                            |   |
| Monitoring Location Description: <b>Discharge access chamber immediately upstream of the discharge flow monitoring flume</b>   |       |                            |                     |   |   |                                       |  |   |                            |   |
| Discharge is to: <b>Housatonic River</b>   |       |                            |                     | Dilution Factor: <b>39:1</b>            |   |                                       | In-stream Waste Concentration: <b>2.6%</b> |   |                            |   |
| PARAMETER  | UNITS | FLOW/TIME BASED MONITORING |                     |   |   | INSTANTANEOUS MONITORING              |  |   | Minimum Level <sup>3</sup> | Monitoring Required with Toxicity Testing |
|  |       | 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 <sup>1</sup>    | Sample Type or measurement to be reported |                            |   |
| Oxygen, Dissolved  | mg/L  | NA                         | NA                  | NR                                      | NA  | ---                                   | Weekly                                     | Grab                                      |                            | ✓   |
| pH, Minimum  | SU    | NA                         | NA                  | NR                                      | NA  | 6.0                                   | Continuous                                 | Continuous                                |                            |   |
| pH, Maximum  | SU    | NA                         | NA                  | NR                                      | NA  | 9.0                                   | Continuous                                 | Continuous                                |                            |   |
| pH, Day of Sampling  | SU    | NA                         | NA                  | NR                                      | NA  | 6.0-9.0                               | Weekly                                     | RDS                                       |                            | ✓   |
| Propylene Glycol   | mg/L  | ---                        | ---                 | Monthly                                 | Grab Sample Average                       | NA                                    | NR   | NA  |                            | ✓   |
| Total Suspended Solids   | mg/L  | ---                        | ---                 | Monthly                                 | Daily Composite                           | NA                                    | NR   | NA  |                            | ✓   |
| Zinc, Total  | mg/L  | ---                        | ---                 | Monthly                                 | Daily Composite                           | NA                                    | NR   | NA  | 0.01                       | ✓   |

**Table A**

Discharge Serial Number: **DSN 002-1** | Monitoring Location: **1**  
 Wastewater Description: **Jet Turbine Engine Wastewater; Lubrication Oil Cooling Water Leakage; Chiller Coil Condensate; Heating Water Leakage; Cooling Tower Blowdown; Equipment Leakage/Drainage; Maintenance Washwaters; Compressed Air Tank Condensate and System Blowdown; Wastewater Treatment System Wastestreams; Regeneration Wastewater; Laboratory Wastewater; Stormwater; Groundwater**  
 Monitoring Location Description: **Discharge access chamber immediately upstream of the discharge flow monitoring flume**  
 Discharge is to: **Housatonic River** | Dilution Factor: **39:1** | In-stream Waste Concentration: **2.6%**

| PARAMETER | UNITS | FLOW/TIME BASED MONITORING |                     |   |   | INSTANTANEOUS MONITORING              |   |   | Minimum Level <sup>3</sup> | Monitoring Required with Toxicity Testing |
|-----------|-------|----------------------------|---------------------|---|---|---------------------------------------|---|---|----------------------------|---|
|           |       | 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 <sup>1</sup> | Sample Type or measurement to be reported |                            |   |

**Table A Footnotes and Remarks:**

**Footnotes:**

- <sup>1</sup> The first entry in this column is the 'Sample Frequency'. If a 'Reporting Frequency' does not follow this entry 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 submit the record of the total flow for each day and shall record the Average Daily Flow and the Maximum Daily Flow for each month.
- <sup>3</sup> Minimum Level refers to Section 6(A)(4) of this permit.

**Remarks:**

1. Abbreviations used for units are as follows: gpd means gallons per day; days/mth means days per month that there is a discharge; mg/L means milligrams/liter; µg/l means micrograms/liter; gm/day means grams/day; lbs/day means pounds per day; SU means Standard Units. Other abbreviations are as follows: NA means Not Applicable; ND means Non-Detectable; NR means Not Reportable; RDS means Range During Sampling.
2. The duration of the acute testing is 48 hours. The LC<sub>50</sub> results for the acute toxicity testing shall be reported on the DMR.
3. The duration of the chronic testing is 7 days. The C-NOEC (Chronic-No Observed Effect Concentration) results for the chronic toxicity testing shall be reported on the DMR. The C-NOEC is defined as the highest concentration of effluent to which organisms are exposed in a life cycle or partial life cycle test which causes no adverse effect on growth, survival, or reproduction at a specific time of observation as determined from hypothesis testing where the results exhibit a linear dose-response relationship.
4. Total nitrogen = Ammonia + Organic nitrogen (Kjeldahl Nitrogen - Ammonia) + Nitrate + Nitrite. The calculated monthly mass loading of total nitrogen shall be reported in lbs/day.



**Table B**Discharge Serial Number: **DSNs 004-1, 005-1, 013-1, 014-1, 024-1, 055-1**Monitoring Location: **1**Wastewater Description: **Fire suppression test water**Monitoring Location Description: **NA**Discharge is to: **Housatonic River**

| PARAMETER | UNITS | Average Monthly Limit | Maximum Daily Limit | Sample/Reporting Frequency <sup>1</sup> | Sample Type or Measurement to be reported | INSTANTANEOUS MONITORING              |                            |   | Minimum Level <sup>3</sup> |
|-----------|-------|-----------------------|---------------------|---|---|---------------------------------------|----------------------------|---|----------------------------|
|           |       |                       |                     |   |   | Instantaneous limit or required range | Sample/Reporting Frequency | Sample Type or measurement to be reported |                            |

**Table B Footnotes:****Footnotes:**

1. No monitoring is required.
2. The testing of the fire hydrants shall be conducted so that the least amount of water is generated and discharged.

**Table C**Discharge Serial Number: **DSN 301-1**Monitoring Location: **1**Wastewater Description: **Treated effluent and stormwater from the polishing basin**Monitoring Location Description: **NA**Discharge is to: **Groundwater**

| PARAMETER | UNITS | Average Monthly Limit | Maximum Daily Limit | Sample/Reporting Frequency <sup>1</sup> | Sample Type or Measurement to be reported | INSTANTANEOUS MONITORING              |                            |   | Minimum Level <sup>3</sup> |
|-----------|-------|-----------------------|---------------------|---|---|---------------------------------------|----------------------------|---|----------------------------|
|           |       |                       |                     |   |   | Instantaneous limit or required range | Sample/Reporting Frequency | Sample Type or measurement to be reported |                            |

No monitoring is required.

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

### (A) Chemical Analysis

- (1) Chemical analyses to determine compliance with limits and conditions established in this permit shall be performed using “sufficiently sensitive” methods approved pursuant to 40 CFR 136 for the analysis of pollutants having approved methods under that part unless an alternative method has been approved in writing pursuant to 40 CFR 136.4 or as provided in section 22a-430-3(j)(7) of the RCSA. Monitoring parameters which do not have approved methods of analysis defined in 40 CFR 136 shall be analyzed in accordance with “sufficiently sensitive” methods specified in Section 6(A)(2) of this permit, unless an alternative method had been specifically approved in writing by the Commissioner.
- (2) The following test methods shall be used to analyze the parameters identified below:

| <u>PARAMETER</u> | <u>METHOD OF ANALYSIS</u> |
|------------------|---------------------------|
| Propylene glycol | EPA Method 1671           |
- (3) All metals analyses identified in this permit shall refer to analyses for Total Recoverable Metal as defined in 40 CFR 136, unless otherwise specified.
- (4) The Minimum Levels specified in Table A represent the concentrations at which quantification must be achieved and verified during the chemical analyses for those noted parameters. Analyses for these parameters must include check standards within ten per cent of the specified Minimum Level or calibration points equal to or less than the specified Minimum Level.
- (5) The value of each parameter for which monitoring is required under this permit shall be reported to the maximum level of accuracy and precision possible consistent with the requirements of this section of the permit.
- (6) Effluent analyses for which quantification was verified during the analysis at or below the minimum levels specified in this section and which indicate that a parameter was not detected shall be reported as "less than x" where 'x' is the numerical value equivalent to the analytical method detection limit for that analysis.
- (7) Results of effluent analyses which indicate that a parameter was not present at a concentration greater than or equal to the Minimum Level specified for that analysis shall be considered equivalent to zero (0.0) for purposes of determining compliance with effluent limitations or conditions specified in this permit.

## SECTION 7: TOXICITY MONITORING

(A) *Acute Toxicity Monitoring: DSN 002 (Grab Samples Only)*. If instantaneous monitoring for acute aquatic toxicity is required, it shall be conducted in accordance with the following:

- (1) **TEST METHOD:** Acute aquatic toxicity monitoring shall be performed as prescribed in *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 & HANDLING:**
  - (a) Grab samples shall be chilled immediately following collection. Samples shall be held at 4 °C until aquatic toxicity testing is initiated.

- (b) Effluent samples shall not be dechlorinated, filtered, or, modified in any way, prior to testing for aquatic toxicity unless specifically approved in writing by the Commissioner for monitoring at this facility.
  - (c) Tests for aquatic toxicity shall be initiated within 36 hours of sample collection.
- (3) **TEST SPECIES & TEST DURATION:** Monitoring for aquatic toxicity shall be conducted as follows:
- (a) For 48-hours utilizing neonatal *Mysidopsis bahia* (1-5 days old with no more than 24-hours range in age).
  - (b) For 48-hours utilizing larval *Cyprinodon variegatus* (1-14 days old with no more than 24-hours range in age).
- (4) **TEST CONDITIONS:**
- (a) Tests for aquatic toxicity shall be conducted as prescribed for static non-renewal acute tests.
  - (b) At a minimum, pH, specific conductance, salinity, alkalinity, hardness, and total residual chlorine shall be measured in the highest concentration of effluent test solution 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. Dissolved oxygen, pH, and temperature shall be measured in the control and all test concentrations at the beginning of the test, daily thereafter, and at test termination. Salinity shall be measured in each test concentration at the beginning of the test and at test termination.
  - (c) For tests with saltwater organisms that require salinity adjustment of the effluent, chemical analysis of the parameters identified in Section 5, Table A under "Monitoring Required With Toxicity Test" shall be conducted on an aliquot of the effluent sample collected for Aquatic Toxicity testing and on an aliquot of the effluent following salinity adjustment. Both sets of results shall be reported on the Aquatic Toxicity Monitoring Report (ATMR).
  - (d) Multi-concentration (definitive) testing, with LC<sub>50</sub> as the endpoint, shall be conducted to determine compliance with limits on Aquatic Toxicity and shall incorporate, at a minimum, the following effluent concentrations: 100%, 75%, 50%, 25%, 12.5%, and 6.25%.
  - (e) Organisms shall not be fed during the tests.
  - (f) Aquatic toxicity tests shall be conducted at a salinity of 25 ppt  $\pm$  2 ppt.
  - (g) Sodium lauryl sulfate or sodium dodecyl sulfate shall be used as the reference toxicant.
  - (h) Synthetic seawater for use as dilution water or controls shall be prepared with deionized water and artificial sea salts as described in EPA-821-R-02-012.
  - (i) If the salinity of the source water is more than 5 ppt, or lower than the culture water used for rearing the organisms, a second set of controls matching the salinity of the culture water shall be added to the test series. Test validity shall be determined using the controls adjusted to match the source water salinity.

- (j) The actual effluent concentrations in definitive tests with saltwater organisms shall be used in calculating test results.
- (5) **TEST ACCEPTABILITY CRITERIA:** For the test result to be acceptable, control survival must equal or exceed 90%. If the laboratory control fails to meet the test acceptability criteria for either of the organisms at the end of the test period, then the test is considered invalid and the test must be repeated.

(C) *Chronic (and Modified Acute) Toxicity Monitoring: DSN 002.* The Permittee shall conduct chronic (and modified acute) toxicity testing for this discharge point in accordance with the following:

- (1) **TEST METHOD:** Chronic (and modified acute) toxicity monitoring shall be performed as prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms*, EPA 821-R-02-014, or the most current version, with any exceptions or clarifications noted below:
- (2) **SAMPLE COLLECTION & HANDLING:**
  - (a) Composite samples shall be chilled as they are collected. Samples shall be held at 4 °C until aquatic toxicity testing is initiated.
  - (b) Effluent samples shall not be dechlorinated, filtered, or, modified in any way, prior to testing for Aquatic Toxicity unless specifically approved in writing by the Commissioner for monitoring at this facility.
  - (c) Tests for aquatic toxicity shall be initiated within 36 hours of sample collection.
- (3) **TEST SPECIES & TEST DURATION:** Monitoring for aquatic toxicity to determine compliance with the chronic (and modified acute) toxicity limits/conditions shall be conducted as follows:
  - (a) For seven days utilizing neonatal *Mysidopsis bahia* (1-5 days old with no more than 24-hours range in age).
  - (b) For seven days utilizing larval *Cyprinodon variegatus* (1-14 days old with no more than 24-hours range in age).

Survival results of the first 48 hours for *Mysidopsis bahia* and the first 48 hours for *Cyprinodon variegatus*, shall be used for determining compliance with acute toxicity limits.
- (4) **CHRONIC ENDPOINTS:**
  - (a) *Mysidopsis bahia*: Survival, growth, and egg development (fecundity)
  - (b) *Cyprinodon variegatus*: Larval survival and growth
- (5) **DILUTION WATER:** Housatonic River water collected immediately upstream of the area influenced by the discharge shall be used as site water control (0% effluent) and dilution water in the toxicity tests. The Permittee shall document the dilution water sampling location by providing USGS coordinates and/or a map of the location.
- (6) **TEST CONDITIONS:**

- (a) Tests for Aquatic Toxicity shall be conducted as prescribed in the referenced test manual for static daily renewal tests and in accordance with Attachment A of the permit. Daily composite samples of the discharge and grab samples of the Housatonic River for use as site water control and dilution water 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, 6, and 7 of the test). Samples shall not be dechlorinated, pH or hardness adjusted, or chemically altered in any way.
  - (b) Tests concentrations shall be comprised of 100%, 50%, 25%, 12.5%, 6.25%, and 2.6% effluent samples, laboratory water control, and site dilution water.
  - (c) Laboratory control water shall be adjusted to a salinity of 25 ppt  $\pm$  2 ppt.
- (7) **CHEMICAL ANALYSIS:** Each 100% effluent sample and each Housatonic River water sample used in the chronic toxicity test, shall, at a minimum, be analyzed for those parameters identified in Section 5, Table A under "Monitoring Required With Toxicity Test" and the following parameters: specific conductance, alkalinity, hardness, and salinity. Analysis of the effluent shall be the same sample as the sample tested for aquatic toxicity.
- (8) **TEST ACCEPTABILITY CRITERIA:** Test acceptability criteria is summarized in Appendix A. If the laboratory control fails to meet test acceptability criteria for either of the test organisms at the end of the respective test periods, then the test is considered invalid, and the test must be repeated.
- (9) **REPORTING:** A report detailing the results of the chronic and modified acute toxicity monitoring shall be submitted no later than 60 days following the day sampling was concluded for that test. The report shall include a summary of the test results which includes, at a minimum, percent survival in each replicate test chamber and all supporting chemical/physical measurements performed in association with the toxicity test. Endpoints to be reported are: 48-hour LC<sub>50</sub> (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 (fecundity), 7-day C-LOEC (fecundity).

## SECTION 8: REPORTING REQUIREMENTS

- (A) The results of chemical analyses and any aquatic toxicity test required above shall be entered on the Discharge Monitoring Report (DMR), provided by this office, and reported to the Bureau of Materials Management and Compliance Assurance (Attn: DMR Processing) at the following address. Except for continuous monitoring, any monitoring required more frequently than monthly shall be reported on an attachment to the DMR, and any additional monitoring conducted in accordance with 40 CFR 136 or other methods approved by the Commissioner shall also be included on the DMR, or as an attachment, if necessary. The report shall also include a detailed explanation of any violations of the limitations specified. The DMR shall be received at this address by the last day of the month following the month in which samples are collected.

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

- (B) Complete and accurate aquatic toxicity test data, including percent survival of test organisms in each replicate test chamber, LC<sub>50</sub> values and 95% confidence intervals for definitive test protocols, and all

supporting chemical/physical measurements performed in association with any aquatic toxicity test, including measured daily flow and hours of operation for the 30 consecutive operating days prior to sample collection, shall be entered on the Aquatic Toxicity Monitoring Report form (ATMR) and sent to the Bureau of Water Protection and Land Reuse at the following address. The ATMR shall be received at this address by the last day of the month following the month in which samples are collected.

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

A duplicate copy of the ATMR and completed Appendix B & C of this permit shall also be submitted to the staff engineer at:

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

- (C) If this permit requires monitoring of a discharge on a calendar basis (e.g., monthly, quarterly, etc.), but a discharge has not occurred within the frequency of sampling specified in the permit, the Permittee must submit the DMR and ATMR, as scheduled, indicating "NO DISCHARGE". For those Permittees whose required monitoring is discharge dependent (e.g., per batch), the minimum reporting frequency is monthly. Therefore, if there is no discharge during a calendar month for a batch discharge, a DMR must be submitted indicating such by the end of the following month.
- (D) NetDMR Reporting Requirements: Prior to one-hundred and eighty (180) days after the issuance of this permit, the Permittee may either submit monitoring data and other reports to the Department in hard copy form or electronically using NetDMR, a web-based tool that allows Permittees to electronically submit discharge monitoring reports (DMRs) and other required reports through a secure internet connection. Unless otherwise approved in writing by the Commissioner, no later than one-hundred and eighty (180) days after the issuance of this permit, the Permittee shall begin reporting electronically using NetDMR. Specific requirements regarding subscription to NetDMR and submittal of data and reports in hard copy form and for submittal using NetDMR are described below:
- (1) Submittal of *NetDMR Subscriber Agreement*: On or before fifteen (15) days after the issuance of this permit, the Permittee and/or the person authorized to sign the Permittee's discharge monitoring reports ("Signatory Authority") as described in RCSA Section 22a-430-3(b)(2) shall contact the Department to initiate the NETDMR subscription process for electronic submission of Discharge Monitoring Report (DMR) information. A copy of the NetDMR subscriber form is available on the Department's website. On or before ninety (90) days after issuance of this permit the Permittee shall submit a signed and notarized copy of the *Connecticut DEEP NetDMR Subscriber Agreement* to the Department.
  - (2) Submittal of Reports Using NetDMR: Unless otherwise approved by the Commissioner, on or before one-hundred and eighty (180) days after issuance of this permit, the Permittee and/or the Signatory Authority shall electronically submit DMRs and reports required under this permit to the Department using NetDMR in satisfaction of the DMR submission requirement of Section 5(C) of this permit.

DMRs shall be submitted electronically to the Department no later than the 30<sup>th</sup> day of the month following the completed reporting period. All reports required under the permit, including any monitoring conducted more frequently than monthly or any additional monitoring conducted in accordance with 40 CFR 136, shall be submitted to the Department as an electronic attachment to

the DMR in NetDMR. Once a Permittee begins submitting reports using NetDMR, it will no longer be required to submit hard copies of DMRs or other reports to the Department. The Permittee shall also electronically file any written report of non-compliance described in Section 6 of this permit as an attachment in NetDMR. NetDMR is accessed from: <http://www.epa.gov/netdmr>.

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

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

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

- (A) If any sample analysis indicates that an Aquatic Toxicity effluent limitation in Section 5 of this permit has been exceeded, or that the test was invalid, another sample of the effluent shall be collected and tested for Aquatic Toxicity and associated chemical parameters, as described above in Section 5 and Section 6, and the results reported to the Bureau of Materials Management and Compliance Assurance (Attn: DMR Processing), at the address listed above, within 30 days of the exceedance or invalid test. Results of all tests, whether valid or invalid, shall be reported.
- (B) If any two consecutive test results or any three test results in a twelve month period indicates that an Aquatic Toxicity Limit has been exceeded, the Permittee shall immediately take all reasonable steps to eliminate toxicity wherever possible and shall submit a report to Bureau of Materials Management and Compliance Assurance (Attn: Aquatic Toxicity) for the review and approval of the Commissioner in accordance with section 22a-430-3(j)(10)(c) of the RCSA describing proposed steps to eliminate the toxic impact of the discharge on the receiving water body. Such a report shall include a proposed time schedule to accomplish toxicity reduction and the Permittee shall comply with any schedule approved by the Commissioner.
- (C) The Permittee shall notify the Bureau of Materials Management and Compliance Assurance, Water Permitting and Enforcement Division, within 72 hours and in writing within thirty days of the discharge of any substance listed in the application, but not listed in the permit, if the concentration or quantity of that substance exceeds two times the level listed in the application.

## **SECTION 10: SPECIAL CONDITION**

- (A) With respect to Table A of the permit: For Aluminum, Iron, Lead, Oil & Grease, Total Suspended Solids, and Zinc, if the Permittee knows or has reason to believe that the concentration in the discharge exceeds the higher of the following: a) one hundred micrograms/liter, or b) a level two times the level specified in Application 201106187 (i.e., Application values are: Aluminum: 0.124 mg/L; Iron: 0.51 mg/L; Lead: 0.004 mg/L; Oil & Grease: 1.4 mg/L; Total Suspended Solids: 13 mg/L; Zinc: 0.006 mg/L), the Permittee shall notify the Director within 72 hours and in writing within 30 days describing the circumstances that resulted in such exceedence and any measures undertaken to prevent the future recurrence of such exceedence.

This permit is hereby issued on

\_\_\_\_\_  
MACKY MCCLEARY  
Deputy Commissioner

MM:CMG

#### APPENDIX A

| <b>TABLE 1: Testing Protocols for DSN 002 for:<br/>Mysidopsis bahia (48-hour acute and 7-day chronic tests)</b> |  |
|---|--|
| <b>Testing procedure</b>  | <i>Acute:</i> DEP standard toxicity test procedures, except as modified below.<br><i>Chronic:</i> EPA 821-R-02-014, except as modified below.  |
| <b>Test type</b>  | Static renewal   |
| <b>Salinity</b>   | >22 ppt  |
| <b>Temperature</b>  | 26 °C ± 1 °C. Test temperature must not deviate (i.e., maximum minus minimum temperature) by more than 3 °C during the test                    |
| <b>Light quality</b>  | Ambient laboratory illumination  |
| <b>Light intensity</b>  | 10-20µE/m <sup>2</sup> /s (50-100 ft-c)  |
| <b>Photoperiod</b>  | 16-h light, 8-h darkness, with phase in/out period   |
| <b>Test chamber</b>   | Glass or plastic (250 – 400 mL capacity) beakers   |
| <b>Test solution volume</b>   | 200 mL per replicate   |
| <b>Renewal of test solutions</b>  | Daily  |
| <b>Age of test organism</b>   | 7 days old   |
| <b>No. of test organisms per chamber</b>  | 5 per replicate test chamber   |
| <b>No of replicate test chambers per concentration</b>  | 8 (per effluent concentration), 8 (control water), 8 (dilution water)  |
| <b>No. larvae per concentration</b>   | 40   |
| <b>Source of food</b>   | Newly hatched <i>Artemia</i> nauplii (less than 24-h old)  |
| <b>Feeding regime</b>   | Feed 150 24h old nauplii per mysid daily, half after test solution renewal and half after 8-12 h   |
| <b>Cleaning test chambers</b>   | Pipette excess food daily, immediately before test solution renewal and feeding.   |
| <b>Aeration</b>   | None unless DO falls below 4.0 mg/l, then gently aerate all chambers.  |
| <b>Control/Dilution water</b>   | Laboratory control and Housatonic River water samples. Three separate collections must be made on the following days: Day 1, Day 3, and Day 5. |
| <b>Effluent</b>   | Composite sample collected at DSN 002. Three separate sample collections must be made on   |



| <b>TABLE 1: Testing Protocols for DSN 002 for:<br/><i>Mysidopsis bahia</i> (48-hour acute and 7-day chronic tests)</b> |   |
|--|---|
|  | the following days: Day 1, Day 3, and Day 5.  |
| <b>Test duration</b>   | <i>Acute:</i> 48 hours<br><i>Chronic:</i> 7 days  |
| <b>Endpoint</b>  | <i>Acute:</i> Survival<br><i>Chronic:</i> Survival, growth, and egg development   |
| <b>Test acceptability criteria</b>   | <i>Acute:</i> 90% survival in 48 hours.<br><i>Chronic:</i> 80% survival (averaged) in controls after 7 days. A minimum average dry weight of 0.6 mg per surviving organism in controls is required. Fecundity may be used if 50% of the females in the controls produce eggs.   |
| <b>Mortality observations</b>  | Each test chamber is examined for mortality at 24-h intervals. Dead individuals are removed and if any individuals are missing (via cannibalism) they are noted.  |
| <b>Physical- chemical measurements of solutions in test chambers</b>   | DO, temperature, salinity and pH of the effluent and control test solutions are measured at the beginning, at 24-h intervals, and at test termination. These parameters are measured prior to and after test solution renewals. Because of possible harm or stress to the test organisms with meter probes, these parameters are not measured in the test chambers while conducting the test; instead DO and pH measurements are made in separate surrogate chambers without test organisms, prepared from effluent and control water. The surrogate chambers are maintained similar to test chambers (i.e., daily solution renewals). At the end of the chronic test, after the number of live individuals has been determined, measure DO, temperature, salinity, and pH in all effluent and control test chambers. |
| <b>Physical-chemical measurements of effluent sample and control sample.</b>   | The parameters identified in Table A under “Monitoring Required with Toxicity Testing” are measured in each sample of DSN 002 and each Housatonic River sample.   |
| <b>Reference toxicant</b>  | Sodium dodecyl sulfate with an acute endpoint (48 hours) and a chronic endpoint (7 days).   |

#### APPENDIX A

| <b>TABLE 2: Testing Protocols for DSN 002 for:<br/><i>Cyprinodon variegatus</i> (48-hour acute and 7-day chronic tests)</b> |  |
|---|--|
| <b>Testing procedure</b>  | <i>Acute:</i> DEP standard toxicity test procedures, except as modified below.<br><i>Chronic:</i> EPA 821-R-02-014, except as modified below.                                    |
| <b>Test type</b>  | Static renewal   |
| <b>Salinity</b>   | >22 ppt  |
| <b>Temperature</b>  | 26°C ± 1   |
| <b>Light</b>  | Ambient laboratory illumination  |
| <b>Photoperiod</b>  | 16-h light, 8-h dark   |
| <b>Test chamber type</b>  | Glass or plastic (1000 mL capacity)  |
| <b>Test solution volume</b>   | 750 mL per replicate   |
| <b>Test solution renewal</b>  | Daily  |
| <b>Age of test organism</b>   | ≤24 hours  |
| <b>No. of test organisms</b>  | 10 per replicate test chamber  |
| <b>Replicates</b>   | 4 (per effluent concentration), 4 (dilution water), 4 (lab control water)  |
| <b>Source of food</b>   | Newly hatched (less than 24-h old) <i>Artemia</i> nauplii. Concentrate <i>Artemia</i> nauplii with a ≤ 150 um sieve mesh and rinse with seawater.                                |
| <b>Feeding regime</b>   | Feed once a day concentrated <i>Artemia</i> nauplii at a rate per replicate of 0.1 mL (2 drops) on days 0-2 and 0.15 mL (3 drops) on days 3–6. Feed after test solution renewal. |
| <b>Cleaning test chambers</b>   | Siphon excess food prior to test solution renewal.   |

| <b>TABLE 2: Testing Protocols for DSN 002 for:<br/><i>Cyprinodon variegatus</i> (48-hour acute and 7-day chronic tests)</b> |   |
|---|---|
| <b>Aeration</b>   | None, unless DO falls below 4.0 mg/l, then gently aerate all chambers   |
| <b>Control/Dilution water</b>   | Laboratory control and Housatonic River water samples. Three separate collections must be made on the following days: Day 1, Day 3, and Day 5.  |
| <b>Effluent</b>   | Composite sample collected at DSN 002. Three separate sample collections must be made on the following days: Day 1, Day 3, and Day 5.   |
| <b>Test duration</b>  | <i>Acute:</i> 48 hours<br><i>Chronic:</i> 7 days  |
| <b>Endpoint</b>   | <i>Acute:</i> Survival<br><i>Chronic:</i> Survival, growth  |
| <b>Test acceptability criteria</b>  | <i>Acute:</i> 90% survival in 48 hours<br><i>Chronic:</i> 80% survival (averaged) in controls after 7 days. A minimum average dry weight of 0.50 mg per organism (or 0.43 mg per organism in preserved samples) in laboratory controls is required.   |
| <b>Mortality observations</b>   | Each test chamber is examined for mortality at 24-h intervals. Dead individuals are removed and if any individuals are missing they are noted.  |
| <b>Physical- chemical measurements of solutions in test chambers</b>  | DO, temperature, salinity and pH of the effluent and control test solutions are measured at the beginning, at 24-h intervals, and at test termination. These parameters are measured prior to and after test solution renewals. Because of possible harm or stress to the test organisms with meter probes, these parameters are not measured in the test chambers while conducting the test; instead DO and pH measurements are made in separate surrogate chambers without test organisms, prepared from effluent and control water. The surrogate chambers are maintained similar to test chambers (i.e., daily solution renewals). At the end of the chronic test, after the number of live individuals has been determined, measure DO, temperature, salinity, and pH in all effluent and control test chambers. |
| <b>Physical-chemical measurements of effluent sample and control sample.</b>  | The parameters identified in Table A under “Monitoring Required with Toxicity Testing” are measured in each sample of DSN 002 and each Housatonic River sample.   |
| <b>Reference toxicant</b>   | Sodium dodecyl sulfate with an acute endpoint (48 hours) and a chronic endpoint (7 days).   |

## APPENDIX B

### ABBREVIATED ACUTE ATMR

|                  |                                |               |                            |
|------------------|--------------------------------|---------------|----------------------------|
| FACILITY NAME:   | <b><u>DEVON POWER LLC</u></b>  | DSN:          | <b><u>002-1</u></b>        |
| NPDES PERMIT:    | <b><u>CT0003107</u></b>        | WATERBODY ID: | <b><u>CT-C1 020-SB</u></b> |
| RECEIVING WATER: | <b><u>HOUSATONIC RIVER</u></b> |               |                            |

## SAMPLE INFORMATION:

|   |  |
|---|--|
| <b>Sample Type (Composite or Grab)</b>  |  |
| <b>Sample Collection Date(s)</b><br>[If composite sample, indicate start date and end date] |  |
| <b>Sample Collection Time(s)</b><br>[If composite sample, indicate start time and end time] |  |
| <b>Flow, Day of Sampling (in gpd)</b>   |  |

**PERMIT LIMIT/CONDITION:**

|               |                              |
|---------------|------------------------------|
| <b>LIMIT:</b> | <b>LC<sub>50</sub> ≥100%</b> |
|---------------|------------------------------|

**TOXICITY TEST SUMMARY:**

| TEST SPECIES                          | MYSIDOPSIS BAHIA |          | CYPRINODON VARIEGATUS |          |
|---------------------------------------|------------------|----------|-----------------------|----------|
|                                       | START DATE       | END DATE | START DATE            | END DATE |
| <b>TEST DATES</b>                     |                  |          |                       |          |
| <b>SURVIVAL IN 100%</b>               |                  | %        |                       | %        |
| <b>NOAEL</b>                          |                  | %        |                       | %        |
| <b>LC<sub>50</sub></b>                |                  | %        |                       | %        |
| <b>COMPLIANCE (Pass/Fail/Invalid)</b> |                  |          |                       |          |

**CERTIFICATION STATEMENT**

*I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

Authorized Official (Print Name): \_\_\_\_\_ Title: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**APPENDIX B (Continued)**

| PARAMETERS | EFFLUENT SAMPLE AT ARRIVAL | 100% TEST SAMPLE (SALINITY ADJUSTED)<br>MYSIDOPSIS BAHIA |            | 100% TEST SAMPLE (SALINITY ADJUSTED)<br>CYPRINODON VARIEGATUS |            | 0% TEST SAMPLE (CONTROL WATER)<br>MYSIDOPSIS BAHIA |            | 0% TEST SAMPLE (CONTROL WATER)<br>CYPRINODON VARIEGATUS |            |
|------------|----------------------------|--|------------|---|------------|--|------------|---|------------|
|            | DATE                       | INITIAL (00)   | FINAL (48) | INITIAL (00)  | FINAL (48) | INITIAL (00)                                       | FINAL (48) | INITIAL (00)  | FINAL (48) |
|            | TIME                       |  |            |   |            |  |            |   |            |
|            |                            |  |            |   |            |  |            |   |            |

|                                     |      |  |  |  |  |  |        |  |  |  |  |
|-------------------------------------|------|--|--|--|--|--|--------|--|--|--|--|
| Temperature                         | ° C  |  |  |  |  |  |        |  |  |  |  |
| pH                                  | SU   |  |  |  |  |  |        |  |  |  |  |
| Alkalinity                          | mg/L |  |  |  |  |  |        |  |  |  |  |
| Conductivity                        | µmos |  |  |  |  |  |        |  |  |  |  |
| Hardness                            | mg/L |  |  |  |  |  |        |  |  |  |  |
| Salinity                            | ppt  |  |  |  |  |  |        |  |  |  |  |
| Total Residual Chlorine             | mg/L |  |  |  |  |  |        |  |  |  |  |
| LABORATORY PERFORMING THE ANALYSIS: |      |  |  |  |  |  | DPH #: |  |  |  |  |

| PARAMETER                | UNITS | EFFLUENT<br>[AS COLLECTED] | EFFLUENT<br>[SALINITY ADJUSTED] | MINIMUM<br>QUANTIFI-<br>CATION<br>LEVEL |
|--------------------------|-------|----------------------------|---------------------------------|---|
|                          |       | DATE                       | DATE                            |   |
|                          |       |                            |                                 |   |
| Aluminum, Total          | mg/L  |                            |                                 | 0.01                                    |
| Alkalinity               | mg/L  |                            |                                 | 2.0                                     |
| Ammonia (as N)           | mg/L  |                            |                                 | 0.1                                     |
| Chlorine, Total Residual | µg/L  |                            |                                 | 20                                      |
| Copper, Total            | µg/L  |                            |                                 | 3                                       |
| Hardness                 | mg/L  |                            |                                 | 0.5                                     |
| Iron, Total              | mg/L  |                            |                                 |   |
| Kjeldahl Nitrogen        | mg/L  |                            |                                 |   |
| Lead, Total              | mg/L  |                            |                                 | 0.005                                   |
| Nickel, Total            | µg/L  |                            |                                 | 5                                       |
| Nitrate (as N)           | mg/L  |                            |                                 |   |
| Nitrite (as N)           | mg/L  |                            |                                 |   |
| Oil & Grease, Total      | mg/L  |                            |                                 |   |
| Oxygen, Dissolved        | mg/L  |                            |                                 |   |
| pH                       | SU    |                            |                                 |   |
| Propylene Glycol         | mg/L  |                            |                                 | 50                                      |
| Salinity                 | ppt   |                            |                                 |   |
| Specific Conductance     | µmhos |                            |                                 |   |
| Total Suspended Solids   | mg/L  |                            |                                 |   |
| Zinc, Total              | mg/L  |                            |                                 | 0.01                                    |

APPENDIX C  
**CHRONIC ATMR**

|                  |                         |               |                     |
|------------------|-------------------------|---------------|---------------------|
| FACILITY NAME:   | <b>DEVON POWER LLC</b>  |               |                     |
| NPDES PERMIT:    | <b>CT0003107</b>        | DSN:          | <b>002-1</b>        |
| RECEIVING WATER: | <b>HOUSATONIC RIVER</b> | WATERBODY ID: | <b>CT-C1_020-SB</b> |

**SAMPLE INFORMATION:**

|   |  |  |  |
|---|--|--|--|
| <b>Sample Type</b>  |  |  |  |
| <b>Sample Collection Date(s)</b><br>[If composite sample, indicate start date and end date] |  |  |  |
| <b>Sample Collection Time(s)</b><br>[If composite sample, indicate start time and end time] |  |  |  |
| <b>Flow, Day of Sampling (in gpd)</b>   |  |  |  |

**TOXICITY TEST SUMMARY:**

| TEST DATES                        | START DATE              |                  | END DATE          |                              | START DATE       |                   | END DATE |  |
|-----------------------------------|-------------------------|------------------|-------------------|------------------------------|------------------|-------------------|----------|--|
|                                   |                         |                  |                   |                              |                  |                   |          |  |
| TEST SPECIES                      | <b>MYSIDOPSIS BAHIA</b> |                  |                   | <b>CYPRINODON VARIEGATUS</b> |                  |                   |          |  |
|                                   | <b>100% EFFLUENT</b>    | <b>LAB WATER</b> | <b>SITE WATER</b> | <b>100% EFFLUENT</b>         | <b>LAB WATER</b> | <b>SITE WATER</b> |          |  |
| 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 (FECUNDITY)          | %                       | %                | %                 |                              |                  |                   |          |  |
| 7-DAY C-LOEC (FECUNDITY)          | %                       | %                | %                 |                              |                  |                   |          |  |
| <b>ACCEPTABILITY CRITERIA MET</b> |                         |                  |                   |                              |                  |                   |          |  |

**CERTIFICATION STATEMENT**

*I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

Authorized Official (Print Name): \_\_\_\_\_ Title: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**APPENDIX C**

| PARAMETER                | UNITS | EFFLUENT SAMPLE RESULTS |               |               | HOUSATONIC RIVER SAMPLE RESULTS |               |               | MINIMUM QUANTIFICATION LEVEL |
|--------------------------|-------|-------------------------|---------------|---------------|---------------------------------|---------------|---------------|------------------------------|
|                          |       | DATE ANALYZED           | DATE ANALYZED | DATE ANALYZED | DATE ANALYZED                   | DATE ANALYZED | DATE ANALYZED |                              |
| Aluminum, Total          | mg/L  |                         |               |               |                                 |               |               | 0.01                         |
| Alkalinity               | mg/L  |                         |               |               |                                 |               |               | 2.0                          |
| Ammonia (as N)           | mg/L  |                         |               |               |                                 |               |               | 0.1                          |
| Chlorine, Total Residual | µg/L  |                         |               |               |                                 |               |               | 20                           |
| Copper, Total            | µg/L  |                         |               |               |                                 |               |               | 3                            |
| Hardness                 | mg/L  |                         |               |               |                                 |               |               | 0.5                          |
| Iron, Total              | mg/L  |                         |               |               |                                 |               |               |                              |
| Kjeldahl Nitrogen        | mg/L  |                         |               |               |                                 |               |               |                              |
| Lead, Total              | mg/L  |                         |               |               |                                 |               |               | 0.005                        |
| Nickel, Total            | µg/L  |                         |               |               |                                 |               |               | 5                            |
| Nitrate (as N)           | mg/L  |                         |               |               |                                 |               |               |                              |
| Nitrite (as N)           | mg/L  |                         |               |               |                                 |               |               |                              |
| Oil & Grease, Total      | mg/L  |                         |               |               |                                 |               |               |                              |
| Oxygen, Dissolved        | mg/L  |                         |               |               |                                 |               |               |                              |
| pH                       | SU    |                         |               |               |                                 |               |               |                              |
| Propylene Glycol         | mg/L  |                         |               |               |                                 |               |               | 50                           |
| Salinity                 | ppt   |                         |               |               |                                 |               |               |                              |
| Specific Conductance     | µmhos |                         |               |               |                                 |               |               |                              |
| Total Suspended Solids   | mg/L  |                         |               |               |                                 |               |               |                              |
| Zinc, Total              | mg/L  |                         |               |               |                                 |               |               | 0.01                         |

Indicate the location where the dilution water sample was collected: (USGS coordinates or attach map): \_\_\_\_\_



Connecticut  
Department of  
**ENERGY &**

**NOTICE OF TENTATIVE DETERMINATION**

**INTENT TO RENEW A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT  
AND INTENT TO ISSUE A STATE PERMIT  
FOR THE FOLLOWING DISCHARGES INTO THE WATERS OF THE STATE OF CONNECTICUT**

**TENTATIVE DETERMINATION**

The Commissioner of Energy and Environmental Protection (“Commissioner”) hereby gives notice of a tentative determination to renew an existing permit and issue a new permit based on applications submitted by **DEVON POWER LLC** (“the applicant”) under Section 22a-430 of the Connecticut General Statutes (CGS) for a permit to discharge into the waters of the state.

In accordance with applicable federal and state law, the Commissioner has made a tentative determination that with respect to DSN 002, continuance of the existing system to treat the discharge would protect the waters of the state from pollution, and with respect to DSN 004, DSN 005, DSN 013, DSN 014, DSN 024, and DSN 055, continuance of the existing discharge would not cause pollution of the waters of the state. Therefore, the Commissioner proposes to renew the permit for the discharge into the Housatonic River.

In accordance with applicable federal and state law, the Commissioner has made a tentative determination that with respect to DSN 301, the proposed system to treat the discharge will protect the waters of the state from pollution. Therefore, the Commissioner proposes to issue the permit for the discharge into the groundwaters in the Housatonic River watershed.

The proposed permit, if issued by the Commissioner, will require that all wastewater be treated to meet the applicable effluent limitations and periodic monitoring to demonstrate that the discharges will not cause pollution.

The tentative determination to renew this permit also includes a tentative determination on DSN 002 regarding section 316(a) of the Federal Water Pollution Control Act, 33 U.S.C. § 1326(a) that this permit will assure the protection and propagation of a balanced indigenous population of shellfish, fish and wildlife in and on the receiving waters.

**APPLICANT'S PROPOSAL**

Devon Power LLC discharges the following wastestreams from its electric generating operations located in Milford (Devon), Connecticut into the Housatonic River: 1) Up to 432,000 gallons per day of wastewater to DSN 002, the discharge of which consists of treated process wastewaters associated with its electric generating operations; and 2) Fire suppression test water to DSN 004, DSN 005, DSN 013, DSN 014, DSN 024, and DSN 055. In addition, Devon Power LLC proposes to discharge up to 1,500 gpd of wastewater to DSN 301, the discharge of which consists of treated process wastewaters associated with its electric generating operations.

The name and mailing address of the permit applicant are: Devon Power LLC, 734 Naugatuck Avenue, Milford, Connecticut 06460.

The activity takes place at the following discharge locations:

|          |                          |                          |   |
|----------|--------------------------|--------------------------|---|
| DSN 002: | Latitude: 41 12' 45.22”; | Longitude: 73 06' 31.54” | [Approx. 2600' N of Moses Wheeler Bridge] |
| DSN 004: | Latitude: 41 12' 27.78”; | Longitude: 73 06' 29.50” | [120' S of station's discharge canal]     |

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[www.ct.gov/deep](http://www.ct.gov/deep)

*Affirmative Action/Equal Opportunity Employer*

DSN 005: Latitude: 41 12' 27.51"; Longitude: 73 06' 29.22" [160' S of DSN 002]  
DSN 013: Latitude: 41 12' 36.69"; Longitude: 73 06' 32.84" [860' S of DSN 002]  
DSN 014: Latitude: 41 12' 38.02"; Longitude: 73 06' 32.58" [752' S of DSN 002]  
DSN 024: Latitude: 41 12' 43.95"; Longitude: 73 06' 31.72" [120' S of DSN 002]  
DSN 055: Latitude: 41 12' 40.83"; Longitude: 73 06' 32.12" [420' S of DSN 002]

The proposed activity is within the coastal area as defined in CGS Section 22a-94. Pursuant to CGS Section 22a-98, the applicant must demonstrate that the activities are consistent with all applicable goals and policies in CGS Section 22a-92, and that such activities incorporate all reasonable measures mitigating any adverse impacts on coastal resources and future water-dependent development activities.

### **REGULATORY CONDITIONS**

**Type of Treatment:** DSN 002 & DSN 301: Oil/Water Separation; Equalization; pH Adjustment; Clarification; and Polishing

**Effluent Limitations:** This permit contains effluent limitations consistent with: 1) a Case-by-Case Determination using the criteria of Best Professional Judgment; 2) Section 22a-430-4(s) of the Regulations of Connecticut State Agencies; 3) *Water Quality Standards*, and will protect the waters of the state from pollution when all the conditions of this permit have been met.

In accordance with Section 22a-430-4(l) of the Regulations of Connecticut State Agencies, the permit contains effluent limitations for the following types of toxic substances: heavy metals.

### **COMMISSIONER'S AUTHORITY**

The Commissioner of Energy and Environmental Protection is authorized to approve or deny such permits pursuant to: (1) Section 402(b) of the Federal Water Pollution Control Act, as amended, 33 USC 1251, *et. seq.*; (2) Section 22a-430 of the CGS and the Water Discharge Permit Regulations (Section 22a-430-3 and 4 of the Regulations of Connecticut State Agencies); (3) Section 1421 of the Federal Safe Drinking Water Act 42 USC *et. seq.*

### **INFORMATION REQUESTS**

The application has been assigned the following numbers by the Department of Energy and Environmental Protection. Please use these numbers when corresponding with this office regarding these applications:

|                                  |                                |                                |
|----------------------------------|--------------------------------|--------------------------------|
| APPLICATION NO. <b>201106187</b> | PERMIT ID NO. <b>CT0003107</b> | FACILITY ID NO. <b>084-007</b> |
| APPLICATION NO. <b>201106189</b> | PERMIT ID NO. <b>SP0002444</b> | FACILITY ID NO. <b>084-007</b> |

Interested persons may obtain copies of the applications from: Les Ross, Devon Power LLC, 734 Naugatuck Avenue, Milford, Connecticut 06460, 203-783-6211.

The applications are available for inspection by contacting Christine Gleason at 860-424-3278, at the Department of Energy and Environmental Protection, Bureau of Materials Management and Compliance Assurance, 79 Elm Street, Hartford, CT, 06106-5127 from 8:30 - 4:30, Monday through Friday.

Any interested person may request in writing that his or her name be put on a mailing list to receive notice of intent to issue any permit to discharge to the surface waters of the state. Such request may be for the entire state or any geographic area of the state and shall clearly state in writing the name and mailing address of the interested person and the area for which notices are requested.

### **PUBLIC COMMENT**

Prior to making a final decision to approve or deny any application, the Commissioner shall consider written comments on the applications from interested persons that are received within 30 days of this public notice. Written comments should be directed to Christine Gleason, Bureau of Materials Management and Compliance Assurance, Department of Energy and Environmental Protection, 79 Elm Street, Hartford, CT, 06106-5127. The Commissioner may hold a public hearing prior to approving or denying an application if in the Commissioner's discretion the public interest will be best served thereby, and shall hold a hearing upon receipt of a petition signed by at least twenty-five persons. Notice of any public hearing shall be published at least 30 days prior to the hearing.



Petitions for a hearing should include the application numbers noted above and also identify a contact person to receive notifications. Petitions may also identify a person who is authorized to engage in discussions regarding the application and, if resolution is reached, withdraw the petition. Original petitions must be *mailed or delivered to*: DEEP Office of Adjudications, 79 Elm Street, 3rd floor, Hartford, 06106-5127. Petitions cannot be sent by fax or email. Additional information can be found at [www.ct.gov/dep/adjudications](http://www.ct.gov/dep/adjudications).

The Department of Energy and Environmental Protection is an affirmative action/equal opportunity employer and service provider. In conformance with the Americans with Disabilities Act, DEEP makes every effort to provide equally effective services for persons with disabilities. Individuals with disabilities who need this information in an alternative format, to allow them to benefit and/or participate in the agency's programs and services, should call 860-424-3035 or e-mail the ADA Coordinator at [DEP.aaoffice@CT.Gov](mailto:DEP.aaoffice@CT.Gov).

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OSWALD INGLESE, JR., Director  
Water Permitting and Enforcement Division  
Bureau of Materials Management and Compliance Assurance

Dated: 1/10/12