

COMMONWEALTH OF PENNSYLVANIA

Department of Environmental Protection

May 9, 2012

Phone: 814/332-6940

Fax: 814/332-6117

**SUBJECT:** Renewal review memorandum – GenOn Power Midwest, LP  
previously Orion Power Midwest LP  
Taylor Township, Lawrence County

**TO:** File: AQ/ facilities/ Fac OP/ TV- 37-00023  
APS 345079, Master Auth ID 735256, Auth ID # 884541

**FROM:** Kallol Bhattacharyya *kbh*  
Permit Writer  
Air Quality Program  
Northwest Regional Office

**THROUGH:** Matthew M. Williams *mw*  
Facilities Permitting Chief  
Air Quality Program  
Northwest Regional Office

John F. Guth *JFG*  
Program Manager  
Air Quality Program  
Northwest Regional Office

**Introduction**

The previous renewal Title V permit for the facility was issued on January 23, 2007. This permit was amended on August 5, 2008. The permit expires on December 31, 2011.

This memorandum is made for the review of the application for the renewal of the Title V permit.

The facility generates electricity by steam power made from coal fired boilers and the steam is supplied to steam-turbines. The facility transmits the power to the consumers.

***SIC Code: 4911 Transmission & Utilities Electric Services.***

In this renewal permit the facility added two new sources 1) One auxiliary boiler and 2) Diesel emergency generators (2). These sources were previously located at the facility and exempt from plan approval but were not previously listed in the Source Level of the permit.

The updated sources are, 1) Babcock & Wilcox Boiler 3, 2) Babcock & Wilcox Boiler 4, 3) Babcock & Wilcox Boiler 5, 4) Electromotive diesel A, 5) Electromotive diesel B, 6)

Renewal Title V permit of GenOn Power Midwest LP.

Coal Stockpile, 7) Bottom / Fly-ash disposal, 8) Plant Roadways, , 9) Fly-ash storage silos, 10). Auxiliary Boiler, 11) Two diesel emergency generators and, 12) Pars washer.

**Minor modification of Source names:**

The facility suggested the name changes as follows (these changes were made for clarity of the controls / fuel material identified in the permit):

C033A: SNCR for Boiler 3  
C034A: SNCR for Boiler 4  
C035A: SNCR for Boiler 5  
C06: 500 ton silo, Bag-house 1  
C07: 500 ton silo, Bag-house 2  
C08: 900 ton silo, Bag-house 1  
C09: 900 ton silo, Bag-house 2  
FML1: Coal, Syn-fuel and PRB Coal Pile

**Addition of a new condition:**

In the permit application the facility requested the addition of the following condition to the Alternative operation requirement section of the permit for Boilers #033, #034 and #035. Through an e-mail letter dated May 16, 2011, Mr. Matthew Williams requested Ms. Michelle Dolfi of the facility submits the following proposal so that the Department could incorporate the new condition in the renewal permit. The following condition has added in Section F of the permit to the Sources #033,#034 and #035 under 25 Pa. Code §127.441.

The added condition states that “Because the permittee operates the SNCR system as a discretionary pollution control device (per Condition Section F #005(b) below), performance of a stack testing program referenced in Condition Section F#002 (a) above is not required if the permittee does not operate the SNCR system within 18 months immediately prior to the expiration date of this permit. The permittee shall maintain sufficient records to document the operational status of the SNCR system. These records will be provided to the Department upon request.”

**RICE MACT is not applicable to Electromotive Diesels:**

As per 40 CFR §63.6590 (b) (3) (iv) the sources #036 and #037: Electromotive Diesel Generators A & B are not subject to 40 CFR Part 63, Subpart ZZZZ. “The generator will run less than 100 hours per year per unit to demonstrate as limited use engine” this condition has included in sources level under 25 Pa. Code §127.511.

## **RICE MACT applied to Two Emergency Diesel Generators**

The following RICE MACT 40 CFR Part 63 Subpart ZZZZ: National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines applied to 5 Emergency Diesel Generators.

40 CFR §63.6675: Definitions.

40 CFR §63.6590 (a) –Indicating the source is an existing source

40 CFR §63.6595(a) (1) Listing the compliance date for the existing engine

40 CFR §63.6605(a), (b) Listing the General Requirements for complying with this Subpart

40 CFR §63.6602 and Table 2c Explaining the oil/filter, air filter, hoses, and belts inspections and changes

40 CFR §63.6625 (e), (f), (h), (i) Operating the units according to manufacturer's emissions written related instructions, installing a non-resettable hour meter, minimizing startup time of the engine, and specifications for oil changes

40 CFR §63.6640 (a), Table 6, (b), (e), (f) Continuous compliance by meeting Table 2c work practice requirements, Table 6 – item #9 work practice requirements, reporting instances where Table 2c was not met, complying with the General Provisions of Part 63 in Table 8, as applicable, operating the unit less than 50 hours (except during emergency operation) for less during non-emergency use, and operating the units less than 100 hours per year for maintenance.

40 CFR §63.6650 (f) Reporting all deviations of this subpart in accordance with the TVOP semiannual monitoring report.

40 CFR §63.6655 (a)(2),(5), (d), (e)(2), and (f)(1) Records of malfunctions and corrective actions, records of operating according to the manufacturer's emission related operating instructions or developing a maintenance plan of the emission related operating practices, maintenance records, and record of hours operated.

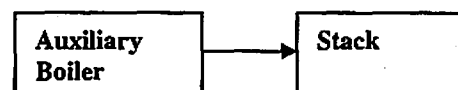
40 CFR 63.6660 (a), (b), and (c) Format of the records and how long they are kept

40 CFR 63.6665, Table 8 – General Provisions of the Subpart

### **New Sources Added:**

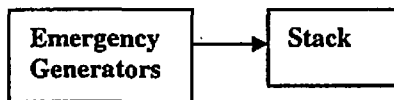
**Source ID #030:** consists of Auxiliary Boiler of capacity 8.2 MMBTU/hr. This source has exempted from plan approval as per plan approval exemption list #3 because the capacity of this Boiler is less than 10 MMBtu/Hr. The emission of total suspended particulate matter is restricted by 25 Pa. Code §123.11. The emission of oxides of sulfur is restricted by 25 Pa. Code §123.22.

### **Flow Diagram:**



**Source ID #106:** consists of two emergency generators. #1-4, Emergency generator is rated 48 HP and #5, generator is rated 96 HP. The generators produce electricity when required. Two generators have engaged to supply electricity on demand for pumps and lighting. Each diesel generator is operated for 30 minutes approximately per month for maintenance. This source has exempted from plan approval as per plan approval exemption list §127.14(a) (8), (5) & 7 the internal combustion engine is less than 100 brake horse power. This source is subject to RICE MACT. The applicable conditions for these two engines were mentioned previously in the memo.

***Flow Diagram:***



**Proposed Utility MACT:**

EPA recently published the proposed utility MACT. The Utility MACT proposal is available now in web site [www.epa.gov](http://www.epa.gov). Any applicable finalized regulations under The Utility MACT will be included in the permit after the issuance of final draft. If the Utility MACT requirements are not finalized within the comment period of this permit, any applicable requirements will be included in the permit at a later date.

**CAIR Replaced CSAPR:**

All CSAPR conditions have replaced by CAIR conditions in Boilers sources. The recent CSAPR requirements that were included in the first draft of the permit have been removed and the CAIR requirements have been added back into the permit to reflect the current regulations and because of a Federal Court rule on December 30, 2011 that ruled the EPA must delay implementation of the pending CSAPR regulations. The CSAPR requirements will be incorporated into the permit at a later date if they are reinstated.

The Following CAIR conditions have included to all three Boilers, Source #030, #033 and #035:

- 40 CFR §97.106: NOx annual emissions requirements.
- 40 CFR §97.206: SO2 Annual emissions requirements.
- 40 CFR §97.306: NOx Ozone season emission requirements.
- 25 Pa Code §145.204: Federal requirements by reference.
- 25 Pa. Code §145.202: Emission reduction credit provisions.
- 25 Pa. Code §145.212: CAIR NOx allowance allocations.
- 25 Pa. Code §145.213: Supplement monitoring, recordkeeping and reporting.
- 25 Pa. Code §145.222: CAIR NOx Ozone season allowance allocations.

The standard conditions of continuous emission monitoring system and continuous opacity monitoring system has been included in Boilers group level and the frequency of testing has changed from 5 years to 2 years as per the write up named, "Evaluation of total particulate matter emissions from coal-fired electric generation units, Final report" by Mr. George D. Parrish, Chief, Division of Testing and Monitoring.

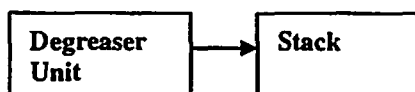
**New insignificant activities:**

Grinding equipment, sand blaster and welding equipment are included in the miscellaneous section as insignificant activities because the operations are used for maintenance purpose and as per trivial activities list #18 and #21 the sources are insignificant.

**New Source added:**

**Source ID # 107:** consists of degreaser unit. The capacity of this degreaser is more than 2 gallons and the VOC content in the solvent is more than 5%. Thus, this source is subject to 129.63(a) and an emitting source.

***Flow Diagram:***



**Incorporation of Standard CEM and Stack testing Requirements:**

The Department conducted an evaluation of Total Particulate Matter Emissions from Coal-Fired Electric Generating Units in 2009 and compiled the findings of the final report in the December 22, 2010 document prepared by Gregory D. Parrish. Based on the study, the Department determined that to collect accurate total particulate test data under optimal operating conditions using similar test methods required testing using Method 5 for FPM and Method 028 for CPM. The Department developed standardized testing requirements for these units regarding the test protocol, the schedule of the testing, notifying the Department, conducting the testing, reporting the results, and repeat testing at least every two years. These requirements have been included in the draft revised operating permit.

In addition to the standardized testing conditions, the Department developed the framework for standardized CEM requirements. These requirements have also been included in the revised draft operating permit. The testing requirements and CEM requirements can be found in Group 6 of the permit.

### **Comments- Answers:**

On February 6, 2012 the Department has received an e-mail comment from Mr. John Shimshock of GenOn Power on renewal Title V of GenOn Power Midwest LP, New Castle plant and the comment-answers are described hereunder:

Pages # 7, 34: Source ID #106: Two emergency generators fueled by one 500 gallons diesel oil tank. FML2 (Fuel material location) means Diesel fuel oil has used as a fuel and the map will remain the same.

Page 35, Source ID #107: Parts washer: I added the sentence "Remote reservoir cold cleaning machine" after Parts washer as requested by you. §129.63(a) (1) will be removed as requested by you.

Pages 40, 41, 43, 46, 48, 49, 52, 53: All CSAPR conditions have been replaced by the current CAIR conditions.

Page 45, 55 Boilers and Electromotive Diesels: §127.511 (d) has included as, "The use of any appropriate ASTM (or other certified) method for determining the sulfur content in the fuel oil is acceptable to the Department, as long as the facility are using one of the standards (or equivalent) that are referenced in CFR 40 CFR Part 60.17."

Page #46: The Department has revised the typographical error "Department's".

Page 59 to 65: Source ID #036 and #037: Electromotive Diesels: Please note that all conditions of 40 CFR Part 63, Subpart ZZZZ have removed except §63.6590(b) (3) (iv).

Page: 69, Source ID #106: Two Diesel emergency generators: §40 CFR 63.6640 (f) (i) and (ii) has included because those are applicable conditions. Page: 76: §63.6590(a) (1) (i) has removed and §63.6590(a) (1) (ii) will be added.

Page89, Miscellaneous section H: (h) (6) has revised. The Department changed the name to Mr. Kenneth Sanders.

The Department has added a condition under §127.511 in Source ID #036 and #037: Electromotive Diesel generators that, "The facility shall use the Electromotive Diesel generators less than 100 hours per year to demonstrate that the generators are used as limited use stationary RICE as defined in 40 CFR §63.6675.

## **Acid Rain permit memorandum:**

This renewal application is for GenOn Power Midwest – New Castle Power Plant, which is an electric generating station. The original Acid Rain permit was issued on December 24, 1997, and revised on January 13, 1999. The Acid Rain permit was re-issued on January 23, 2003 and on December 4, 2007. The current Acid Rain Permit expires on December 31, 2012. In order to have the TVOP renewal and the Acid Rain Permit expiration dates coincide, the Acid Rain Permit is being renewed at this time. This renewal permit will be effective between, January 2012 to December 31, 2016. The allowances were updated to reflect the allocations for 2012, through 2016 as reflected in 40 CFR Section 73.10(b) Table 2 (phase II Allowances). This permit reflects a NOx averaging plan for the boilers rather than an annual average that was established in the first permit.

The Acid Rain permit requirements are contained in condition #030 of Group 1 for Source 033, 034, and 035 of the Operating permit. The heading for the condition references the regulatory authority (25 Pa. Code Section 127.531- Special Conditions related to acid rain). The operating permit is being modified to include the new acid rain permit, which is incorporated by reference and attached to the operating permit. No other changes are being made to the operating permit at this time.

### **Site:**

- SIC: 4911
- ORIS: 3138
- Years covered: 2012 - 2016
- Sources:
  - Unit #3 (Source 033)
  - Unit #4 (Source 034)
  - Unit #5 (Source 035)
- Conditions:
  - SOx allowance:
    - Unit #3: 2,848 tpy for 2012-2016
    - Unit #4: 2607 tpy for 2012-2016
    - Unit #5: 4,522 tpy 2012-2016
  - NOx allowance (annual average alternative contemporaneous emission limit):
    - Unit #3:
      - 0.5 lb./mmbtu
      - 4,220,000 mmbtu annual heat input
    - Unit #4:
      - 0.5 lb./mmbtu
      - 3,860,000 mmbtu annual heat input
    - Unit #5:
      - 0.5 lb./mmbtu

- 6,510,000 mmbtu annual heat input
- Notes:
  - Units #1 & #2 are not included in this permit because they are shutdown. They are not part of the Phase II NOx averaging plan. They still receive SOx allowances as follows:
    - Unit #1: 621 tpy for 2012-2016
    - Unit #2: 692 tpy 2012-2016
  - Units #3, #4, & #5 instead of maintaining the emission and heat input limits above, they can in accordance with 40 CFR Section 76.11(d)(1)(ii)(A), calculate the actual Btu-weighted annual average NOx emission rate for the units in the plan and calculate the Btu-weighted annual average NOx emission rate for the same units had they each been operated, during the same period of time, in compliance with the applicable emission limitations under 40 CFR 76.5, 76.6, or 76.7, except that for any early election units, the applicable emission limitations shall be under 40 CFR 76.7. To be in compliance, the actual Btu-weighted annual average NOx emission rate for the units in the plan shall be less than or equal to the Btu-weighted annual average NOx emission rate for the same units had they each been operated, during the same period of time, in compliance with the applicable emission limitations under 40 CFR 76.5, 76.6, or 76.7, except that for any early election units, the applicable emission limitations shall be under 40 CFR 76.7.

This permit application was submitted to the Department on November, 2011. The permit was published in the newspaper on February 9, 2012, and in the PA Bulletin on December 31, 2011, for the 30-day public comment period. The draft permit was also sent electronically to the US EPA (Mr. Himanshu Vyas) on December 13, 2011. The comment period for the EPA expired on January 30, 2012. The comment period was extended to an additional 30 days from the newspaper notice dates of publication. The only comments received were from Sierra Club. These comments were received on January 30<sup>th</sup> 2012 by email followed by hard copy received on February 2, 2012. The response to those comments is contained in the letter mailed to Ms. Kathryn Amirpashaie outside counsel for the Sierra club. The changes made to the permit from the draft included replacing CSAPR with CAIR, adding the Utility MACT 40 CFR 63 Subpart UUUUU and addition of standardized CEM requirements and testing requirements including more frequent testing for particulate matter.

I recommend the re-issuance of this Title V Operating Permit and the Acid Rain permit.

*All other Source, Site level conditions and the memorandum of the Title V permit is the same as the previous permit with Auth ID # 850700*

*After conducting a permit renewal inspection with Mr. Lawrence Vogel on November 3, 2011, I recommend the reissuance of this permit.*