pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

MEMO

TO File AQ/FAC/RACT/32-000-059
APS # 1002529 Auth #1349234 PF # 559131

FROM Hubert Thomas Flaherty – HTF 9/30/21
New Source Review
Air Quality Program

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DATE September 30, 2021

RE Review of Application for RACT II
Keystone Conemaugh Project – Conemaugh Generating Station
Title V Operating Permit No. 32-00059
West Wheatfield Township, Indiana County

RACT II:
RACT II final rulemaking was published in the *Pa. Bulletin* on April 23, 2016. In accordance with 25 Pa. Code 129.96(a), RACT II is applicable to the owner and operator of a major NO_x and/or VOC emitting facility that were in existence on or before July 20, 2012.

Keystone Conemaugh Project – Conemaugh Generation Station (Conemaugh) is a major stationary source of NO_x & VOCs and was in existence before July 20, 2012. As such, in accordance with 25 Pa. Code §129.96, this facility is subject to the Department's RACT II requirements under §§129.97-129.100.

On August 27, 2020, the U.S. Third Circuit Court of Appeals issued an opinion in *Sierra Club v. EPA*, 3d. Cir. No. 19-2562 ("Sierra Club") vacating and remanding three aspects of the U.S. Environmental Protection Agency's (EPA) May 19, 2019 approval of DEP's 2016 RACT II rule to reduce ozone pollution from coal-fired power plants (84 FR 20274). Sierra Club challenged EPA's approval of the RACT II Rule's oxides of nitrogen (NO_x) emission limit for coal-fired power plants with selective catalytic reduction (SCR) pollution controls; the inlet operating temperature threshold for power plants to operate SCR pollution controls; and operating temperature data recordkeeping and reporting requirements. The Court found EPA's approval of these three provisions of the RACT II Rule were not supported by the administrative record. As a result, the Court vacated EPA's approval of these three provisions and remanded them back to the agency for further action. The vacated portion of the RACT II Rule affects Conemaugh facility.

As a result of the Court's decision in Sierra Club, DEP is required to address RACT II requirements for existing coal-fired combustion units with SCR systems. DEP determined that the best method to do this is through requiring the owner or operator of each unit affected by the Court's decision to case-by-case RACT determinations in accordance with the procedures in §129.92(a)(1)—(5) and (b), which includes a top-down analysis.

DEP sent the letter to Keystone Conemaugh Project LLC on November 20, 2020, to submit case-by-case RACT II determinations that satisfy 25 Pa. Code § 129.99 (relating to alternative RACT proposal and petition for alternative compliance schedule) requirements by April 1, 2021. Conemaugh submitted the case by case RACT determination to DEP on April 1, 2021. Subsequently on April 14, 2021, Conemaugh submitted a significant operating permit modification application. DEP will incorporate the final RACT determinations with associated conditions into Conemaugh's Title V operating permit. RACT determinations incorporated into the Title V operating permit will be submitted to EPA as a state implementation plan revision.

The RACT II Application contained sources subject to alternative RACT proposal. The facility RACT II application addresses four (4) sources subject to an alternative RACT proposal for NO_x pursuant to §129.99(b) and no sources subject to an alternative RACT proposal for VOC pursuant to §129.99(c). This review consists of only the alternate RACT proposal from 25 PA Code 129.99.

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Source	Source Name	Rating	NO_x	VOC
031	Main Boiler 1 (PC, 8,280 mmbtu/hr)	8,280 mmbtu/hr	Alternate (case-by-case)	N/A
032	Main Boiler 2 (PC, 8,280 mmbtu/hr)	8,280 mmbtu/hr	Alternate (case-by-case)	N/A
039	Aux Boiler A (211.5 mmbtu/hr, Startup Boiler)	211.5 mmbtu/hr	Alternate (case-by-case)	N/A
041	Aux Boiler B (212.5 mmbtu/hr)	212.5 mmbtu/hr	Alternate (case-by-case)	N/A

Notes:

- Source 031 & 032 fired with bituminous coal with natural gas for startup and as needed supplemental firing.
- Source 039 & 041 fired with natural gas

Alternative RACT Proposal and Petition for Alternative Compliance Schedule:
In accordance with §129.99(d)(1), the facility shall submit a written RACT proposal in accordance with the procedures in §129.92(a)(1)-(5), (7)-(10) and (b).

From 25 Pa. Code 129.99(a), the facility may propose an alternative RACT requirement or RACT emission limitation in accordance with subsection (d). The facility proposed the following:

- Source 031 & 032: NO_x emission limit of 850 lb/hr based on a rolling 30-day average.
- Source 039 & 041: NO_x emission limit of less than or equal to 0.22 lb/mmbtu and less than or equal to 13.3 tpy based on a 12-month rolling total.

RACT (12-29-94)

- This approval is for the modified RACT Plan for Pennsylvania Electric Company's Conemaugh Generating Station, West Wheatfield Township, Indiana County and incorporates by reference the

requirements of Plan Approval 32-306-010A issued for the installation of air cleaning devices (LNCFS Level 3) on Units 1 and 2. [Condition 3]
- The auxiliary boiler units A and B shall be operated at a capacity factor of no more than 10% and maintained in accordance with manufacturers' specifications. [Condition 4]
- Penelec shall maintain an operating log for the auxiliary boilers to verify that the annual capacity limit of Condition #4 above is not exceeded. [Condition 5]
- NO_x (nitrogen oxides as NO_2) emissions from each main unit shall not exceed 0.45 lb/mm BTU based on a 30-day rolling average. [Condition 9]

RACT (8-5-99)
- Operation of Auxiliary Units A and B shall not exceed a 10% annual capacity factor. These units shall be operated and maintained in accordance with manufacturers' specifications, and good air pollution control and engineering practices. [Condition 4]
- The permittee shall maintain an operating log, including records of hours of operation, fuel consumption, fuel type, and typical fuel analysis, to verify compliance with Condition 4. [Condition 8]
- For the purpose of establishing NO_x (Nitrogen Oxides, expressed as NO_2) potential to emit (PTE) only, the following shall apply to sources at the facility: Main Unit #1 – 15,524.0 tpy; Main Unit #2 – 15,524.0 tpy; Auxiliary Boiler A – 18.6 tpy; & Auxiliary Boiler B – 12.7 tpy. [Condition 9]
- Emissions of NO_x (nitrogen oxides, expressed as NO_2) from each of the Main Units #1 and #2 shall not exceed 0.45 pounds NO_2 per million BTU, based on a thirty (30) day rolling average. [Condition 10]

RACT (4-28-00)
- Operation of Auxiliary Units A and B shall not exceed a 10% annual capacity factor. These units shall be operated and maintained in accordance with manufacturers' specifications, and good air pollution control and engineering practices. [Condition 4]
- The permittee shall maintain an operating log, including records of hours of operation, fuel consumption, fuel type, and typical fuel analysis, to verify compliance with Condition 4. [Condition 8]
- For the purpose of establishing NO_x (Nitrogen Oxides, expressed as NO_2) potential to emit (PTE) only, the following shall apply to sources at the facility: Main Unit #1 – 15,524.0 tpy; Main Unit #2 – 15,524.0 tpy; Auxiliary Boiler A – 18.6 tpy; & Auxiliary Boiler B – 12.7 tpy. [Condition 9]
- Emissions of NO_x (nitrogen oxides, expressed as NO_2) from each of the Main Units #1 and #2 shall not exceed 0.45 pounds NO_2 per million BTU, based on a thirty (30) day rolling average. [Condition 10]

NO_x Analysis:

Existing NO_x Control Technologies for Source 031 & Source 032:
- Low NO_x Burner (LNB) with SOFA 1 & 2– C05 & C06
- Selective Catalytic Reduction (SCR) with Aqueous Ammonia Injection – C07 & C08
- Flue Gas Desulfurization (FGD) – C03 & C04 (SO_x control)
- Sorbent Injection System – C101 & C102

Existing NO_x Control Technologies for Source 039 & Source 041:
- None

Additional NO_x Control Technologies:

- Precombustion Controls:
  - Switching to Natural Gas
  - Switching from high to low emitting or zero emitting units
- Combustion Controls:
  - Partial or full oxyfiring
  - Oxygen enhanced combustion
  - LNB installation
  - LNB Optimization
  - LNB Upgrade
  - Flue Gas Recirculation (FGR)
  - Separated overfired air
  - Rotating opposed fire air
- Post Combustion Controls:
  - Addition of SCR
  - SCR Optimization
  - Economizer Bypass during low load, startup, and shutdown to allow SCR operation
  - V-temp economizer during low load, startup, and shutdown to allow SCR operation
  - Flue gas reheat during low load, startup, and shutdown to allow SCR operation
  - Dry sorbent injection prior to SCR during low load conditions to allow SCR operation
  - Addition of Selective Non-Catalytic Reduction (SNCR)
  - SNCR Optimization
  - Return of partially operating SCR and SNCR systems to full operation
- Station Wide Improvements:
  - Installation/improvement of digital process controls on equipment to minimize NOx emissions and detect equipment in need to maintenance
  - Improved/increased equipment cleaning and maintenance practices

Evaluation of Technical Feasibility for Sources 031 & 032:
See Conemaugh Review Memo September 28, 2021 from Vince Pascucci; Naishadh Bhatt; & Viren Trivedi for a detailed RACT analysis review using a top-down approach for the following additional NO_x control technologies:

- Precombustion Controls:
  - Switching to Natural Gas
  - Switching from high to low emitting or zero emitting units
- Combustion Controls:
  - Oxygen enhanced combustion
  - LNB installation
  - LNB Optimization
  - LNB Upgrade
  - Flue Gas Recirculation (FGR)
  - Rotating opposed fire air
- Post Combustion Controls:

- Addition of SCR
- SCR Optimization
- Economizer Bypass during low load, startup, and shutdown to allow SCR operation
- V-temp economizer during low load, startup, and shutdown to allow SCR operation
- Flue gas reheat during low load, startup, and shutdown to allow SCR operation
- Dry sorbent injection prior to SCR during low load conditions to allow SCR operation
- Addition of Selective Non-Catalytic Reduction (SNCR)
- SNCR Optimization

The Department agrees with the facility's analysis using a top-down approach for the following additional NO_x control technologies:

- Combustion Controls:
  - Partial or full oxyfiring
  - Separated overfired air
- Post Combustion Controls:
  - Return of partially operating SCR and SNCR systems to full operation
- Station Wide Improvements:
  - Installation/improvement of digital process controls on equipment to minimize NOx emissions and detect equipment in need to maintenance
  - Improved/increased equipment cleaning and maintenance practices

Based on the review of the additional NO_x control technologies, none of the additional NO_x control technologies were feasible.

Evaluation of Technical Feasibility for Sources 039 & 041:

- Combustion Controls:
  - Low excess air firing
  - Burner modification
  - Water/Steam Injection
  - Flue Gas Recirculation (FGR)
- Post Combustion Controls:
  - Addition of Selective Non-Catalytic Reduction (SNCR)
  - Addition of SCR

The Department agrees with the facility's technical feasibility analysis for the following additional NO_x control technologies:

- Combustion Controls:
  - Low excess air firing
  - Burner modification - feasible
  - Water/Steam Injection
  - Flue Gas Recirculation (FGR) - feasible
- Post Combustion Controls:
  - Addition of Selective Non-Catalytic Reduction (SNCR)
  - Addition of SCR

Ranking of technically feasible control options:

- Option 1: FGR @ 4.5% recirculation rate
- Option 2: FGR @ 15% recirculation rate with new forced draft (FD) fan
- Option 3: FGR @ 15% recirculation rate with new forced draft (FD) fan and LNB

Cost Effectiveness:
Source 039

Control Option	Proposed NO_x (#/mmbtu)	NO_x before control (tpy)	Controlled NO_x (#/mmbtu)	NO_x after control (tpy)	Emission reductions (tpy)	Annualized Costs ($/yr)	Cost Effectiveness reduced ($/ton)
1	0.135	12.5	0.100	9.26	3.24	62,817	19,388
2	0.135	12.5	0.050	4.63	7.87	107,017	13,598
3	0.135	12.5	0.036	3.34	9.16	192,329	20,997

Note: Proposed NO_x is current limit

Source 041

Control Option	Proposed NO_x (#/mmbtu)	NO_x before control (tpy)	Controlled NO_x (#/mmbtu)	NO_x after control (tpy)	Emission reductions (tpy)	Annualized Costs ($/yr)	Cost Effectiveness reduced ($/ton)
1	0.179	16.6	0.100	9.31	7.29	62,817	8,617
2	0.179	16.6	0.050	4.65	11.95	107,017	8,956
3	0.179	16.6	0.036	3.35	13.25	192,329	14,516

Note: Proposed NO_x is based on 1.5 times the test data of 0.119 #/mmbtu

Based on the review of the additional NO_x control technologies, none of the additional NO_x control technologies were feasible.

NO_x Conclusion:
For Source 031 & Source 032, no additional control technologies are deemed RACT II. RACT II is deemed to be the following [See Conemaugh Review Memo September 28, 2021, from Vince Pascucci, Naishadh Bhatt, & Viren Trivedi]:

- Emissions of NO_x expressed as NO_2 for Units 1 and 2 are individually limited to a maximum of 0.070 lb/mmbtu on a daily average basis.
- Emissions of NO_x expressed as NO_2 from Unit 1 and 2 are individually limited to a maximum of 0.27 lb/mmbtu on a daily average basis under all operating conditions.
- Emissions of NO_x expressed as NO_2 from Unit 1 and 2 are individually limited to a maximum 700 lbs/hr on a 30-operating day rolling average basis under all operating conditions.

For Source 039 & Source 041, no additional control technologies are deemed RACT II. RACT II is deemed to be the following:

- NO_x emission rate of less than or equal to 0.135 lb/mmbtu for Source 039. **[This is a current permit limit.]**

- NO_x emission rate of less than or equal to 0.179 lb/mmbtu for Source 041. **[This limit is based on 150% of test data provided (0.119 #/mmbtu).]**
- NO_x emissions less than or equal to 12.5 tpy based on a 12-month rolling total for Source 039. **[This is a current permit limit.]**
- NO_x emissions less than or equal to 16.7 tpy based on a 12-month rolling total for Source 041. **[This limit is based on proposed limit of 0.179 lb/mmbtu and heat input limit.]**
- Heat input from natural gas to Source 039 is limited to 185,200 mmbtu during any consecutive 12-month period. **[This is a current permit limit based on a 10% annual capacity factor and boiler rating of 211.5 mmbtu/hr.]**
- Heat input from natural gas to Source 041 is limited to 186,150 mmbtu during any consecutive 12-month period. **[This is a current permit limit based on a 10% annual capacity factor and boiler rating of 212.5 mmbtu/hr.]**
- Operation of Auxiliary Boilers A & B (Sources 039 & 041) shall not exceed a 10% annual capacity factor. These units shall be operated and maintained in accordance with manufacturers' specifications, and good air pollution control and engineering practices.

Conditions:
The facility operating permit should include the following:

1. Emissions of NO_x, expressed as NO_2, for the Auxiliary Boiler A (Source 039) are limited to a maximum of 0.135 lb/mmbtu on a daily average basis.

2. Emissions of NO_x, expressed as NO_2, for the Auxiliary Boiler B (Source 041) are limited to a maximum of 0.179 lb/mmbtu on a daily average basis.

3. Emissions of NO_x, expressed as NO_2, for the Auxiliary Boiler A (Source 039) are limited to a maximum of 12.5 tpy based on a 12-month rolling total.

4. Emissions of NO_x, expressed as NO_2, for the Auxiliary Boiler B (Source 041) are limited to a maximum of 16.7 tpy based on a 12-month rolling total.

5. Heat input from natural gas to Auxiliary Boiler A (Source 039) is limited to 185,200 mmbtu during any consecutive 12-month period.

6. Heat input from natural gas to Auxiliary Boiler B (Source 041) is limited to 186,150 mmbtu during any consecutive 12-month period.

7. Operation of Auxiliary Boilers A & B (Sources 039 & 041) shall not exceed a 10% annual capacity factor. These units shall be operated and maintained in accordance with manufacturers' specifications, and good air pollution control and engineering practices.

8. Maintain an operating log for Auxiliary Boilers A & B (Sources 039 & 041) to verify that the heat input from natural gas limit and the annual capacity factor limit are not exceeded.

9. Emissions of NO_x expressed as NO_2 for Main Boiler 1 & 2 (Sources 031 & 032) are individually limited to a maximum of 0.070 lb/mmbtu on a daily average basis.

10. This limit excludes, emissions during start-up, shut-down, and malfunction; operation pursuant to emergency generation required by PJM, including any necessary testing for such emergency operations; and during periods in which compliance with this emission limit would require operation of any equipment in a manner inconsistent with technological limitations, good engineering and maintenance practices, and/or good air pollution control practices for minimizing emissions.

    Startup means: The period in which operation of the EGU is initiated after a shutdown event for any purpose. Startup ends when any of the steam from the boiler is used to generate electricity for sale over the grid or for any other purpose (including on-site use). Any fraction of an hour in which startup occurs constitutes a full hour of startup.

    Shutdown means: The period in which cessation of operation of an EGU is initiated for any purpose. Shutdown begins when the EGU no longer generates electricity or when no fuel is being fired in the EGU, whichever is earlier. Any fraction of an hour in which shutdown occurs constitutes a full hour of shutdown.

    Daily average means: The total mass for each of the hours during the calendar day divided by the total heat input for each of the hours during the calendar day. This calculation methodology would also apply to the limit below (0.27 lb/mmbtu).

11. Emissions of NO_x expressed as NO_2 from Main Boiler 1 & 2 (Sources 031 & 032) are individually limited to a maximum of 0.27 lb/mmbtu on a daily average basis under all operating conditions.

12. Emissions of NO_x expressed as NO_2 from Main Boiler 1 & 2 (Sources 031 & 032) are individually limited to a maximum 700 lbs/hr on a 30-operating day rolling average basis under all operating conditions.

13. The owner or operator shall calibrate, operate, and maintain all elements of the SCR system and units in accordance with the manufacturer's specifications, in a manner consistent with good engineering and air pollution control practices when the SCR system is in use.

14. The owner or operator shall operate and maintain LNB in accordance with the manufacturer's specifications and in a manner consistent with good engineering and air pollution control practices. **§127.441 (Non RACT Condition).**

15. The owner or operator shall maintain NO_x controls as effective as reasonably possible during startups and shutdowns.

16. The owner or operator shall take steps to bring NO_x controls back into full service as quickly as practicable whenever the control equipment experiences a malfunction.

17. The owner or operator shall document and report to the DEP, information regarding the cause of the malfunction and the steps for bringing the controls back.

18. All operators of Main Boiler 1 & 2 (Sources 031 & 032), SCR, and LNB shall be trained in the operation and maintenance of the unit(s) they are assigned to operate by qualified personnel. **§127.441 (Non RACT Condition).**

19. The owner or operator shall develop, maintain, and implement an operation and maintenance plan (O&M Plan) for Main Boiler 1 & 2 (Sources 031 & 032) and the SCR within 30-days of issuance. The O&M Plan shall include, but not be limited to the following:

    Inspection, repairs, and preventive maintenance procedures to be followed to ensure proper operation of the Main Boiler 1 & 2 (Sources 031 & 032) and SCR system and continuing compliance with the applicable emission limits specified in this Permit.

    A description of preventive maintenance schedules, spare parts inventories, procedures and protocols for unscheduled outages, and provisions for equipment replacement and measures to be taken to protect SCR system in the event of failure or shutdown.

    Inspections of duct work and boiler casing and repairs of leaks to maintain flue gas temperature.

    Details of the practices and procedures to be followed during periods of startup, shutdown and upset conditions in order to prevent emissions in excess of the standards specified in this permit.

20. The owner or operator shall develop, maintain, and implement an operation and maintenance plan (O&M Plan) for Main Boiler 1 & 2 (Sources 031 & 032) and LNB within 30-days of issuance. The O&M Plan shall include, but not be limited to the following:

    Inspection, repairs, and preventive maintenance procedures to be followed to ensure proper operation of the Main Boiler 1 & 2 (Sources 031 & 032) and LNB and continuing compliance with the emission standards specified in this Permit.

    A description of preventive maintenance schedules, spare parts inventories, procedures and protocols for unscheduled outages, and provisions for equipment replacement and measures to be taken to protect air pollution control equipment in the event of any control equipment failure or shutdown.

    Details of the practices and procedures to be followed during periods of startup, shutdown and upset conditions in order to prevent emissions in excess of the standards specified in this permit.

    Inspections, repair and testing of Over Fire Air (OFA) components.

    Details of the practices and procedures to be followed to ensure that the boiler is tuned to optimize NO_x reduction over combustion efficiency, including but not limited to the properly adjusted burner angle.

21. The facility shall tune Main Boiler 1 & 2 (Sources 031 & 032) to minimize NO_x emissions within 6 months of the effective date of this permit. **§127.441 (Non RACT Condition).**

22. The facility shall tune Main Boiler 1 & 2 (Sources 031 & 032) to minimize NO_x emissions annually after the initial boiler tuning. **§127.441 (Non RACT Condition).**

23. The facility shall maintain the following records of the tune-up:

    The date of the tuning procedure.

    The name of the service company and the technician performing the procedure.

    The final operating rate or load.

    The final NO_x and CO emission rates.

    The final excess oxygen rate. **§127.441 (Non RACT Condition).**

24. Within 3 months of the effective date of this permit, the facility shall set the SCR at a target NO_x emission rate of 0.050 lb/mmbtu for Main Boiler 1 & 2 (Sources 031 & 032). §127.441 (Non RACT Condition).

25. After operating the SCR with an outlet NO_x emission rate set-point of 0.050 lb/mmbtu for twelve consecutive months, the facility shall submit an engineering study within 180 days that analyzes the overall environmental performance of the system at that set-point. **§127.441 (Non RACT Condition).**

26. Within the first 60-days of each calendar year, the facility shall perform a catalyst activity test.

27. Within 60 days of receiving the results of catalyst activity test, the facility shall consult with the SCR catalyst vendor to monitor SCR performance in accordance with the catalyst management plans (CMPs) developed for the SCR systems. Corrective action, if required, shall be completed by April 30^{th}.

28. A minimum of one (1) stack test in accordance with in 25 Pa. Code, Chapter 139, Subchapter A (relating to sampling and testing methods and procedures) and the Department Source Testing Manual shall be performed on Auxiliary Boiler A & B (Sources 039 & 041) during each five (5) calendar year period to verify the emission rates for NO_x. This test should be conducted between 6 to 18 months prior to the operating permit expiration date.

29. Emission rates of NO_x (as NO_2) and CO for Auxiliary Boiler A & B (Sources 039 & 041) shall be determined by either EPA Reference Method stack test(s) or through the use of portable analyzers when operation in any calendar year equals or exceeds 750 hours. Testing shall be required to be performed during each of those years in which operation equals or exceeds 750 hours. When testing is required, it shall be completed within six months with the results included in the subsequent semiannual monitoring report.

30. The permittee shall monitor the following for Main Boiler 1 & 2 (Sources 031 & 032):

    The SCR inlet temperature, continuously, in order to determine compliance with the O&M Plan.

The permittee shall monitor and record the times at which the SCR inlet temperature transitions across the 600°F threshold.

The ammonia injection rate to the SCR, continuously, in order to determine compliance with the O&M Plan.

31. The permittee shall keep records of the following for Main Boiler 1 & 2 (Sources 031 & 032) to demonstrate compliance with 25 Pa. Code §§ 129.99 in the following manner:

    The SCR inlet temperature continuously with at least one reading every 15 minutes.

    When the SCR inlet temperature transitions across the 600°F threshold.

    The ammonia injection rate to the SCR hourly with at least one reading every hour.

    The records must include sufficient data, including SCR inlet temperature for each boiler; times at which the SCR inlet temperature transitions across the 600°F threshold for each boiler; ammonia injection rate for each boiler, and calculations to demonstrate that the requirements of §§ 129.99 are met.

    Data or information required to determine compliance shall be recorded and maintained in a time frame consistent with the averaging period of the requirement.

32. The permittee shall submit quarterly reports to the Department for Main Boiler 1 & 2 (Sources 031 & 032) of the following:

    The SCR inlet temperature on an hourly average basis.

    The ammonia injection rate to the SCR on an hourly average basis.

    The quarterly reports shall be submitted according to the following schedule:

        The quarterly report for the period of January 1 - March 31 is due no later than April 30.

        The quarterly report for the period of April 1 - June 30 is due no later than July 30.

        The quarterly report for the period of July 1 - September 30 is due no later than October 30.

        The quarterly report for the period of October 1 - December 31 is due no later than January 30.

33. Monitoring Requirements: [Additional authority for this permit condition is derived from, 40 CFR Part 75, 40 CFR Sections 52.2020, and 25 Pa. Code Sections 139.4, & 139.101]

    a. Continuous Emission Monitoring Requirements

The following continuous emission monitoring systems (CEMS) must be installed, approved by the Department, operated and maintained in accordance with the requirements of 25 Pa. Code Chapter 139, Subchapter C (relating to requirements for source monitoring for stationary sources), and the "Submittal and Approval", "Record Keeping and Reporting", and "Quality Assurance" requirements of Revision No. 8 of the Department's Continuous Source Monitoring Manual, 274-0300-001.

For Source 031 & 032: Main Boiler No. 1 & 2

Pollutant	Measurement	Averaging Period	Standard	Basis
NO_x	lb/mmbtu	Calendar Day	0.070 lb/mmbtu	Continuously excluding emissions during start-up, shut-down, and malfunction; operation pursuant to emergency generation required by PJM, including any necessary testing for such emergency operations; and during periods in which compliance with this emission limit would require operation of any equipment in a manner inconsistent with technological limitations, good engineering and maintenance practices, and/or good air pollution control practices for minimizing emissions
NO_x	lb/mmbtu	Calendar Day	0.27 lb/mmbtu	Continuously under all operating conditions
NO_x	lb/hr	30-operating day rolling average	700 lb/hr	Continuously under all operating conditions

Note: Compliance with any subsequently issued revisions to the Continuous Source Monitoring Manual will constitute compliance with the terms of this permit.

b. Data Availability Standards

1. The continuous emission monitoring systems (CEMS) for NO_x are required by 25 Pa. Code §139.101(12) to meet at least one of the following minimum data availability requirements unless other data availability requirements are stipulated elsewhere:

   In each calendar month, at least 90% of the time periods for which an emission standard or operational parameter applies shall be valid as set forth in the Quality Assurance section of the Manual (Revision No. 8 of the Department’s Continuous Source Monitoring Manual, 274-0300-001).

   In each calendar quarter, at least 95% of the hours shall be valid as set forth in the Quality Assurance section of the Manual (Revision No. 8 of the Department’s Continuous Source Monitoring Manual, 274-0300-001).

Note: Compliance with any subsequently issued revisions to the Continuous Source Monitoring Manual will constitute compliance with the terms of this permit.

c. Certification and Testing Requirements

Initial Application (Phase I)
Upon promulgation of a monitoring requirement, a proposal containing information as listed in the Phase I section of the Department's Continuous Source Monitoring Manual for the proposed CEMS must be submitted to the Department 180 days prior to the initial startup of a new source and within 180 days of promulgation of a monitoring requirement for an existing source.

Performance Testing (Phase II)
After approval of Phase I, the applicant shall proceed with purchasing, installation, and performance testing. The CEM Section must be advised in writing at least 45 days prior to Performance Specification Testing to provide the opportunity to observe and participate in all testing. A testing protocol, describing all testing procedures and methodology to be used must accompany the notice of testing. Schedule changes must be reported seven days prior to testing except that failed tests may be repeated immediately. Testing as listed in the Phase II section of the Department's Continuous Source Monitoring Manual must be completed for the CEMS[s] no later than 180 days after initial source startup and no later than 60 days after the source achieves normal process capacity. During testing, the source must be operated in a manner that is representative of normal operating conditions. All other notifications and performance specification testing must be conducted in accordance with the Department's Continuous Source Monitoring Manual.

Final Approval (Phase III)
The final report of testing as listed in the Phase III section of the Department's Continuous Source Monitoring Manual must be submitted to the Bureau no later than 60 days after completion of the testing. The owner or operator of the source shall not be issued an operating permit until the CEMS have received Phase III approval, in writing from the Department, when installation of a CEMS is made a condition of the plan approval. Until Phase III Department approval is obtained, operation shall be covered solely under condition of a plan approval.

Note: Compliance with any subsequently issued revisions to the Continuous Source Monitoring Manual will constitute compliance with the terms of this permit.

34. Recordkeeping Requirements: [Additional authority for this permit condition is derived from 40 CFR Part 75, 40 CFR Sections 52.2020, and 25 Pa. Code Sections 139.101(5) and 139.101(12).]

The permittee shall comply with the recordkeeping requirements established in 25 Pa. Code Chapter 139, Subchapter C (relating to requirements for source monitoring for stationary sources), the "Record Keeping and Reporting" requirements in the Department's Continuous Source Monitoring Manual, Revision No. 8, 274-0300-001.

Records shall be retained for at least 5 years and shall be made available to the Department upon request.

Note: Compliance with any subsequently issued revision to the Continuous Source Monitoring Manual will constitute compliance with this permit.

35. Reporting Requirements: [Additional authority for this permit condition is derived from, 40 CFR Part 75, 40 CFR Sections 52.2020, and 25 Pa. Code Sections 139.101(1)(iv)4, 139.101(10) & 139.101(12)]

    The permittee shall submit quarterly reports of continuous emission monitoring to the Department in accordance with the requirements established in 25 Pa. Code Chapter 139, Subchapter C (relating to requirements for source monitoring for stationary sources), the "Record Keeping and Reporting" requirements as established in the Department's Continuous Source Monitoring Manual, Revision No. 8, 274-0300-001.

    The permittee shall report emissions for all periods of unit operation, including startup, shutdown, and malfunction.

    Initial quarterly reports following system certification shall be submitted to the Department within 35 days following the date upon which the Department notifies the owner or operator, in writing, of the approval of the continuous source monitoring system for use in determining compliance with applicable emission standards.

    Subsequent quarterly reports shall be submitted to the Department within 30 days after the end of each calendar quarter.

    Failure to submit required reports of continuous emission monitoring within the time periods specified in this Condition, shall constitute violations of this Permit, unless approved in advance by the Department in writing.

    Note: Compliance with any subsequently issued revision to the Continuous Source Monitoring Manual will constitute compliance with this permit.

36. Quality Assurance Requirements: [Additional authority for this permit condition is derived from, 40 CFR Part 75, 40 CFR Sections 52.2020, and 25 Pa. Code Sections 139.101(1)(iv), 139.101(2), 139.101(3), 139.101(4), 139.101(6), 139.101(7), 139.101(8), 139.101(12), 139.101(14), and 139.101(15)]

    Continuous Emission Monitoring Systems and components must be operated and maintained in accordance with the requirements established in 25 Pa. Code Chapter 139, Subchapter C (relating to requirements for source monitoring for stationary sources), the "Quality Assurance" requirements in the Department's Continuous Source Monitoring Manual, Revision No. 8, 274-0300-001.

Note: Compliance with any subsequently issued revision to the Continuous Source Monitoring Manual will constitute compliance with this permit.

37. Testing Requirements: [25 Pa. Code §127.441(c) & Chapter 139; §§114(a)(3), 504(b) of the CAA] Sampling, Testing and Monitoring Procedures

    The permittee shall perform the emissions monitoring analysis procedures or test methods required under an applicable requirement including procedures and methods under Sections 114(a)(3) (42 U.S.C.A.§§ 7414 (a)(3)) or 504(b) (42 U.S.C.A.§§ 7661c(b)) of the Clean Air Act.

    Note: Compliance with any subsequently issued revisions to the Continuous Source Monitoring Manual will constitute compliance with the terms of this permit.

38. In accordance with §129.99(g), the emission limit and requirements specified in the plan approval or operating permit issued by the Department or appropriate approved local air pollution control agency under subsection (f) supersede the emission limit and requirements in the existing plan approval or operating permit issued to the owner or operator of the source prior to April 23, 2016, on the date specified in the plan approval or operating permit issued by the Department or appropriate approved local air pollution control agency under subsection (f), except to the extent the existing plan approval or operating permit contains more stringent requirements.

39. In accordance with §129.100(a), Except as provided in subsection (c), the owner and operator of an air contamination source subject to a NO_x RACT requirement or RACT emission limitation or VOC RACT requirement or RACT emission limitation, or both, listed in §129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule) shall demonstrate compliance with the applicable RACT requirement or RACT emission limitation by performing the following monitoring or testing procedures:

    (4) For an air contamination source without a CEMS, monitoring and testing in accordance with a Department-approved emissions source test that meets the requirements of Chapter 139, Subchapter A (relating to sampling and testing methods and procedures). The source test shall be conducted one time in each 5-year calendar period.

40. In accordance with §129.100(d), the owner and operator of an air contamination source subject to this section and §§129.96-129.99 shall keep records to demonstrate compliance with §§129.96-129.99 in the following manner:

    The records must include sufficient data and calculations to demonstrate that the requirements of 25 PA Code 129.96 – 129.99 are met.

    Data or information required to determine compliance shall be recorded and maintained in a time frame consistent with the averaging period of the requirement.

41. In accordance with §129.100(i), records shall be retained by the owner or operator for 5 years and made available to the Department or appropriate approved local air pollution control agency upon

receipt of a written request from the Department or appropriate approved local air pollution control agency.

Administrative Elements:
This application is not subject to NSPS, NESHAP, NSR, or PSD permitting requirements. The Compliance Review Form was received on April 14, 2021. West Wheatfield Township received municipal notification of application on April 12, 2021 and Indiana County received municipal notification of application on April 12, 2021. The *Pa. Bulletin* notice will be scheduled for publication on October 2, 2021. Public Notice will be published by Conemaugh on three days in the Indiana Gazette on Thursday September 30 through Saturday October 2, 2021 to allow for a 30-day comment period. Public notice includes the opportunity for a public hearing on November 3rd if requested by October 27, 2021 to accept oral comments on the proposed operating permit revision and the proposed SIP revision.

A draft of Title V operating permit will be e-mailed to EPA to allow for a 45-day comment period. There was no confidential information included in this application.

Recommendation:
I recommend publishing a notice of proposed revision to the State Implementation Plan for NO_x, notice of public hearing, and notice of intent to modify Air Quality Title V Operating Permit 32-00059.

Summary:
The RACT II Proposal will be incorporated into the facility operating permit after submittal of the operating permit modification application which will include the following:

- Facility operating permit application cover sheet
- Fee
- Compliance History
- Municipal/County notifications and receipts
- GIF
- Description of the RACT II conditions & the RACT II application

cc: New Source Review - Hrsbg.
File AQ/FAC//RACT/32-000-059 - thru L. McNabb
New Castle District Office – thru D. Dyll
EPA Region 3