



Connecticut Department of  
**ENERGY &  
 ENVIRONMENTAL  
 PROTECTION**

**MINOR NPDES/SPDES PERMIT MODIFICATION**

issued to

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

**Facility ID:** 084-007

**Receiving Water Body:** Housatonic River  
 Groundwater

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

**Location Address:**

Devon Power LLC  
 734 Naugatuck Avenue  
 Milford, Connecticut 06461

**Permit ID:** CT0003107  
 SP0002444

**Permit Expires:** February 28, 2017

This minor permit modification is issued in accordance with Section 22a-430 of Chapter 446k, Connecticut General Statutes ("CGS"), Section 22a-430-4(p)(5) of the 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 a NPDES permit program.

**DEVON POWER LLC** ("Permittee") shall comply with all conditions of Permit Nos. CT0003107/SP0002444 issued on February 12, 2012 with the following modification:

*The "Test Acceptability Criteria" in Appendix A of the permit is corrected for a typographical error. The test acceptability criteria for Table 1 (Mysidopsis bahia) should state: "A minimum average dry weight of 0.2 mg per surviving organism in controls is required". The test acceptability criteria for Table 2 (Cypripinodon variegatus) should state: "A minimum average dry weight of 0.6 mg per surviving organism in controls is required". The revised Appendix A is attached. The revisions are in bold.*

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 that may be authorized under the Clean Water Act or the Connecticut General Statutes or regulations adopted thereunder, as amended. The permit as modified under this paragraph may also contain any other requirements of the Clean Water Act or Connecticut General Statutes or regulations adopted thereunder which are then applicable.

All other terms and conditions of Permit Nos. CT0003107/SP0002444 issued on February 29, 2012 shall continue in full force and effect.

This minor modification is hereby issued on *April 5, 2012.*

*Kim E. Hudak*

KIM E. HUDAK, Assistant Director

Bureau of Materials Management and Compliance Assurance

KEH:CMG

P:\NRG, Devon\NPDES & SPDES Permit Modification 1.doc

APPENDIX A

| <p align="center"><b>TABLE 1: Testing Protocols for DSN 002 for:<br/>Mysidopsis bahia (48-hour acute and 7-day chronic tests)</b></p> |   |
|---|---|
| Testing procedure   | <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.   |
| Test type   | Static renewal  |
| Salinity  | >22 ppt   |
| Temperature   | 26 °C ± 1 °C. Test temperature must not deviate (i.e., maximum minus minimum temperature) by more than 3 °C during the test   |
| Light quality   | Ambient laboratory illumination   |
| Light intensity   | 10-20µE/m <sup>2</sup> /s (50-100 ft-c)   |
| Photoperiod   | 16-h light, 8-h darkness, with phase in/out period  |
| Test chamber  | Glass or plastic (250 – 400 mL capacity) beakers  |
| Test solution volume  | 200 mL per replicate  |
| Renewal of test solutions   | Daily   |
| Age of test organism  | 7 days old  |
| No. of test organisms per chamber   | 5 per replicate test chamber  |
| No of replicate test chambers per concentration   | 8 (per effluent concentration), 8 (control water), 8 (dilution water)   |
| No. larvae per concentration  | 40  |
| Source of food  | Newly hatched <i>Artemia</i> nauplii (less than 24-h old)   |
| Feeding regime  | Feed 150 24h old nauplii per mysid daily, half after test solution renewal and half after 8-12 h  |
| Cleaning test chambers  | Pipette excess food daily, immediately before test solution renewal and feeding.  |
| Aeration  | None unless DO falls below 4.0 mg/l, then gently aerate all chambers.   |
| Control/Dilution water  | Laboratory control and Housatonic River water samples. Three separate collections must be made on the following days: Day 1, Day 3, and Day 5.  |
| Effluent  | Composite sample collected at DSN 002. Three separate sample collections must be made on the following days: Day 1, Day 3, and Day 5.   |
| Test duration   | <i>Acute:</i> 48 hours<br><i>Chronic:</i> 7 days  |
| Endpoint  | <i>Acute:</i> Survival<br><i>Chronic:</i> Survival, growth, and egg development   |
| Test acceptability criteria   | <i>Acute:</i> 90% survival in 48 hours.<br><i>Chronic:</i> 80% survival (averaged) in controls after 7 days. <b>A minimum average dry weight of 0.2 mg per surviving organism in controls is required.</b> Fecundity may be used if 50% of the females in the controls produce eggs.  |
| Mortality observations  | 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.  |
| Physical- chemical measurements of solutions in test chambers   | 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. |
| Physical-chemical measurements of effluent sample and control sample.   | 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.   |
| Reference toxicant  | Sodium dodecyl sulfate with an acute endpoint (48 hours) and a chronic endpoint (7 days).   |

APPENDIX A

**TABLE 2: Testing Protocols for DSN 002 for:  
*Cyprinodon variegatus* (48-hour acute and 7-day chronic tests)**

|  |   |
|--|---|
| <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>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. <b>A minimum average dry weight of 0.6 mg per surviving organism in controls is required.</b>   |
| <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).   |