



STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
& ENVIRONMENTAL CONTROL
DIVISION OF AIR & WASTE MANAGEMENT

AIR QUALITY MANAGEMENT
SECTION

156 S. STATE STREET
DOVER, DELAWARE 19901

TELEPHONE: (302) 739 - 9402
FAX No.: (302) 739 - 3106

August 28, 2008

Permit: APC-2003/0273-OPERATION(Amendment 2)

Kent County Levy Court
One (1) 1,000 kW Distributed Generator with SCR

Kent County Waste Water Treatment Plant (WWTP)
139 Milford Neck Road
Milford, DE 19963

ATTENTION: James J. Newton, P. E.
Environmental Program Manager

Dear Mr. Newton:

Pursuant to the State of Delaware Regulation No. 1102, Section 2, approval by the Department of Natural Resources and Environmental Control (the Department) is hereby granted for the operation of one (1) 1,000 kW Cummins Power Generation distributed generator Model Number 1000 DFHD fired on No. 2 fuel oil (diesel) or Biodiesel fuel oil and equipped with Miratech SCR Unit [Model AB-111405-A], located at the Kent County Waste Water Treatment Facility in Frederica, Delaware, in accordance with the applications submitted on Form No. AQM-2 dated November 26, 2002, and supplementary data submitted on December 23, 2002 and January 2, 2003, the letter dated August 1, 2003, all signed by James Newton, Environmental Program Manager, the letter dated March 29, 2004, the follow-up letter dated May 13, 2004 both signed by Hans Medlarz, Public Works Director, the application for permit amendment submitted on Form No. AQM-4 dated May 27, 2004, signed by James Newton, Environmental Program Manager, the letter dated November 4, 2004 signed by Hans Medlarz, Public Works Director, and the permit amendment application submitted on Form No. AQM-2 dated January 15, 2006, signed by James J. Newton, P. E., Environmental Program Manager.

This permit is issued subject to the following conditions:

1. General Provisions

- 1.1 Representatives of the Department may, at any reasonable time, inspect this facility.
- 1.2 This permit may not be transferred to another location or to another piece of equipment or process.
- 1.3 This permit may not be transferred to another person, owner, or operator unless the transfer has been approved in advance by the Department. Approval (or disapproval) of the permit transfer will be provided by the Department in writing. A request for a permit transfer shall be received by the Department at least thirty (30) days before the date of the requested permit transfer. This request shall include:

Delaware's Good Nature Depends on You!

PRINTED ON
RECYCLED PAPER

Permit: APC-2003/0273-OPERATION (Amendment 2)

Kent County Waste Water Treatment Plant (WWTP)

Frederica Facility

August 28, 2008

Page 2

- 1.3.1 Signed letters from each person stating the permit transfer is agreeable to each person; and
- 1.3.2 An Applicant Background Information Questionnaire pursuant to 7 Del.C, Chapter 79 if the person receiving the permit has not been issued any permits by the Department in the previous five (5) years.
- 1.4 The owner or operator shall not initiate construction, install, or alter any equipment or facility or air contaminant control device which will emit or prevent the emission of an air contaminant prior to submitting an application to the Department pursuant to Regulation No. 1102, and, when applicable Regulation No. 1125, and receiving approval of such application from the Department; except as exempted in Regulation No. 1102 Section 2.2.

2. Emission Limitations

- 2.1 Air contaminant emission levels shall not exceed those specified in the State of Delaware "**Regulations Governing the Control of Air Pollution**" and the following:
 - 2.1.1 Volatile Organic Compound (VOC) Emissions
VOC emissions shall not exceed 0.38 pounds per hour and 0.38 tons per twelve (12) month rolling period.
 - 2.1.2 Nitrogen Oxide (NO_x) Emissions
NOX emissions shall not exceed 1.97 pounds per hour and 1.95 tons per twelve (12) month rolling period.
 - 2.1.3 Carbon Monoxide (CO) Emissions
CO emissions shall not exceed 1.63 pounds per hour and 1.61 tons per twelve (12) month rolling period.
 - 2.1.4 Sulfur Oxide (SO_x) Emissions
SOx emissions shall not exceed 2.42 pounds per hour and 2.40 tons per twelve (12) month rolling period.
 - 2.1.5 Particulate Matter (PM) Emissions
PM emissions shall not exceed 0.3 pound per million BTU heat input, maximum 2-hour average; 0.24 pounds per hour; and 0.24 tons per twelve (12) month rolling period.
 - 2.1.6 Emission Standards
The distributed generator shall meet the following emission standards: 4.0 lb/MWh of NO_x; 1.9 lb/MWh of Nonmethane Hydrocarbons; 0.7 lb/MWh of Particulate Matter; 10.0 lb/MWh of CO; and 1,900 lb/MWh of Carbon Dioxide. These emission standards of Condition 2.1.6 do not apply while operating the distributed generator to provide emergency electric power during an emergency as defined in Regulation No. 1144, Section 2.0.
- 2.2 No person shall cause or allow the emission of visible air contaminants and/or smoke from a stationary or mobile source, the shade or appearance of which is greater than twenty (20%) percent opacity for an aggregate of more than three (3) minutes in any one (1) hour or more than fifteen (15) minutes in any twenty-four (24) hour period.

Permit: APC-2003/0273-OPERATION (Amendment 2)

Kent County Waste Water Treatment Plant (WWTP)

Frederica Facility

August 28, 2008

Page 3

- 2.3 Odors from this source shall not be detectable beyond the plant property line in sufficient quantities such as to cause a condition of air pollution.

3. Operational Limitations

- 3.1 The owner or operator shall comply with the following operational limits:
- 3.1.1 The Company shall combust only No. 2 fuel oil (diesel) or Biodiesel fuel oil in the distributed generator.
 - 3.1.2 Each shipment of diesel fuel or a Biodiesel blend, received for use in the generator on or after April 11, 2006, shall have a Sulfur content equal to or less than 0.05% by weight.
 - 3.1.3 No emergency or distributed generator shall be used during testing or for maintenance purposes before 5 PM on a day which has a Ground Level Ozone Pollution Forecast or Particle Pollution Forecast of "Code Red" or "Code Orange" as announced by the Department.
 - 3.1.4 The owner or operator shall operate the generator and the Selective Catalytic Reduction (SCR) Unit in accordance with the manufacturers' specifications and good air pollution control practices.
 - 3.1.5 The generator shall not operate unless the associated Selective Catalytic Reduction Unit (SCR) is operating and functioning properly.
 - 3.1.6 The operating hours for the generator shall not exceed 1,980 in any rolling twelve (12) month period.
 - 3.1.7 A non-resettable hour metering device shall be used by the owner to continuously monitor the monthly and rolling twelve (12) month operating hours for the generator.
 - 3.1.8 The Company shall follow the manufacturer's schedule for replacing the catalyst.
 - 3.1.9 The Analysis-Controlled Injection System (ACIS) shall continuously monitor post-catalyst exhaust gases for NOx and automatically adjust Urea solution injection rates for maximum control efficiency.
- 3.2 At all times, including periods of startup, shutdown, and malfunction, the owner or operator shall, to the extent practicable, maintain and operate the facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating procedures are being used will be based on information available to the Department which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.
- 3.3 All structural and mechanical components of the equipment or process covered by this Permit shall be maintained in proper operating condition.

Permit: APC-2003/0273-OPERATION (Amendment 2)
Kent County Waste Water Treatment Plant (WWTP)
Frederica Facility

August 28, 2008

Page 4

4. Testing and Monitoring Requirements

- 4.1 The Department reserves the right to require that the owner or operator perform emission tests using methods approved in advance by the Department.
- 4.2 The Company shall monitor visible emissions from the stack once a day, when the generator is operating.
 - 4.2.1 If visible emissions are not normal, the Company shall identify and correct the cause(s) of the opacity within forty-eight (48) hours.
 - 4.2.2 The Company shall monitor visible emissions following any corrective actions taken in Condition 4.2.1.
 - 4.2.3 If visible emissions monitored in Condition 4.2.2 are not normal, a Modified Reference Method 9 visible emissions test shall be conducted for a minimum of one (1) hour in accordance with Regulation No. 20, Section 1.5(c).
 - 4.2.4 The Company shall repeat actions required by Conditions 4.2.2 and 4.2.3 until the excess emissions are eliminated.
- 4.3 To ensure continuing compliance with the emissions limitations of Condition 2.1.6, the owner or operator shall verify a distributed generator's compliance with the emission standards every five (5) years. This verification may be accomplished by following a maintenance schedule that the manufacturer certifies will ensure continued compliance with the required standards, by third party testing of the distributed generator using appropriate test methods to demonstrate that the distributed generator still meets the required emission standards, or by some other means as proven to the Department.
- 4.4 Any such testing to reverify the generator via third party testing as specified in Condition 4.3 shall be conducted using the applicable EPA Reference Methods, California Air Resources Board Methods, or equivalent test methods approved by the Department.
- 4.5 Sulfur limits pursuant to Condition 3.1.2 or any third party laboratory testing as stated in Condition 5.2.6 shall be determined using the applicable sampling and testing methodologies set forth in 40 CFR 80.580 (July 1, 2004).

5. Record Keeping Requirements

- 5.1 The owner or operator shall maintain all records necessary for determining compliance with this permit in a readily accessible location for five (5) years and shall make these records available to the Department upon written or verbal request.
- 5.2 The following information shall be recorded, initialed and maintained in a log book:
 - 5.2.1 The hours of operation of the generator.
 - 5.2.2 Any maintenance performed on the generator and ancillary equipment.
 - 5.2.3 Monthly and rolling twelve (12) month totals shall be compiled each month for fuel oil usage by the generator.

- 5.2.4 Monthly and rolling twelve (12) month totals shall be compiled each month for hours of operation of the generator.
- 5.2.5 For each shipment of diesel oil or Biodiesel received for use in the generator, the Company shall maintain a shipping receipt and certification from the distributor which identifies:
 - 5.2.5.1 The type of fuel delivered.
 - 5.2.5.2 The percentage Sulfur in the fuel (by weight, dry basis), and the method used to determine the Sulfur content.
- 5.2.6 As an alternative to Condition 5.2.5, the Company may have the fuel in the generator's fuel tank certified by a third party laboratory, after each shipment of liquid fuel. This certification shall identify:
 - 5.2.6.1 The type of fuel delivered.
 - 5.2.6.2 The percentage Sulfur in the fuel (by weight, dry basis), and the method used to determine the Sulfur content.
- 5.3 The rolling twelve (12) month total emissions shall be calculated and recorded each month in a log for each of the following pollutants:
 - 5.3.1 Volatile Organic Compounds.
 - 5.3.2 Nitrogen Oxides.
 - 5.3.3 Carbon Monoxide.
 - 5.3.4 Sulfur Oxides.
 - 5.3.5 Particulate Matter.
- 5.4 A log shall be kept indicating the presence or absence of visible emissions and details of corrective actions and/or visible emissions testing per Condition 4.2. Certifications of personnel conducting visible emissions observations per EPA Reference Method 9 shall be maintained.

6. Reporting Requirements

- 6.1 Emissions in excess of any permit condition or emissions which create a condition of air pollution shall be reported to the Department immediately upon discovery by calling the Environmental Emergency Notification and Complaint number, (800) 662-8802.
- 6.2 In addition to complying with condition 6.1 of this permit, any reporting required by 7 Del C §6028 "**Reporting of Discharge of a Pollutant or an Air Contaminant**", and any other reporting requirements mandated by the State of Delaware, the owner or operator shall for each occurrence of excess emissions, within thirty (30) calendar days of becoming aware of such occurrence, supply the Department in writing with the following information:


- 6.2.1 The name and location of the facility;
 - 6.2.2 The subject source(s) that caused the excess emissions;
 - 6.2.3 The time and date of the first observation of the excess emissions;
 - 6.2.4 The cause and expected duration of the excess emissions;
 - 6.2.5 For sources subject to numerical emission limitations, the estimated rate of emissions (expressed in the units of the applicable emission limitation) and the operating data and calculations used in determining the magnitude of the excess emissions; and
 - 6.2.6 The proposed corrective actions and schedule to correct the conditions causing the excess emissions.
- 6.3 One (1) original and one (1) copy of all required reports shall be sent to the address below:

Air Quality Management Section
Division of Air and Waste Management
156 South State Street
Dover, DE 19901

7. Administrative Conditions

- 7.1 This permit supercedes **Permit: APC-2003/0273-CONSTRUCTION(Amendment 2)**, dated April 4, 2006.
- 7.2 This permit shall be made available on the premises.
- 7.3 Failure to comply with the provisions of this permit may be grounds for suspension or revocation.

Sincerely,



Paul E. Foster, P.E.
Program Manager
Engineering & Compliance Branch