

NPDES PERMIT

issued to

Capitol District Energy Center Cogeneration Associates
490 Capitol Avenue
Hartford, CT 06106

Location Address:

490 Capitol Avenue
Hartford, CT 06106

Facility ID: 064-205

Permit ID: CT0026522

Receiving Stream: Park River

Permit Expires: September 13, 2015

Stream Segment ID: CT4400-00_01

SECTION 1: GENERAL PROVISIONS

- (A) This permit is reissued in accordance with section 22a-430 of Chapter 446k, Connecticut General Statutes ("CGS"), and Regulations of Connecticut State Agencies ("RCSA") adopted thereunder, as amended, and section 402(b) of the Clean Water Act, 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 N.P.D.E.S. permit program.
- (B) **Capitol District Energy Cogeneration Associates**, ("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 subsection (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
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- (m) Effluent Limitation Violations (Upsets)
- (n) Enforcement
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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 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.

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, except for "No Observable

Acute Effect Level (NOAEL)" which is redefined below.

(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.

"Annual" in the context of Table B sampling frequency for 126 priority pollutants, shall mean the sample must be collected in the month of December.

"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.

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

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

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

"Dry Weather" means a climatic condition prior to which no precipitation or melt water has occurred for a period of at least two (2) consecutive days.

"Gr/d" means grams per 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 (IWC)" means the concentration of a discharge in the receiving water after mixing has occurred in the allocated zone of influence.

"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 Observable Acute Effect Level (NOAEL)" means any concentration equal to or less than the critical test concentration in a single concentration (pass/fail) toxicity test conducted pursuant to section 22a-430-3(j)(7)(A)(i) RCSA demonstrating 90% or greater survival of test organisms at the CTC.

"Quarterly", in the context of a sampling frequency, means sampling is required in the months of January, April, July and October.

"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.

"Range During Month" ("RDM"), as a sample type, means the lowest and the highest values of all of the monitoring data for the reporting month.

"µg/l" means micrograms per liter.

SECTION 3: COMMISSIONER'S DECISION

- (A) The Commissioner has issued a final determination and found that modification of the existing system or installation of a new system would protect the waters of the state from pollution. The Commissioner's decision is based on **Application No. 200900882** for permit reissuance, received on March 24, 2009 and the administrative record established in the processing of that application.
- (B) The Commissioner hereby authorizes the Permittee to discharge in accordance with the provisions of this permit, the above referenced application, and all approvals issued by the Commissioner or the Commissioner's authorized agent for the discharges and/or activities authorized by, or associated with, this permit.
- (C) 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.
- (D) This permit also includes a determination regarding section 316(a) of the federal Water Pollution Control Act 33 U.S.C. § 1326(a) regarding the thermal component of the discharge, and compliance with this permit is sufficient to assure the protection and propagation of a balanced indigenous population of shellfish, fish and wildlife in and on the receiving waters. This 316(a) determination is in Section 9 of this permit.

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 in this permit.
- (C) The temperature of any discharge shall not increase the temperature of the receiving stream above 85°F, or, in any case, raise the normal temperature of the receiving stream more than 4°F beyond the approved zone of influence.
- (D) There shall be no discharge of polychlorinated biphenyl (PCB) compounds such as those commonly used for transformer fluid, in accordance with 40 CFR 423.13(a).

SECTION 5: SPECIFIC EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

- (A) The discharges shall not exceed and shall otherwise conform to the specific terms and conditions listed below. The discharges are restricted by, and shall be monitored in accordance with, the tables below:

TABLE A (EFFECTIVE FROM THE DATE OF PERMIT ISSUANCE UNTIL 545 DAYS AFTER PERMIT ISSUANCE)

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

Wastewater Description: Cooling Tower Blowdown, Emergency Boiler Blowdown & Emergency Condensate Discharge.

Monitoring Location Description: Flow Monitoring Manhole

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level Test ³
		Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency ²	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency ²	Sample Type or measurement to be reported	
Cadmium, Total	mg/l	NA	----	Quarterly	Daily Composite ⁴	NA	NR	NA	*
Flow Average Daily ¹	gpd	64,000	NA	Quarterly	See Footnotes ⁴	NA	NR	NA	
Flow, Maximum Daily ¹	gpd	NA	293,100	Quarterly	See Footnotes ⁴	NA	NR	NA	
Chlorine, Free Available	mg/l	NA	NA	NR	NA	----	Quarterly	Grab ⁴	
Chlorine, Total Residual	mg/l	NA	NA	NR	NA	----	Quarterly	Grab ⁴	*
Chromium, Total	mg/l	NA	----	Quarterly	Daily Composite ⁴	NA	NR	NA	*
Copper, Total	mg/l	NA	----	Quarterly	Daily Composite ⁴	NA	NR	NA	*
Copper, Total	gr/d	NA	----	Quarterly	Daily Composite ⁴	NA	NR	NA	
Iron, Total	mg/l	NA	----	Quarterly	Daily Composite ⁴	NA	NR	NA	
Lead, Total	mg/l	NA	----	Quarterly	Daily Composite ⁴	NA	NR	NA	*
Nickel, Total	mg/l	NA	----	Quarterly	Daily Composite ⁴	NA	NR	NA	*
Oil petroleum, total recoverable	mg/l	NA	NA	NR	NA	----	Quarterly	Grab ⁴	
pH	S.U.	NA	NA	NR	NA	6.0-9.0	Quarterly	RDS ⁴	
pH, Continuous	S.U.	NA	NA	NR	NA	----	Continuous// Monthly	RDM	
Phosphorus	mg/l	----	----	Quarterly	Daily Composite ⁴	NA	NR	NA	
Temperature, Continuous	°F	NA	NA	NR	NA	103	Continuous//Monthly	RDM	
Total Suspended Solids	mg/l	NA	----	Quarterly	Daily Composite ⁴	NA	NR	NA	
Zinc, Total	mg/l	NA	----	Quarterly	Daily Composite ⁴	NA	NR	NA	*

Footnotes:

¹ For this parameter, the Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Average Daily Flow and the Maximum Daily Flow for each quarter.

² The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

³ Minimum Level Test refers to Section 6(A)(3) of this permit.

⁴ Samples must be obtained during dry weather conditions.

TABLE B (EFFECTIVE FROM THE DATE OF PERMIT ISSUANCE)

Discharge Serial Number: 001-A						Monitoring Location: 1			
Wastewater Description: Cooling Tower Blow down									
Monitoring Location Description: After Flow meter									
ZOI: 205,043 gph						IWC: 1.1%			
PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level Test ³
		Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency ²	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency ²	Sample Type or measurement to be reported	
Aquatic Toxicity, Daphnia Pulex ⁸	%	NA	LC ₅₀ >22 %	Quarterly	Daily Composite	LC ₅₀ >7.3%	NR	Grab	
Aquatic Toxicity, Pimephales Promelas ⁸	%	NA	LC ₅₀ >22 %	Quarterly	Daily Composite	LC ₅₀ >7.3%	NR	Grab	
Cadmium, Total	mg/l	0.04	0.06	Monthly	Daily Composite	NA	NR	NA	*
Chlorine, Free Available ^{6,7}	mg/l	NA	NA	NR	NA	0.2	Monthly	Grab	
Chlorine, Total Residual ^{6,7}	mg/l	NA	NA	NR	NA	0.52	Monthly	Grab	*
Chromium, Total	mg/l	0.2	0.2	Monthly	Daily Composite	NA	NR	NA	*
Copper, Total	mg/l	0.36	0.56	Monthly	Daily Composite	NA	NR	NA	*
Copper, Total	gr/d	77	121	Monthly	Daily Composite	NA	NR	NA	
Flow Average Daily ¹	gpd	57,000	NA	Monthly	See Footnotes	NA	NR	NA	
Flow, Maximum Daily ¹	gpd	NA	99,100	Monthly	See Footnotes	NA	NR	NA	
Iron, Total	mg/l	3.0	5.0	Monthly	Daily Composite	NA	NR	NA	
Lead, Total	mg/l	0.10	0.15	Monthly	Daily Composite	NA	NR	NA	*
Nickel, Total	mg/l	1.0	1.46	Monthly	Daily Composite	NA	NR	NA	*
Oil petroleum, total recoverable	mg/l	5.0	10.0	Monthly	Grab Sample Average ⁴	15.0	NR	Grab	
pH	S.U.	NA	NA	NR	NA	6.0-9.0	Monthly	RDS	
pH, Continuous	S.U.	NA	NA	NR	NA	6.0-9.0	Continuous// Monthly	RDM	
Phosphorus	mg/l	----	----	Monthly	Daily Composite	NA	NR	NA	
Total Suspended Solids	mg/l	20	30	Monthly	Daily Composite	45	NR	Grab	
Zinc, Total	mg/l	1.0	1.0	Monthly	Daily Composite	NA	NR	NA	*
126 Priority Pollutants (resulting from chemical additives for cooling tower maintenance) except chromium and zinc ⁵	mg/l	NA	NA	NR	NA	See Remark 'b'	Annually	Grab	

Footnotes:

¹ For this parameter, the Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Average Daily Flow and the Maximum Daily Flow for each month.

² The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

³ Minimum Level Test refers to Section 6(A)(3) of this permit.

⁴ Grab Sample Average for this discharge means the arithmetic average of all grab sample analyses. A minimum of three grab samples shall be collected over an operating day at equal intervals of no less than sixty (60) minutes.

⁵ See Section 7 (D) of this permit.

⁶ Chlorine use is limited to two hours per day and not more than one unit in any plant may discharge free available or total residual chlorine at any time unless the Department approves an alternative plan.

⁷ If chlorination is conducted during any day during a sampling week, the Permittee is required to conduct the Total Residual Chlorine (TRC) and Free Available Chlorine monitoring after chlorination on that day, immediately upon initiating the discharge. If no chlorination occurs during any specific sampling week, the permittee shall note this on the DMR.

⁸ The results of the Toxicity Tests shall be recorded in % on the DMR.

Remark:

- a) Refer to Section 6(C) for chronic toxicity requirements.
- b) No Detectable Amount (This shall be reported as 'Yes' in the DMR when in no detectable amount and as 'No' when in detectable amount).

TABLE C (EFFECTIVE FROM THE DATE OF PERMIT ISSUANCE UNTIL 545 DAYS AFTER PERMIT ISSUANCE)

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

Wastewater Description: Emergency boiler blowdown.

Monitoring Location Description: After flow meter

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level Test ³
		Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency ²	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency ²	Sample Type or measurement to be reported	
Aquatic Toxicity, Daphnia Pulex ⁴	%	NA	NA	NR	NA	----	Per Event	Grab	
Aquatic Toxicity, Pimephales Promelas ⁴	%	NA	NA	NR	NA	----	Per Event	Grab	
Cadmium, Total	mg/l	NA	NA	NR	NA	----	Per Event	Grab	*
Chlorine, Total Residual	mg/l	NA	NA	NR	NA	----	Per Event	Grab	*
Copper, Total	mg/l	NA	NA	NR	NA	----	Per Event	Grab	*
Chromium, Total	mg/l	NA	NA	NR	NA	----	Per Event	Grab	*
Flow, Total ¹	gpd	NA	50,000	Per Event	See Footnotes	NA	NR	NA	
Iron, Total	mg/l	NA	NA	NR	NA	----	Per Event	Grab	
Lead, Total	mg/l	NA	NA	NR	NA	----	Per Event	Grab	*
Nickel, Total	mg/l	NA	NA	NR	NA	----	Per Event	Grab	*
pH	S.U.	NA	NA	NR	NA	6.0-9.8	Per Event	Grab	
Phosphorus	mg/l	----	----	Per Event	NA	NA	Per Event	NA	
Oil petroleum, total recoverable	mg/l	NA	NA	NR	NA	20.0	Per Event	Grab	
Total Suspended Solids	mg/l	NA	NA	NR	NA	100	Per Event	Grab	
Zinc, Total	mg/l	NA	NA	NR	NA	----	Per Event	Grab	*

Footnotes:

¹ For this parameter, the permittee shall report the Maximum Daily Flow for each event.

² The first entry in this column is the ‘Sample Frequency’. If this entry is not followed by a ‘Reporting Frequency’ and the ‘Sample Frequency’ is more frequent than monthly then the ‘Reporting Frequency’ is monthly. If the ‘Sample frequency’ is specified as monthly, or less frequent, then the ‘Reporting Frequency’ is the same as the ‘Sample Frequency’.

³ Minimum Level Test refers to Section 6(A)(3) of this permit.

⁴ The results of the Toxicity Tests shall be recorded in % on the DMR.

TABLE D (EFFECTIVE FROM THE DATE OF PERMIT ISSUANCE)

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

Wastewater Description: Emergency Condensate Discharge.

Monitoring Location Description: After Flow meter

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level Test ³
		Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency ²	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency ²	Sample Type or measurement to be reported	
Aquatic Toxicity, Daphnia Pulex ⁴	%	NA	NA	NR	NA	----	Per Event	Grab	
Aquatic Toxicity, Pimephales Promelas ⁴	%	NA	NA	NR	NA	----	Per Event	Grab	
Cadmium, Total	mg/l	NA	NA	NR	NA	----	Per Event	Grab	*
Chlorine, Total Residual	mg/l	NA	NA	NR	NA	----	Per Event	Grab	*
Chromium, Total	mg/l	NA	NA	NR	NA	----	Per Event	Grab	*
Copper, Total	mg/l	NA	NA	NR	NA	----	Per Event	Grab	*
Flow, Total ¹	gpd	NA	144,000	Per Event	See Footnotes	NA	NR	NA	
Iron, Total	mg/l	NA	NA	NR	NA	----	Per Event	Grab	
Lead, Total	mg/l	NA	NA	NR	NA	----	Per Event	Grab	*
Nickel, Total	mg/l	NA	NA	NR	NA	----	Per Event	Grab	*
Oil petroleum, total recoverable	mg/l	NA	NA	NR	NA	20.0	Per Event	Grab	
Phosphorus	mg/l	----	----	NR	NA	NA	Per Event	NA	
pH	S.U.	NA	NA	NR	NA	6.0-9.8	Per Event	Grab	
Total Suspended Solids	mg/l	NA	NA	NR	NA	100.0	Per Event	Grab	
Zinc, Total	mg/l	NA	NA	NR	NA	----	Per Event	Grab	*

Footnotes:

¹ For this parameter, the permittee shall report the Maximum Daily Flow for each event.

² The first entry in this column is the ‘Sample Frequency’. If this entry is not followed by a ‘Reporting Frequency’ and the ‘Sample Frequency’ is more frequent than monthly then the ‘Reporting Frequency’ is monthly. If the ‘Sample frequency’ is specified as monthly, or less frequent, then the ‘Reporting Frequency’ is the same as the ‘Sample Frequency’.

³ Minimum Level Test refers to Section 6, Paragraph A(3) of this permit.

⁴ The results of the Toxicity Tests shall be recorded in % on the DMR.

TABLE E (EFFECTIVE 546 DAYS AFTER THE DATE OF PERMIT ISSUANCE, THIS TABLE SUPERSEDES AND REPLACES TABLE A)

Discharge Serial Number: 001-1					Monitoring Location: 1				
Wastewater Description: Cooling Tower Blowdown, & Emergency Condensate Discharge.									
Monitoring Location Description: Flow Monitoring Manhole									
PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level Test ³
		Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency ²	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency ²	Sample Type or measurement to be reported	
Cadmium, Total	mg/l	NA	-----	Quarterly	Daily Composite ⁴	NA	NR	NA	*
Flow, Average Daily ¹	gpd	64,000	NA	Quarterly	See Footnotes ⁴	NA	NR	NA	
Flow, Maximum Daily ¹	gpd	NA	243,100	Quarterly	See Footnotes ⁴	NA	NR	NA	
Chlorine, Free Available	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab ⁴	
Chlorine, Total Residual	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab ⁴	*
Chromium, Total	mg/l	NA	-----	Quarterly	Daily Composite ⁴	NA	NR	NA	*
Copper, Total	mg/l	NA	-----	Quarterly	Daily Composite ⁴	NA	NR	NA	*
Copper, Total	gr/d	NA	-----	Quarterly	Daily Composite ⁴	NA	NR	NA	
Iron, Total	mg/l	NA	-----	Quarterly	Daily Composite ⁴	NA	NR	NA	
Lead, Total	mg/l	NA	-----	Quarterly	Daily Composite ⁴	NA	NR	NA	*
Nickel, Total	mg/l	NA	-----	Quarterly	Daily Composite ⁴	NA	NR	NA	*
Oil petroleum, total recoverable	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab ⁴	
pH	S.U.	NA	NA	NR	NA	6.0-9.0	Quarterly	RDS ⁴	
pH, Continuous	S.U.	NA	NA	NR	NA	-----	Continuous// Monthly	RDM	
Phosphorus	mg/l	----	----	Quarterly	Daily Composite ⁴	NA	NR	NA	
Temperature, Continuous	°F	NA	NA	NR	NA	103	Continuous// Monthly	RDM	
Total Suspended Solids	mg/l	NA	-----	Quarterly	Daily Composite ⁴	NA	NR	NA	
Zinc, Total	mg/l	NA	-----	Quarterly	Daily Composite ⁴	NA	NR	NA	*

Footnotes:

¹ For this parameter, the Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Average Daily Flow and the Maximum Daily Flow for each quarter.

² The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

³ Minimum Level Test refers to Section 6(A)(3) of this permit.

⁴ Samples must be obtained during dry weather conditions.

- (1) All samples shall be comprised of only the wastewater described in these tables. Samples shall be collected prior to combination with receiving waters or wastewater of any other type, and after all approved treatment units, if applicable. All samples collected shall be representative of the discharge during standard operating conditions.
- (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 Environmental Protection personnel, the Permittee, or other parties.
- (3) The limits imposed on the discharges listed in this permit take effect on the issuance date of this permit, hence any sample taken after this date which, upon analysis, shows an exceedance of permit limits will be considered non-compliance.

The monitoring requirements begin on the date of issuance of this permit if the issuance date is on or before the 12th day of a month. For permits issued on or after the 13th day of a month, monitoring requirements begin the 1st day of the following month.

- (4) Effective 546 days after the date of permit issuance, Table C of section 5 of this permit is hereby no longer in effect and the Permittee is no longer authorized to discharge emergency boiler blowdown under this permit.

SECTION 6: SAMPLE COLLECTION, HANDLING AND ANALYTICAL TECHNIQUES

(A) Chemical Analysis

- (1) Chemical analyses to determine compliance with effluent limits and conditions established in this permit shall be performed using the methods approved pursuant to the 40 CFR 136 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. Chemicals which do not have methods of analysis defined in 40 CFR 136 shall be analyzed in accordance with methods specified in this permit.
- (2) All metals analyses identified in this permit shall refer to analyses for Total Recoverable Metal as defined in 40 CFR 136 unless otherwise specified.
- (3) The Minimum Levels specified below represent the concentrations at which quantification must be achieved and verified during the chemical analyses for the parameters identified in Section 5 Tables A, B, C and D. Analyses for these parameters must include check standards within ten percent of the specified Minimum Level or calibration points equal to or less than the specified Minimum Level.

<u>Parameter</u>	<u>Minimum Level</u>
Chlorine, total residual	20.0 ug/L
Cadmium	0.5 ug/L
Chromium	5.0 ug/L
Copper	5.0 ug/L
Lead	5.0 ug/L
Nickel	5.0 ug/L
Zinc	10.0 ug/L

- (4) The value of each parameter for which monitoring is required under this permit shall be reported to the maximum level of accuracy and precision possible consistent with the requirements of this section of the permit.
- (5) 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.

- (6) 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.

(B) Acute Aquatic Toxicity Test

- (1) Samples for monitoring of Aquatic Toxicity shall be collected and handled as prescribed in "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms" (EPA/821-R-02-012).
 - (a) Composite samples shall be chilled as they are collected. Grab samples shall be chilled immediately following collection. Samples shall be held at 4 degrees Centigrade 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) Chemical analyses of the parameters identified in Section 5 Tables B, C and D shall be conducted on an aliquot of the same sample tested for Aquatic Toxicity.
 - (i) At a minimum, pH, specific conductance, total alkalinity, total hardness, and total residual chlorine shall be measured in the effluent sample and, during Aquatic Toxicity tests, in the highest concentration of 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.
 - (ii) For tests with saltwater organisms that require salinity adjustment of the effluent, chemical analyses 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) Tests for Aquatic Toxicity shall be initiated within 24 hours of sample collection.
- (2) Monitoring for Aquatic Toxicity to determine compliance with the permit limit or condition on Aquatic Toxicity (invertebrate) above shall be conducted for 48-hours utilizing neonatal Daphnia pulex (less than 24-hours old)
- (3) Monitoring for Aquatic Toxicity to determine compliance with the permit limit or condition on Aquatic Toxicity (vertebrate) above shall be conducted for 48-hours utilizing larval Pimephales promelas (1-14 days old with no more than 24-hours range in age).
- (4) Tests for Aquatic Toxicity shall be conducted as prescribed for static non-renewal acute tests in "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms" (EPA/821-R-02-012), except as specified below.
 - (a) Definitive (multi-concentration) testing, with LC50 as the endpoint, shall be conducted to determine compliance with limits on Aquatic Toxicity and monitoring conditions and shall incorporate, at a minimum, the following effluent concentrations:
 - (i) For Aquatic Toxicity Limits expressed as LC50 values of 33% or greater: 100%, 75%, 50%, 25%, 12.5%, and 6.25%

- (ii) For Aquatic Toxicity Limits expressed as LC50 values between 15% and 33% and for monitoring only conditions: 100%, 50%, 25%, 12.5%, and 6.25%
- (iii) For Aquatic Toxicity Limits expressed as LC50 values of 15% or less: 100%, 50%, 25%, 12.5%, 6.25%, and 3%

- (b) Organisms shall not be fed during the tests.
- (c) Copper nitrate shall be used as the reference toxicant in tests with freshwater organisms.
- (d) Synthetic freshwater prepared with deionized water adjusted to a hardness of 50 mg/L (plus or minus 5 mg/L) as CaCO3 shall be used as dilution water in tests with freshwater organisms.

(5) Compliance with limits on Aquatic Toxicity shall be determined as follows:

- (a) For limits expressed as a minimum LC50 value, compliance shall be demonstrated when the results of a valid definitive Aquatic Toxicity test indicates that the LC50 value for the test is greater than the Aquatic Toxicity Limit.

(C) The Permittee shall annually monitor the chronic toxicity of the DSN 001-A (Table B) in accordance with the following specifications.

- (1) Chronic toxicity testing of the discharge shall be conducted annually during July, August, or September of each year.
- (2) Chronic toxicity testing shall be performed on the discharge in accordance with the test methodology established in “Short term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms” (EPA-821-R-02-013) as referenced in 40 CFR 136 for Cerio daphnia survival and reproduction and Fathead Minnow larval survival and growth.
- (3) Chronic toxicity tests shall utilize a minimum of five effluent dilutions prepared using a dilution factor of 0.5 (100% effluent, 50% effluent, 25 % effluent, 12.5 % effluent, 6.25 % effluent, 0 % effluent).
- (4) Park 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.
- (5) A laboratory water control consisting of synthetic freshwater prepared in accordance with EPA-821-R-02-013 at a hardness of 50±5 mg/l shall be included in the test protocol in addition to the site-water control.
- (6) Daily composite samples of the discharge and grab samples of the Park River for use as site water control and dilution water shall be collected on: day 0, for test solution renewal on day 1 and day 2 of the test; day 2, for test solution renewal on day 3 and day 4 of the test; and day 4, 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.
- (7) All samples of the discharge and the Park River water used in the chronic toxicity test shall, at a minimum, be analyzed and results reported in accordance with the provisions listed in Section 6(A) of this permit for the following parameters:

pH	Copper (Total recoverable and dissolved)
Hardness	Nickel (Total recoverable and dissolved)
Alkalinity	Nitrogen, Ammonia (total as N)
Conductivity	Nitrogen, Nitrate (Total as N)

Chlorine, (Total residual)
Phosphorus (total)

Solids, Total Suspended
Zinc, (Total recoverable and dissolved)

SECTION 7: 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. The report shall also include a detailed explanation of any violations of the limitations specified. The DMR shall be received at this address by the last day of the month following the month in which samples are collected.

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

- (B) Complete and accurate aquatic toxicity test data, including percent survival of test organisms in each replicate test chamber, LC50 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 if compliance with a limit on Aquatic Toxicity is based on toxicity limits based on actual flows described in Section 7, shall be entered on the Aquatic Toxicity Monitoring Report form (ATMR) and sent to the Bureau of Water Protection and Land Reuse at the following address. The ATMR shall be received at this address by the last day of the month following the month in which samples are collected.

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

- (C) If this permit requires monitoring of a discharge on a calendar basis (e.g. Monthly, quarterly, etc.), but a discharge has not occurred within the frequency of sampling specified in the permit, the Permittee must submit the DMR and ATMR, as scheduled, indicating "NO DISCHARGE". For those Permittees whose required monitoring is discharge dependent (e.g. per batch), the minimum reporting frequency is monthly. Therefore, if there is no discharge during a calendar month for a batch discharge, a DMR must be submitted indicating such by the end of the following month.
- (D) For any table above that requires the monitoring of 126 priority pollutants listed in Appendix A of 40 CFR Part 423 with the exception of Chromium and Zinc, the Permittee may, in lieu of analyzing for these pollutants, certify in a cover letter attached to the DMR annually (in December) that they are in compliance with the approved engineering report which includes calculations demonstrating that the regulated pollutants are not detectable in the final discharge by the analytical methods in 40 CFR Part 136 or other alternative method specifically approved in writing by the Commissioner.

SECTION 8: 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: Water Permitting and Enforcement Division) 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 9: COMPLIANCE SCHEDULE

- (A) On or before one hundred and eighty (180) days after the date of issuance of this permit, the Permittee shall submit for the Commissioner's review and written approval, a scope of study for the thermal verification, phosphorus concentration reduction to the greatest extent feasible and emergency boiler blowdown elimination required in Section 9(B). The scope of study shall provide all necessary details on how the study will be done and shall include a schedule that identifies study commencement and completion dates.
- (B) On or before three hundred (300) days after the issuance of this permit, the Permittee shall conduct studies to 1) verify that the thermal component of DSN 001-1 is consistent with Connecticut Water Quality Standards and does not result in impairment of designated uses in the Park River and Connecticut River; 2) reduce the phosphorus concentration in DSN 001-1 to the greatest extent feasible; and 3) eliminate the emergency boiler blowdown discharge (DSN 001-B). The Permittee shall submit the report describing the results of these studies for the Commissioner's review and written approval.
 - (1) For the thermal study, the study shall include but not be limited to thermal plume mapping reflecting the current outfall release cross-sectional area. The thermal plume mapping shall include, at a minimum:
 - (a) a map of the nearfield area, at a scale acceptable to the Commissioner, giving details of the dimensions of the Park River tunnel from the point of discharge to the confluence with the Connecticut River. The cross sectional bathymetry of the Park River shall be plotted;
 - (b) thermal isotherms delineating the areal extent of the plume equivalent to a delta T of 1.5°F and a maximum temperature of 83°F. Isotherms shall be labeled for both maximum temperature and maximum temperature increase beginning at the outfall and at delta 1.5 °F intervals. Isotherms should be labeled from point of discharge until the thermal component of that plume has been reduced to ambient temperatures. Nearfield temperature increases should be well documented to determine the localized effect of high temperature discharges.
 - (2) For the phosphorus concentration reduction, the Permittee shall identify sources of phosphorus in their discharges and propose Best Management Practices to reduce or eliminate the substance from the discharge. The Best Management Practices shall:
 - (a) evaluate alternative actions to achieve compliance with Section 9(B) including, but not limited to, pollutant source reduction, process changes/innovations, chemical substitutions, recycle and zero discharge systems, water conservation measures, and other internal and/or end-of-pipe treatment technologies;
 - (b) state in detail the most expeditious schedule for performing each alternative;
 - (c) list all permits and approvals required for each alternative, including but not limited to any

permits required under sections 22a-32, 22a-42a, 22a-342, 22a-361, 22a-368 or 22a-430 of the Connecticut General Statutes;

- (d) propose a preferred alternative or combination of alternatives with supporting justification; and
- (e) propose a detailed program and schedule to perform all actions required by the preferred alternative including but not limited to a schedule for submission of engineering plans and specifications on any internal and/or end of pipe treatment facilities, start and completion of any construction activities related to any treatment facilities, and applying for and obtaining all permits and approvals required for such actions.

(3) For the emergency boiler blowdown elimination, the study shall:

- (a) evaluate alternative actions to achieve compliance with Section 9(B) including, but not limited to, recycle and zero discharge systems, water conservation measures, and re-direction of the discharge to the municipal sanitary sewer system;
- (b) state in detail the most expeditious schedule for performing each alternative;
- (c) list all permits and approvals required for each alternative, including but not limited to any permits required under sections 22a-32, 22a-42a, 22a-342, 22a-361, 22a-368 or 22a-430 of the Connecticut General Statutes;
- (d) propose a preferred alternative or combination of alternatives with supporting justification; and
- (e) propose a detailed program and schedule to perform all actions required by the preferred alternative including but not limited to a schedule for submission of engineering plans and specifications on any internal and/or end of pipe treatment facilities, start and completion of any construction activities related to any treatment facilities, and applying for and obtaining all permits and approvals required for such actions.

(C) The Permittee shall submit to the Commissioner semi-annual status reports beginning sixty days after the date of approval of the report referenced in Section 9(B) above. Status reports shall include, but not be limited to, a summary of all effluent monitoring data collected by the Permittee during the previous 180 day period and a detailed description of progress made by the Permittee in performing actions required by this section of the permit in accordance with the approved schedule including, but not limited to, development of engineering plans and specifications, construction activity, contract bidding, operational changes, preparation and submittal of permit applications, and any other actions specified in the program approved pursuant to paragraph (A) of this section.

(D) The Permittee shall perform the approved actions in accordance with the approved schedule, but in no event shall the approved actions be completed later than 545 days after the date of issuance of this permit. Within fifteen days after completing such actions, the Permittee shall certify to the Commissioner in writing that the actions have been completed as approved.

(E) The Permittee shall use best efforts to submit to the Commissioner all documents required by this section of the permit in a complete and approvable form. If the Commissioner notifies the Permittee that any document or other action is deficient, and does not approve it with conditions or modifications, it is deemed disapproved, and the Permittee shall correct the deficiencies and resubmit it within the time specified by the Commissioner or, if no time is specified by the Commissioner, within thirty days of the Commissioner's notice of deficiencies. In approving any document or other action under this Compliance Schedule, the Commissioner may approve the document or other action as submitted or performed or with such conditions or modifications as the Commissioner deems necessary to carry out the purposes of this section of the permit. Nothing in this paragraph shall excuse noncompliance or delay.

(F) Dates. The date of submission to the Commissioner of any document required by this section of the permit shall be the date such document is received by the Commissioner. The date of any notice by the Commissioner under

this section of the permit, including but not limited to notice of approval or disapproval of any document or other action, shall be the date such notice is personally delivered or the date three days after it is mailed by the Commissioner, whichever is earlier. Except as otherwise specified in this permit, the word "day" as used in this section of the permit means calendar day. Any document or action which is required by this section only of the permit, to be submitted, or performed, by a date which falls on, Saturday, Sunday, or, a legal Connecticut or federal holiday, shall be submitted or performed on or before the next day which is not a Saturday, Sunday, or legal Connecticut or federal holiday.

- (G) Notification of noncompliance. In the event that the Permittee becomes aware that it did not or may not comply, or did not or may not comply on time, with any requirement of this section of the permit or of any document required hereunder, the Permittee shall immediately notify the Commissioner and shall take all reasonable steps to ensure that any noncompliance or delay is avoided or, if unavoidable, is minimized to the greatest extent possible. In so notifying the Commissioner, the Permittee shall state in writing the reasons for the noncompliance or delay and propose, for the review and written approval of the Commissioner, dates by which compliance will be achieved, and the Permittee shall comply with any dates that may be approved in writing by the Commissioner. Notification by the Permittee shall not excuse noncompliance or delay, and the Commissioner's approval of any compliance dates proposed shall not excuse noncompliance or delay unless specifically so stated by the Commissioner in writing.
- (H) Notice to Commissioner of changes. Within fifteen days of the date the Permittee becomes aware of a change in any information submitted to the Commissioner under this section of the permit, or that any such information was inaccurate or misleading or that any relevant information was omitted, the Permittee shall submit the correct or omitted information to the Commissioner.
- (I) Submission of documents. Any document, other than a discharge monitoring report, required to be submitted to the Commissioner under this section of the permit shall, unless otherwise specified in writing by the Commissioner, be directed to:

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

This permit is hereby issued on September 14, 2010.

AMEY W. MARRELLA
Amey W. Marrella
Commissioner