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December 27, 2022

Mark Wejkszner, P.E.
Air Quality Program Manager
Pennsylvania Department of Environmental Protection
Northeast Regional Office – Air Quality Program
2 Public Square
Wilkes-Barre, PA 18701

*RACT III Initial Notification and Title V Significant Modification Application w/NOx Averaging Plan
LMBE Project Company, LLC – Lower Mount Bethel Energy Power Plant Title V
Operating Permit No. 48-00091*

Mr. Wejkszner:

LMBE Project Company, LLC (LMBE) owns and operates the Lower Mount Bethel Energy Power Plant (LMBE) located in Lower Mount Bethel Township, Northampton County, Pennsylvania. The facility operates under Title V Operating Permit No. 48-00091 issued June 1, 2016, revised January 29, 2019 and Plan Approval No. 48-00091B issued February 5, 2019.

The Pennsylvania Department of Environmental Protection (PADEP) published 25 Pa Code, Chapter 129: Additional RACT Requirements for Major Sources of NO_x and VOCs for the 2015 Ozone NAAQS (the "RACT III Rule") in the Pennsylvania Bulletin on November 12, 2022 (52 Pennsylvania Bulletin 6960). As a major NO_x emitting facility, as defined in Title 25 of the Pennsylvania Code, Chapter 121.1 (25 Pa Code 121.1), LMBE is subject to these requirements. Please find enclosed a RACT III Initial Notification and a NO_x Averaging Plan for the LMBE Power Plant. LMBE is submitting this application to satisfy all notification and reporting requirements required per 25 Pa Code, Chapter 129: Additional RACT Requirements for Major Sources of NO_x and VOCs for the 2015 Ozone NAAQS (the "RACT III Rule").

This report includes an Initial Notification, and a NO_x Averaging Plan. With the NO_x Averaging Plan, a Title V modification application is attached. The Title V Significant Modification fee of \$4,000 will be sent under separate cover. If you have any questions regarding this letter or require any additional information, please feel free to contact me at Jamie.Kleinle@talenenergy.com or (610) 498-6348.

Sincerely,

A handwritten signature in black ink, appearing to read "Jamie Kleinle".

Jamie Kleinle
Environmental Professional | Lower Mount Bethel Energy Power Plant

Encl.:

Attachment 1: RACT III Title V Significant Modification

Cc (via e-mail):

William C. Lewis – LMBE
Bryan Lundberg – LMBE
Kathleen Potter – TALEN
Edwin Much - TALEN
Thomas Weissinger - TALEN
Christine Heath - Trinity Consultants
File: Talen Energy Corp\Environmental - Air\RACT3\LMBE

TITLE V SIGNIFICANT MODIFICATION
RACT III Initial Notification &
RACT III NO_x Averaging Plan

**LMBE Project Company LLC – Lower Mount Bethel
Energy**

Prepared By:

Christie Heath – Managing Consultant

TRINITY CONSULTANTS

211 Welsh Pool Road
Suite 238
Exton, PA 19341
(610) 280-3902

December 16, 2022

Project 223902.0098



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1. EXECUTIVE SUMMARY

LMBE Project Company, LLC (LMBE) owns and operates the Lower Mount Bethel Energy Power Plant (LMBE) located in Lower Mount Bethel Township, Northampton County, Pennsylvania. The facility operates under Title V Operating Permit No. 48-00091 issued June 1, 2016, revised January 29, 2019 and Plan Approval No. 48-00091B issued February 5, 2019. The facility is a major source of NO_x as defined in 25 Pa Code 121.1. Table 1-1 summarizes and justifies the NO_x and VOC status of the facility.

Table 1-1 Emission Status of LMBE

Pollutant	Facility Status	RACT III Major Status Threshold	Justification
NO _x	Major	>100 tpy	Facility-wide NO _x emissions are limited to 208.8 tons per consecutive 12-month period (Plan Approval #48-00091B, Section C, Condition #005)
VOC	Minor	<50 tpy	Facility-wide VOC emissions are limited to 46.6 tons per consecutive 12-month period (Plan Approval #48-00091B, Section C, Condition #005)

The Pennsylvania Department of Environmental Protection (PADEP) published 25 Pa. Code, Chapter 129: Additional RACT Requirements for Major Sources of NO_x and VOCs for the 2015 Ozone NAAQS (the "RACT III Rule") in the Pa Bulletin on November 12, 2022 (52 Pennsylvania Bulletin 6960). RACT is defined in 25 Pa Code 121.1 as "the lowest emission limit for VOC or NO_x that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility." The RACT III standards apply to existing major NO_x and major VOC emitting facilities throughout Pennsylvania. Existing major facilities include those facilities which are major sources of NO_x and/or VOC that commenced operation on or before August 3, 2018 and existing minor facilities which become major sources of NO_x and/or VOC after August 3, 2018. The RACT III Regulation provides three options for compliance, as applicable:

- Compliance Option 1: Presumptive RACT pursuant to 25 Pa Code §129.112;
- Compliance Option 2: Facility-wide or system-wide NO_x averaging pursuant to 25 Pa Code §129.113;
- Compliance Option 3: Alternative RACT proposal pursuant to 25 Pa Code §129.114

Detailed information on the appendices to this Title V Significant Modification are as follows:

- Appendix A – Significant Operating Permit Modification
Title V Application Forms
- Appendix B – Municipal Notifications
- Appendix C – Compliance Review Form
- Appendix D – NO_x RACT Averaging Plan
- Appendix E – Air Quality Fee Schedule

The required \$4,000 Title V Significant Modification fee will be submitted to the Department under a separate cover.

2. INITIAL NOTIFICATION

This section of the report serves as the written notification, specified in 25 Pa Code §129.115(a), that describes how LMBE proposes to comply with the requirements of 25 Pa Code §129.111-129.115. This report is being submitted to the appropriate regional manager by December 31st, 2022, to satisfy the requirements of 25 Pa Code §129.115(a)(1).

2.1 Emission Unit Information and RACT III Compliance Strategy

As a major source of NO_x, this facility is subject to the Additional RACT Requirements for Major Sources of NO_x and VOCs for the 2015 Ozone NAAQS in 25 Pa Code §§ 129.111 – 129.115 (referred to as “RACT III”). Facility-wide VOC emissions are limited to less than 50 tpy (i.e., to below the major source threshold for RACT III) by Plan Approval #48-00091B, Section C, Condition #005. Thus, the presumptive RACT III VOC emission limits will not apply to LMBE.

The permitted emission sources at the plant include combined cycle combustion turbines, duct burners, a cooling tower, an emergency generator, and heaters. In accordance with 25 Pa Code §129.111(a)(1), sources are subject to RACT III requirements if they commenced operation prior to August 3, 2018. All sources at the plant were installed prior to this date and hence those sources are subject to RACT. The proposed RACT III compliance strategy for each emission unit at the plant is provided in Table 2-1. This table serves to identify the air contamination sources at the facility and identify the applicable RACT requirements or exemption status as specified in 25 Pa Code §129.115(a).

LMBE is submitting the following information as part of the RACT III initial notification requirements:

- ▶ 25 Pa Code §129.115(a)(1) – Submit the initial notification by December 31, 2022
 - This initial notification has been submitted prior to December 31, 2022.
- ▶ 25 Pa Code §129.115(a)(2) – Identify the air contamination sources in 25 Pa Code §129.111(a) as subject to a RACT requirement or exempt
 - See Table 2-1 below.
- ▶ 25 Pa Code §129.115(a)(3) – Identify the air contamination sources in 25 Pa Code §129.111(b) as subject to a RACT requirement or exempt
 - Not applicable, LMBE is an existing major source of NO_x.
- ▶ 25 Pa Code §129.115(a)(4) – Identify the air contamination sources in 25 Pa Code §129.111(c) which are exempt
 - Not applicable, no sources are exempt because each source emits more than 1 tpy of NO_x and 1 tpy of VOC.
- ▶ 25 Pa Code §129.115(a)(5) – Provide a description of each air contamination source listed in 25 Pa Code §129.115(a)(2) including, description, make, model and location, applicable RACT requirement, how the unit will comply with RACT III, and reason for exemption (if applicable).
 - See Table 2-1 below and the source descriptions in Section 2.2.

- ▶ 25 Pa Code §129.115(a)(6) – Provide a description of each air contamination source listed in 25 Pa Code §129.115(a)(3) including, description, make, model and location, applicable RACT requirement, how the unit will comply with RACT III, and reason for exemption (if applicable).
 - Not applicable, the facility is an existing major source of NO_x and is not subject to (a)(3).

- ▶ 25 Pa Code §129.115(a)(7) – Provide a description of each air contamination source listed in (a)(4) including, description, make, model and location and information sufficient to demonstrate that the source has a PTE less than 1 tpy of NO_x or 1 tpy of VOC, as applicable.
 - Not applicable, no sources are exempt because each source emits more than 1 tpy of NO_x and 1 tpy of VOC.

Table 2-1 LMBE Emission Sources

Emission Source ID From the Permit	Source Description	RACT III Rule Compliance Strategy ^a
101	CCC TURBINE #1 W/LOW NOX BURNER	Facility-Wide Averaging Plan per §129.113(b)
102	CCC TURBINE #2 W/LOW NOX BURNER	Facility-Wide Averaging Plan per §129.113(b)
103	UNIT 1 HRSG DUCT BURNER ¹	Facility-Wide Averaging Plan per §129.113(b)
104	UNIT 2 HRSG DUCT BURNER ¹	Facility-Wide Averaging Plan per §129.113(b)
105	COOLING TOWER	Exempt, Source does not emit NO _x
NA	EMERGENCY DIESEL FIRE PUMP	Presumptive RACT per §129.112(c)(6)
NA	FOUR (4) HEATERS	Presumptive RACT per §129.112(c)(4)

1. Source IDs 103 and 104 will be combined with Source IDs 101 and 102 respectively, when the facility's renewed Title V permit is issued.

2.2 Source Descriptions and Applicable Limits

The following section provides source descriptions for each unit at the plant as well as the applicable Presumptive RACT III emission limits. The information provided in this section is required under 25 Pa Code §129.115(a)(5), §129.115(a)(6), and §129.115(a)(7). Each of the sources listed in Table 2-1 is located at 6079 Depues Ferry RD, Bangor, PA 18013.

2.2.1 Source ID 101/103: CCC TURBINE #1 W/LOW NOX BURNER AND DUCT BURNER

Source ID 101/103 is a Siemens-Westinghouse, Model 501F combined cycle combustion turbine with duct burner located at the plant. The unit combusts natural gas and has a rated heat input of 2,306 MMBtu/hr. Emissions are controlled by a low NO_x burner, selective catalytic reduction (SCR) system, and oxidation catalyst.

The unit is subject to the presumptive RACT limit of 4 ppmvd NO_x @ 15% O₂ for combined cycle combustion turbines (CCCT) over 180 MW per 25 Pa Code §129.112(g)(2)(iii). The CCCT is subject to a NO_x

emissions limit of 3.5 ppmvd on a 3-hour rolling average per Group 1, Condition #005 of the TVOP. However, since the current 3.5 ppmvd NO_x limit on Units 1 and 2 is established on a different averaging period and does not include startup, shutdown or malfunction emissions, LMBE does not find the existing permit limit (3.5 ppmvd NO_x) to be more stringent than the applicable presumptive RACT III limit for the turbines.

Because periods of high startups and shutdowns may drive emissions above 4 ppmvd NO_x @ 15% O₂ on an individual unit basis, LMBE is proposing implementation of a facility-wide NO_x averaging plan to demonstrate compliance with the presumptive RACT III limits per 25 Pa Code §129.113(a). This is consistent with the facility-wide NO_x averaging plan approved for RACT II. The proposed NO_x Emissions Averaging Plan is attached in Appendix D.

2.2.2 Source ID 102/104: CCC TURBINE #2 W/LOW NOX BURNER AND DUCT BURNER

Source ID 102/104 is a Siemens-Westinghouse, Model 501F combined cycle combustion turbine with duct burner located at the plant. The unit combusts natural gas and has a rated heat input of 2,306 MMBtu/hr. Emissions are controlled by a low NO_x burner, selective catalytic reduction (SCR) system, and oxidation catalyst.

The unit is subject to the presumptive RACT limit of 4 ppmvd NO_x @ 15% O₂ for combined cycle combustion turbines over 180 MW per 25 Pa Code §129.112(g)(2)(iii). The CCCT is subject to a NO_x emissions limit of 3.5 ppmvd on a 3-hour rolling average per Group 1, Condition #005 of the TVOP. However, since the current 3.5 ppmvd NO_x limit on Units 1 and 2 is established on a different averaging period and does not include startup, shutdown or malfunction emissions, LMBE does not find the existing permit limit (3.5 ppmvd NO_x) to be more stringent than the applicable presumptive RACT III limit for the turbines.

Because periods of high startups and shutdowns may drive emissions above 4 ppmvd NO_x @ 15% O₂ on an individual unit basis, LMBE is proposing the implementation of a facility-wide NO_x averaging plan to demonstrate compliance with the presumptive RACT III limits per 25 Pa Code §129.113(a). This is consistent with the facility-wide NO_x averaging plan approved for RACT II. The proposed NO_x Emissions Averaging Plan is attached in Appendix D.

2.2.3 Source ID 105: COOLING TOWER

Source ID 105 is a cooling tower located at the Lower Mount Bethel plant. Make and model are not applicable to the source. As specified in Table 2-1, the source does not emit NO_x and is exempt from RACT III requirements.

2.2.4 Emergency Diesel Fire Pump

The emergency diesel fire pump is a Caterpillar, Model 3406BDIT, 4-stroke lean-burn diesel engine rated at 331 bhp. Per 25 Pa Code §129.112(c)(6), LMBE "shall install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices" as a lean-burn internal combustion engine rated less than 500 bhp. The unit is subject to the work practice standards under 40 CFR 63 Subpart ZZZZ according to Section H of the TVOP and thus is compliant with the RACT III requirements.

2.2.5 Four (4) Natural Gas Heaters

Each of the four heaters at the Lower Mount Bethel plant have a heat input rating of 4 MMBtu/hr and fire natural gas. Make and model are not available for these units. Since the capacity of the heaters is less than 20 MMBtu/hr LMBE "shall install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices" according to 25 Pa Code §129.112(c)(4)

3. NOX AVERAGING PLAN SUMMARY

According to 25 Pa Code §129.113(a), the owner or operator of a major NO_x emitting facility subject to RACT III that includes at least one air contamination source subject to a presumptive NO_x RACT III emission limitation in 25 Pa Code §129.112 that cannot meet that limit may elect to average NO_x emissions on a facility-wide or system-wide basis using a 30 operating day rolling average. LMBE contains emission units that are subject to presumptive RACT but cannot meet the limits.

A review of historical continuous emissions monitoring system (CEMS) data reveal that both units complied with presumptive RACT II limits on a facility-wide 30-operating day rolling sum from 2017-2021. However since 2017, each individual unit would have exceeded the presumptive RACT III limit on greater than 30 calendar days during which the daily actual emissions were greater than the allowable. The instances where the daily emissions are greater than the presumptive limit often correlate with unit startups and shutdowns and unit cycling. As discussed in detail in the permit application for Plan Approval No. 48-00091B, Units 1 and 2 are permitted to operate under two operating scenarios (1) baseload operation and (2) increased cycling operation. Note that operation under these scenarios is driven by future market conditions (i.e., the price of natural gas). When the price of natural gas is low, Units 1 and 2 will tend to operate as baseload units. As the price of natural gas rises, the CCCTs will begin to cycle more (that is units with a lower operating cost will displace LMBE for baseload operation at this price). Since 2017, Units 1 and 2 have primarily operated as baseload units. However, with increased inflation which has particularly impacted energy prices, Units 1 and 2 may be called to cycle more frequently in the future impacting the facility's ability to comply with the presumptive RACT III requirements (which apply during periods of startup and shutdown). As such, LMBE is submitting a Title V Significant Modification Application for a facility-wide averaging plan to comply with presumptive RACT limits.

LMBE is proposing to include the combined cycle combustion turbines (CCCT) and their associated duct burners at LMBE in a facility-wide NO_x emissions averaging plan. For the purposes of this application, the "facility" includes the following Title V Source IDs at LMBE:

- Combined Cycle Combustion Turbine (CCCT) Unit 1 W/ LOW NOX BURNER (Title V 48-00091 Source ID 101),
- Combined Cycle Combustion Turbine (CCCT) Unit 2 W/ LOW NOX BURNER (Title V 48-00091 Source ID 102),
- Unit 1 Heat Recovery Steam Generator (HRSG) Duct Burner (Title V 48-00091 Source ID 103), and
- Unit 2 Heat Recovery Steam Generator (HRSG) Duct Burner (Title V 48-00091 Source ID 104).

Units 1 and 2 at LMBE (Title V No. 48-00091 Source IDs 101 and 102) are both combined cycle combustion turbines that fire only natural gas. Both Unit 1 and Unit 2 HRSGs are equipped with natural gas-fired supplemental duct burners. Each HRSG duct burner exhausts to the same stack as the associated CCCT and each stack is equipped with a CEMS. As such, for the purposes of this report, the term "Unit 1" includes both Source IDs 101 and 103, and the term "Unit 2" includes both Source IDs 102 and 104. Source IDs 103 and 104 will be combined with Source IDs 101 and 102 respectively, when the facility's renewed Title V permit is issued.

As discussed above, the presumptive RACT III limit for combined cycle combustion turbines over 180 MW is 4 ppmvd NO_x @ 15% O₂.

To show compliance with the applicable NO_x limits, LMBE is proposing to comply with a facility-wide averaging approach described under 25 Pa Code 129.113. While 25 Pa Code 129.113 describes specifics required for a facility-wide averaging plan, it does not include an equation to demonstrate compliance by comparing actual emissions to allowable emissions. As such, LMBE is using the equation provided in 25 Pa Code 129.98(d) to demonstrate that the actual emissions are below the allowable emissions limit on a 30-operating day rolling basis. This is consistent with the with the facility-wide NO_x averaging plan approved for RACT II.

Both units are equipped with 40 CFR Part 75-certified NO_x CEMS. Compliance with the NO_x RACT III limit as established in the emissions averaging plan will be demonstrated through the continuous operation of each unit's CEMS and the corresponding calculation of the facility-wide 30-operating day rolling emissions.

In accordance with 25 Pa Code 129.115(f), LMBE is required to keep records of sufficient data and calculations to demonstrate compliance with NO_x RACT III requirements in 129.111-129.114. Data and other relevant information shall be recorded and maintained in a time frame consistent with the averaging period of the requirement.

LMBE will determine the allowable facility-wide presumptive RACT III NO_x emissions limit for both emission sources and compare that value to actual NO_x emissions on a 30-operating day rolling basis. Further discussion and calculation details are contained in the attached NO_x averaging plan in Appendix D.

APPENDIX A. PADEP TITLE V FORMS



FOR OFFICIAL USE ONLY
OP #: _____
Date: _____

OPERATING PERMIT MODIFICATION APPLICATION

Section 1 – General Information			
1.1 Application Type			
Type of permit for which application is made:			
<input type="checkbox"/> Minor Modification	<input type="checkbox"/> State-Only Operating Permit		
<input checked="" type="checkbox"/> Significant Modification	<input checked="" type="checkbox"/> Title V Operating Permit		
Existing Operating Permit No: <u>48-00091</u>			
1.2 Facility Information			
Firm Name:	<u>LMBE Project Co LLC</u>	Federal Tax ID:	<u>37-1908140-1</u>
Facility Name:	<u>Lower Mount Bethel Energy SES/Bangor</u>	Plant Code:	_____
NAICS Code:	<u>221112</u>	SIC Code:	<u>4911</u>
Description of NAICS Code:	<u>Fossil Fuel Electric Power Generation</u>		
Description of SIC Code:	<u>Trans. & Utilities - Electric Services</u>		
County:	<u>Northampton</u>	Municipality:	<u>Lower Mount Bethel Twp</u>
Latitude:	<u>40° 47 56.3500</u>	Longitude:	<u>-75° 06 27.7700</u>
Horizontal Reference Datum:	<u>North American Datum 1983</u>	Horizontal Collection Method:	_____
		Reference Point:	<u>Plant Entrance (general)</u>
1.3 Permit Contact Information			
Name:	<u>Jamie Kleinle</u>	Title:	<u>Environment Professional</u>
Address:	<u>6079 Depues Ferry Rd</u>		
City:	<u>Bangor</u>	State:	<u>PA</u> ZIP: <u>18013</u>
Telephone:	<u>(610) 498-6348</u>		
Email:	_____		

1.4 Small Business Question

Are you a small business as defined by the Pennsylvania Air Pollution Control Act? Yes No

Are you a small business as defined by the U.S. Small Business Administration? Yes No

1.5 Request for Confidentiality

Do you request any information on this application to be treated as "Confidential"? Yes No

Place confidential information on separate page(s) marked "Confidential".

In order to request confidential treatment for information in any document, you must submit a redacted version of the relevant document with the confidential information blacked out (and thus suitable for public disclosure), along with a letter of request containing a table identifying the page and line number of each redaction, along with a justification for each redacted item as to why it should be deemed confidential under the specific criteria allowed under 25 Pa. Code §127.12(d) and Section 13.2 of the APCA.

1.6 Certification of Truth, Accuracy and Completeness by a Responsible Official

I certify that, subject to the penalties of Title 18 Pa. C.S.A. Section 4904 and 35 P.S. Section 4009(b)(2), I am the responsible official having primary responsibility for the design and operation of the facilities to which this application applies and that the information provided in this application is true, accurate, and complete to the best of my knowledge, information, and belief formed after reasonable inquiry.

(Signed) William C. Lewis Date: 13 DEC 2022
Name (Typed): William C. Lewis Title: Plant Manager
Telephone: (610) 498-6255
Email: bill.lewis@talenergy.com

Section 2 – Inventory of Units Being Modified		
Unit ID No.	Unit Name	Unit Type
101	CCC TURBINE #1/DUCT BURNER W/LOW NO _x BURNER	Process
102	CCC TURBINE #2/DUCT BURNER W/LOW NO _x BURNER	Process
C01	UNIT 1 SCR	Control Device
C01A	UNIT 1 OXIDATION CATALYST	Control Device
C02	UNIT 2 SCR	Control Device
C02A	UNIT 1 OXIDATION CATALYST	Control Device
S01	UNIT 1 STACK	Point of Air Emission
S02	UNIT 2 STACK	Point of Air Emission

Section 3 – Facility Changes – Not Applicable

Complete this section ONLY if the changes are for the entire facility. If changes are for a source or sources, skip this Section and complete Section 4 for each Source in which a change is proposed.

3.1 Describe all proposed changes to this facility:

3.2 If the proposed facility changes involve any changes in actual emissions, please complete the following table. Attach another table if needed.

Pollutant Name	CAS Number	Change in Actual Emissions (+ or -)

3.3 Anticipated date on which proposed change is scheduled to occur: _____

3.4 List the proposed revision language for the operating permit conditions. This includes all changes to the emissions, monitoring, testing, record-keeping, reporting requirements and work practice standard requirements. Write in the type of applicable requirements in the column provided. Attach another table if needed.

Citation Number	Type of Applicable Requirement	Existing Operating Permit Condition or Condition Number	Proposed Language for Permit Condition

3.5 Provide a listing of all changes in chronological order (additions and subtractions) made at a facility since the last submittal and attach it to this application. For example:

3.6 For renewals, please review the current operating permit. If you are proposing any changes to the conditions of the permit, please provide the condition number, the requested change, and justification for the requested change.

Section 4 – Unit Information (duplicate this section for each unit as needed)			
4.1 Unit Type: <input type="checkbox"/> Combustion <input type="checkbox"/> Incinerator <input checked="" type="checkbox"/> Process <input type="checkbox"/> Control Device			
4.2 General Source Information (Combustion/Incinerator/Process)			
a. Source ID: <u>101</u>	b. Source Name: <u>CCC Turbine #1/Duct Burner w/Low NOx Burner</u>		
c. Manufacturer: <u>Siemens-Westinghouse</u>	d. Model No.: <u>501F</u>		
e. Source Description: <u>Process</u>			
f. Rated Capacity (for engines use BHP): <u>2,306</u> <u>MMBtu/hr</u>	g. Installation Date: <u>02/01/2004</u>		
h. Rated Power/Electric Output: _____			
i. Exhaust Temperature: <u>250</u> Units: <u>Deg F</u>	j. Exhaust % Moisture: <u>10</u>	k. Exhaust Flow Volume: <u>2,658</u> SCFM	
4.3 General Control Device Information			
a. Unit ID: <u>C01, C01A</u>	b. Unit Name: <u>UNIT 1 SCR, Unit 1 Oxidation Catalyst</u>		
c. Used by Sources: <u>101</u>			
d. Type: <u>Selective Catalytic Reduction and Oxidation Catalyst (no changes from current units)</u>			
e. Pressure Drop (in. H ₂ O): _____	f. Capture Efficiency: _____		
g. Flow Rate (specify unit): _____			
h. Manufacturer: _____	i. Model No.: _____		
j. Installation Date: <u>02/01/2004</u>			

4.4 Proposed Changes to Unit

a. Describe all proposed changes to this unit:
LMBE is submitting the attached RACT III facility-wide NOx emissions averaging plan. The LMBE Title V permit must be revised to incorporate the averaging plan.

b. If the proposed unit changes involve any changes in actual emissions, please complete the following table. Attach another table if needed.

Pollutant Name	CAS Number	Change in Actual Emissions (+ or -)
N/A		

c. Anticipated date on which proposed change is scheduled to occur: January 1, 2023

d. List the proposed revision language for the operating permit condition. This includes all changes to the emission, monitoring, testing, record-keeping, reporting requirements and work practice standard requirement. Write in the type of applicable requirements in the column provided. Attach another table if needed.

Citation Number	Type of Applicable Requirement	Existing Operating Permit Condition or Condition Number	Proposed Language for Permit Condition
Section E, Group 01 Condition #005	NOx RACT Averaging Plan	48-00091B	Please update the regulatory citation for this requirement to: [25 Pa. Code §127.512 and §129.113]
Section E, Group 01 Condition #014	NOx RACT Averaging Plan	48-00091B	Please update the regulatory citation for this requirement to: [25 Pa. Code §127.511 and §129.115(b)(1)]

4.4 Proposed Changes to Unit

a. Describe all proposed changes to this unit:
LMBE is submitting the attached RACT III facility-wide NOx emissions averaging plan. The LMBE Title V permit must be revised to incorporate the averaging plan.

b. If the proposed unit changes involve any changes in actual emissions, please complete the following table. Attach another table if needed.

Pollutant Name	CAS Number	Change in Actual Emissions (+ or -)
N/A		

c. Anticipated date on which proposed change is scheduled to occur: January 1, 2023

d. List the proposed revision language for the operating permit condition. This includes all changes to the emission, monitoring, testing, record-keeping, reporting requirements and work practice standard requirement. Write in the type of applicable requirements in the column provided. Attach another table if needed.

Citation Number	Type of Applicable Requirement	Existing Operating Permit Condition or Condition Number	Proposed Language for Permit Condition
Section E, Group 01 Condition #005	NOx RACT Averaging Plan	48-00091B	Please update the regulatory citation for this requirement to: [25 Pa. Code §127.512 and §129.113]
Section E, Group 01 Condition #014	NOx RACT Averaging Plan	48-00091B	Please update the regulatory citation for this requirement to: [25 Pa. Code §127.511 and §129.115(b)(1)]

Section 5 – Compliance Plan for the Facility			
		Yes	No
5.1	Will your facility be in compliance with all applicable requirements at the time of permit issuance and continue to comply with these requirements during the permit duration?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5.2	Will your facility be in compliance with all applicable requirements presently scheduled to take effect during the term of the permit?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

APPENDIX B. MUNICIPAL NOTIFICATIONS



Jamie Kleinle • Environmental Professional
610-498-6348 • jamie.kleinle@talenergy.com
Talen Energy • 6079 DePues Ferry Rd., • Bangor, PA 18013

SENT VIA UNITED STATES POSTAL SERVICE - CERTIFIED

December 8, 2022

Lower Mount Bethel Board of Supervisors
PO Box 257
2004 Hutchison Avenue
Martins Creek, PA 18063

*RE: LMBE Project Co, LLC
Lower Mount Bethel Township, PA
Notification of Application for a Modification to Title V Permit No. 48-00091*

Dear Supervisors:

LMBE Project Co, LLC is submitting to the Pennsylvania Department of Environmental Protection (PADEP), an application for a modification to Title V Operating Permit (#48-00091) for their site in Lower Mount Bethel Township, Northampton County, PA. The proposed modification is for the addition of a NO_x emissions averaging plan to comply with RACT III requirements.

Pennsylvania Code Title 25 (Environmental Protection – Air Resources) Section 127.413 requires township notification including a 30-day comment period regarding the permit application, which begins upon receipt of this formal notification. During this comment period, PADEP will accept such comments.

Comments are to be sent to:

Pennsylvania Department of Environmental Protection
Regional Air Quality Program Manager
Northeast Regional Office
2 Public Square
Wilkes-Barre, PA 18701-1915

If you have any questions or comments about the information presented in this letter, please do not hesitate to call me at (610) 498-6348 or email at Jamie.Kleinle@talenergy.com.

Sincerely,

A handwritten signature in black ink, appearing to read "Jamie Kleinle".

Jamie Kleinle
Environmental Professional



Jamie Kleinle • Environmental Professional
610-498-6348 • jamie.kleinle@talenergy.com
Talen Energy • 6079 DePues Ferry Rd., • Bangor, PA 18013

SENT VIA UNITED STATES POSTAL SERVICE - CERTIFIED

December 8, 2022

Northampton County Council
Northampton County Government Center
Office of County Council
669 Washington Street
Easton, PA 18042-7475

*RE: LMBE Project Co, LLC
Lower Mount Bethel Township, PA
Notification of Application for Modification to Title V Permit No. 48-00091*

Dear Council members:

LMBE Project Co, LLC is submitting to the Pennsylvania Department of Environmental Protection (PADEP), an application for a modification to Title V Operating Permit (#48-00091) for their site in Lower Mount Bethel Township, Northampton County, PA. The proposed modification is for the addition of a NO_x emissions averaging plan to comply with RACT III requirements.

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If you have any questions or comments about the information presented in this letter, please do not hesitate to call me at (610) 498-6348 or email at Jamie.Kleinle@talenergy.com.

Sincerely,

A handwritten signature in black ink, appearing to read "Jamie Kleinle".

Jamie Kleinle
Environmental Professional



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 17 S COMMERCE WAY
 BETHLEHEM, PA 18017-9026
 (800)275-8777

12/09/2022

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First-Class Mail® Large Envelope	1		\$1.20
Easton, PA 18042 Weight: 0 lb 1.00 oz Estimated Delivery Date Mon 12/12/2022			
Certified Mail®			\$4.00
Tracking #:	70180040000064926076		
Return Receipt			\$3.25
Tracking #:	9590 9402 6329 0296 1926 72		
Total			\$8.45
First-Class Mail® Large Envelope	1		\$1.20
Martins Creek, PA 18063 Weight: 0 lb 1.00 oz Estimated Delivery Date Mon 12/12/2022			
Certified Mail®			\$4.00
Tracking #:	70201810000212785954		
Return Receipt			\$3.25
Tracking #:	9590 9402 6329 0296 1926 96		
Total			\$8.45
Grand Total:			\$16.90
Credit Card Remit			\$16.90
Card Name: MasterCard Account #: XXXXXXXXXX6952 Approval #: 060160			

7020 1810 0002 1278 5954

7018 0040 0000 6492 6076

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Martins Creek, PA 18063
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Certified Mail Fee	\$4.00
Extra Services & Fees (check box, add fee as appropriate)	\$3.25
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

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Total Postage and Fees	\$8.45



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 City, State, ZIP+4® _____
 PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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Extra Services & Fees (check box, add fee as appropriate)	\$3.25
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage	\$1.20
Total Postage and Fees	\$8.45



Sent To _____
 Street and Apt. No., or PO Box No. _____
 City, State, ZIP+4® _____
 PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

APPENDIX C. COMPLIANCE REVIEW FORMS



COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
 BUREAU OF AIR QUALITY

AIR POLLUTION CONTROL ACT COMPLIANCE REVIEW FORM

Fully and accurately provide the following information, as specified. Attach additional sheets as necessary.

Type of Compliance Review Form Submittal (check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Original Filing | Date of Last Compliance Review Form Filing: |
| <input checked="" type="checkbox"/> Amended Filing | <u>11/09/2020</u> |

Type of Submittal

- | | | |
|---|---|--|
| <input type="checkbox"/> New Plan Approval | <input type="checkbox"/> New Operating Permit | <input type="checkbox"/> Renewal of Operating Permit |
| <input type="checkbox"/> Extension of Plan Approval | <input type="checkbox"/> Change of Ownership | <input type="checkbox"/> Periodic Submission (@ 6 mos) |
| <input checked="" type="checkbox"/> Other: <u>Operating Permit Significant Modification</u> | | |

SECTION A. GENERAL APPLICATION INFORMATION

Name of Applicant/Permittee/("applicant")
 (non-corporations-attach documentation of legal name)
 LMBE PROJECT CO LLC

Address 6079 DePues Ferry Road Bangor, PA 18013

Telephone (610) 498-6348 **Taxpayer ID#** 37-1908140-1

Permit, Plan Approval or Application ID# 48-00091

Identify the form of management under which the applicant conducts its business (check appropriate box)

- | | | |
|--|--|--|
| <input type="checkbox"/> Individual | <input type="checkbox"/> Syndicate | <input type="checkbox"/> Government Agency |
| <input type="checkbox"/> Municipality | <input type="checkbox"/> Municipal Authority | <input type="checkbox"/> Joint Venture |
| <input type="checkbox"/> Proprietorship | <input type="checkbox"/> Fictitious Name | <input type="checkbox"/> Association |
| <input type="checkbox"/> Public Corporation | <input type="checkbox"/> Partnership | <input checked="" type="checkbox"/> Other Type of Business, specify below: |
| <input type="checkbox"/> Private Corporation | <input type="checkbox"/> Limited Partnership | Limited Liability Company (LLC) |

Describe below the type(s) of business activities performed.

Electric Generation

SECTION B. GENERAL INFORMATION REGARDING "APPLICANT"

If applicant is a corporation or a division or other unit of a corporation, provide the names, principal places of business, state of incorporation, and taxpayer ID numbers of all domestic and foreign parent corporations (including the ultimate parent corporation), and all domestic and foreign subsidiary corporations of the ultimate parent corporation with operations in Pennsylvania. Please include all corporate divisions or units, (whether incorporated or unincorporated) and privately held corporations. (A diagram of corporate relationships may be provided to illustrate corporate relationships.) Attach additional sheets as necessary.

Unit Name	Principal Places of Business	State of Incorporation	Taxpayer ID	Relationship to Applicant
See Attachment 1				

SECTION C. SPECIFIC INFORMATION REGARDING APPLICANT AND ITS "RELATED PARTIES"

Pennsylvania Facilities. List the name and location (mailing address, municipality, county), telephone number, and relationship to applicant (parent, subsidiary or general partner) of applicant and all Related Parties' places of business, and facilities in Pennsylvania. Attach additional sheets as necessary.

Unit Name	Street Address	County and Municipality	Telephone No.	Relationship to Applicant
See Attachment 1				

Provide the names and business addresses of all general partners of the applicant and parent and subsidiary corporations, if any.

Name	Business Address
See Attachment 1	

List the names and business address of persons with overall management responsibility for the process being permitted (i.e. plant manager).

Name	Business Address
See Attachments 2 & 3	

Plan Approvals or Operating Permits. List all plan approvals or operating permits issued by the Department or an approved local air pollution control agency under the APCA to the applicant or related parties that are currently in effect or have been in effect at any time 5 years prior to the date on which this form is notarized. This list shall include the plan approval and operating permit numbers, locations, issuance and expiration dates. Attach additional sheets as necessary.

Air Contamination Source	Plan Approval/ Operating Permit#	Location	Issuance Date	Expiration Date
See Attachment 4				

Compliance Background. (Note: Copies of specific documents, if applicable, must be made available to the Department upon its request.) List all documented conduct of violations or enforcement actions identified by the Department pursuant to the APCA, regulations, terms and conditions of an operating permit or plan approval or order by applicant or any related party, using the following format grouped by source and location in reverse chronological order. Attach additional sheets as necessary. See the definition of "documented conduct" for further clarification. Unless specifically directed by the Department, deviations which have been previously reported to the Department in writing, relating to monitoring and reporting, need not be reported.

Date	Location	Plan Approval/ Operating Permit#	Nature of Documented Conduct	Type of Department Action	Status: Litigation Existing/Continuing or Corrected/Date	Dollar Amount Penalty
	See Attachment 5					\$
						\$
						\$
						\$
						\$
						\$
						\$
						\$
						\$
						\$

List all incidents of deviations of the APCA, regulations, terms and conditions of an operating permit or plan approval or order by applicant or any related party, using the following format grouped by source and location in reverse chronological order. This list must include items both currently known and unknown to the Department. Attach additional sheets as necessary. See the definition of "deviations" for further clarification.

Date	Location	Plan Approval/ Operating Permit#	Nature of Deviation	Incident Status: Litigation Existing/Continuing Or Corrected/Date
	See Attachment 6			

CONTINUING OBLIGATION. Applicant is under a continuing obligation to update this form using the Compliance Review Supplemental Form if any additional deviations occur between the date of submission and Department action on the application.

VERIFICATION STATEMENT

Subject to the penalties of Title 18 Pa.C.S. Section 4904 and 35 P.S. Section 4009(b)(2), I verify under penalty of law that I am authorized to make this verification on behalf of the Applicant/Permittee. I further verify that the information contained in this Compliance Review Form is true and complete to the best of my belief formed after reasonable inquiry. I further verify that reasonable procedures are in place to ensure that "documented conduct" and "deviations" as defined in 25 Pa Code Section 121.1 are identified and included in the information set forth in this Compliance Review Form.

William C. Lewis

Signature

13 DEC 2022

Date

William C. Lewis

Name (Print or Type)

Plant Manager

Title

**SUBSIDIARIES AND AFFILIATES OF TALEN ENERGY CORPORATION
(LIMITED TO SUBSIDIARIES OF TALEN GENERATION, LLC DIRECTLY OR INDIRECTLY
HAVING ASSETS OR OPERATIONS IN PENNSYLVANIA)**

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**TALEN ENERGY CORPORATION
FACT SHEET
SUBSIDIARY COMPANIES**

COMPANY NAME: Talen Energy Corporation

REGISTERED OFFICE: DE: c/o Corporation Service Company
251 Little Falls Drive
Wilmington, DE 19808

PA: c/o Corporation Service Company
2595 Interstate Drive, Suite 103
Harrisburg, PA 17110

OWNED BY: Private

SUBSIDIARIES: Talen Energy Supply, LLC
Talen Coin Holdings LLC
Cumulus Growth Holdings LLC

PRINCIPAL ACTIVITY: Holding Company

STATE OF INCORPORATION: Delaware

QUALIFIED TO DO BUSINESS IN: Pennsylvania and Texas

FEDERAL TAX EMPLOYER IDENTIFICATION NO: 47-1197305

OTHER BUSINESS LOCATIONS: None

DATE ORGANIZED/ACQUIRED: June 6, 2014

**TALEN ENERGY SUPPLY, LLC
FACT SHEET
SUBSIDIARY COMPANIES
(Certain Subsidiaries Omitted)**

COMPANY NAME: Talen Energy Supply, LLC

REGISTERED OFFICE: DE: c/o Corporation Service Company
251 Little Falls Drive
Wilmington, DE 19808

PA: c/o Corporation Service Company
2595 Interstate Drive, Suite 103
Harrisburg, PA 17110

OWNED BY: Talen Energy Corporation

SUBSIDIARIES: Susquehanna Nuclear, LLC
Talen Energy Marketing, LLC
Talen Generation, LLC
Talen II Growth Parent Holdings LLC
Talen Montana Holdings, LLC
Talen NE LLC
Talen Nuclear Development, LLC
Talen Texas, LLC

PRINCIPAL ACTIVITY: Finance company

STATE OF INCORPORATION: Delaware

QUALIFIED TO DO BUSINESS IN: New Jersey, Ohio, Pennsylvania
Texas and Virginia

FEDERAL TAX EMPLOYER IDENTIFICATION NO: 23-3074920

OTHER BUSINESS LOCATIONS: N/A

DATE ORGANIZED/ACQUIRED: November 14, 2000

**TALEN GENERATION, LLC
FACT SHEET
SUBSIDIARY COMPANIES**

COMPANY NAME:

Talen Generation, LLC

REGISTERED OFFICE:

DE: c/o Corporation Service Company
251 Little Falls Drive
Wilmington, DE 19808

PA:

c/o Corporation Service Company
2595 Interstate Drive, Suite 103
Harrisburg, PA 17110

OWNED BY:

Talen Energy Supply, LLC

SUBSIDIARIES:

Brunner Island, LLC
Brunner Island Services, LLC
Conemaugh Fuels, LLC
Holtwood, LLC
Keystone Fuels, LLC
LMBE-MC HoldCo I LLC
Lower Mount Bethel Energy, LLC
Martins Creek, LLC
MC OpCo LLC
Montour, LLC
Montour Services, LLC
Pennsylvania Mines, LLC
Raven Power Generation Holdings
LLC
Realty Company of Pennsylvania
RMGL Holdings LLC
Sapphire Power Generation
Holdings LLC

PRINCIPAL ACTIVITY:

Primarily holding company for generation assets

STATE OF INCORPORATION:

Delaware

QUALIFIED TO DO BUSINESS IN:

Pennsylvania

**FEDERAL TAX EMPLOYER
IDENTIFICATION NO:**

23-3022597

OTHER BUSINESS LOCATIONS:

N/A

DATE ORGANIZED/ACQUIRED:

November 29, 1999

**TALEN GENERATION, LLC
BRUNNER ISLAND, LLC
FACT SHEET
SUBSIDIARY COMPANIES**

COMPANY NAME: Brunner Island, LLC

REGISTERED OFFICE: DE: c/o Corporation Service Company
251 Little Falls Drive
Wilmington, DE 19808

OWNED BY: PA: c/o Corporation Service Company
2595 Interstate Drive, Suite 103
Harrisburg, PA 17110

SUBSIDIARIES: Talen Generation, LLC

PRINCIPAL ACTIVITY: None

STATE OF INCORPORATION: Electricity generation – coal-fired generating assets

QUALIFIED TO DO BUSINESS IN: Delaware

FEDERAL TAX EMPLOYER IDENTIFICATION NO: Pennsylvania

OTHER BUSINESS LOCATIONS: 23-3022596

DATE ORGANIZED/ACQUIRED: N/A

November 29, 1999

**TALEN GENERATION, LLC
BRUNNER ISLAND SERVICES, LLC
FACT SHEET
SUBSIDIARY COMPANIES**

COMPANY NAME: Brunner Island Services, LLC

REGISTERED OFFICE: PA: c/o Corporation Service Company
2595 Interstate Drive, Suite 103
Harrisburg, PA 17110

OWNED BY: Talen Generation, LLC

SUBSIDIARIES: None

PRINCIPAL ACTIVITY: Purchases wholesale energy from Brunner Island, LLC and provides retail electric service to third-party facilities located on Brunner Island property. It also enters into transactions with third parties for the beneficial reuse of fly ash produced by Brunner Island and Montour, LLC.

STATE OF INCORPORATION: Pennsylvania

QUALIFIED TO DO BUSINESS IN: N/A

FEDERAL TAX EMPLOYER IDENTIFICATION NO: 23-3098400

OTHER BUSINESS LOCATIONS: N/A

DATE ORGANIZED/ACQUIRED: October 31, 2001

**TALEN GENERATION, LLC
CONEMAUGH FUELS, LLC
FACT SHEET
SUBSIDIARY COMPANIES**

COMPANY NAME: Conemaugh Fuels, LLC

REGISTERED OFFICE: DE: c/o The Corporation Trust Company
1209 Orange Street
Wilmington, DE 19801

PA: c/o Corporation Service Company
2595 Interstate Drive, Suite 103
Harrisburg, PA 17110 PA

OWNED BY: Talen Generation, LLC

SUBSIDIARIES: None

PRINCIPAL ACTIVITY: Provides fuel to the Conemaugh Steam Electric Station. Talen Generation, LLC holds 22.22% ownership interests in this Company.

STATE OF INCORPORATION: Delaware

QUALIFIED TO DO BUSINESS IN: Pennsylvania

FEDERAL TAX EMPLOYER IDENTIFICATION NO: 13-4210287

OTHER BUSINESS LOCATIONS: N/A

DATE ORGANIZED/ACQUIRED: July 12, 2002

**TALEN GENERATION, LLC
HOLTWOOD, LLC
FACT SHEET
SUBSIDIARY COMPANIES**

COMPANY NAME: Holtwood, LLC

REGISTERED OFFICE: DE: c/o Corporation Service Company
251 Little Falls Drive
Wilmington, DE 19808

PA: c/o Corporation Service Company
2595 Interstate Drive, Suite 103
Harrisburg, PA 17110

OWNED BY: Talen Generation, LLC

SUBSIDIARIES: None

PRINCIPAL ACTIVITY: Formerly owned hydroelectric generating assets

STATE OF INCORPORATION: Delaware

QUALIFIED TO DO BUSINESS IN: Pennsylvania

FEDERAL TAX EMPLOYER IDENTIFICATION NO: 23-3022598

OTHER BUSINESS LOCATIONS: N/A

DATE ORGANIZED/ACQUIRED: November 29, 1999

**TALEN GENERATION, LLC
KEYSTONE FUELS, LLC
FACT SHEET
SUBSIDIARY COMPANIES**

COMPANY NAME: Keystone – Conemaugh Projects, LLC

REGISTERED OFFICE: DE: c/o The Corporation Trust Company
1209 Orange Street
Wilmington, DE 19801

OWNED BY: Montour, LLC

SUBSIDIARIES: None

PRINCIPAL ACTIVITY: Scheduling agent. Montour, LLC holds 22.22% ownership interests in this Company.

STATE OF INCORPORATION: Delaware

QUALIFIED TO DO BUSINESS IN: None

FEDERAL TAX EMPLOYER IDENTIFICATION NO:

OTHER BUSINESS LOCATIONS: N/A

DATE ORGANIZED/ACQUIRED: January 23, 2019

**TALEN GENERATION, LLC
KEYSTONE FUELS, LLC
FACT SHEET
SUBSIDIARY COMPANIES**

COMPANY NAME: Keystone Fuels, LLC

REGISTERED OFFICE: DE: c/o The Corporation Trust Company
1209 Orange Street
Wilmington, DE 19801

OWNED BY: Talen Generation, LLC

SUBSIDIARIES: None

PRINCIPAL ACTIVITY: Provides fuel to the Keystone Steam Electric Station. Talen Generation, LLC holds 12.34% ownership interests in this Company.

STATE OF INCORPORATION: Delaware

QUALIFIED TO DO BUSINESS IN: None

FEDERAL TAX EMPLOYER IDENTIFICATION NO: 25-1885290

OTHER BUSINESS LOCATIONS: N/A

DATE ORGANIZED/ACQUIRED: October 24, 2000

**TALEN GENERATION, LLC
LMBE-MC HOLDCO I LLC
FACT SHEET
SUBSIDIARY COMPANIES**

COMPANY NAME: LMBE-MC HoldCo I LLC

REGISTERED OFFICE: DE: c/o Corporation Service Company
251 Little Falls Drive
Wilmington, DE 19808

OWNED BY: Talen Generation, LLC

SUBSIDIARIES: LMBE-MC HoldCo II LLC

PRINCIPAL ACTIVITY: Holding company – power generation.

STATE OF INCORPORATION: Delaware

QUALIFIED TO DO BUSINESS IN: None

FEDERAL TAX EMPLOYER IDENTIFICATION NO: 83-1650408

OTHER BUSINESS LOCATIONS: N/A

DATE ORGANIZED/ACQUIRED: August 16, 2018

**TALEN GENERATION, LLC
LMBE-MC HOLDCO II
FACT SHEET
SUBSIDIARY COMPANIES**

COMPANY NAME: LMBE-MC HoldCo II LLC

REGISTERED OFFICE: DE: c/o Corporation Service Company
251 Little Falls Drive
Wilmington, DE 19808

OWNED BY: LMBE-MC HoldCo I LLC

SUBSIDIARIES: LMBE Project Company LLC
MC Project Company LLC

PRINCIPAL ACTIVITY: Holding company – power generation.

STATE OF INCORPORATION: Delaware

QUALIFIED TO DO BUSINESS IN: None

FEDERAL TAX EMPLOYER IDENTIFICATION NO: 36-4908366

OTHER BUSINESS LOCATIONS: N/A

DATE ORGANIZED/ACQUIRED: August 16, 2018

**TALEN GENERATION, LLC
LMBE PROJECT COMPANY LLC
FACT SHEET
SUBSIDIARY COMPANIES**

COMPANY NAME: LMBE Project Company LLC

REGISTERED OFFICE: DE: c/o Corporation Service Company
251 Little Falls Drive
Wilmington, DE 19808

OWNED BY: LMBE-MC HoldCo II LLC

SUBSIDIARIES: None

PRINCIPAL ACTIVITY: Project finance company – power generation.

STATE OF INCORPORATION: Delaware

QUALIFIED TO DO BUSINESS IN: None

FEDERAL TAX EMPLOYER IDENTIFICATION NO: 37-1908140

OTHER BUSINESS LOCATIONS: N/A

DATE ORGANIZED/ACQUIRED: August 16, 2018

**TALEN GENERATION, LLC
PROJECT COMPANY LLC
FACT SHEET
SUBSIDIARY COMPANIES**

COMPANY NAME: MC Project Company LLC

REGISTERED OFFICE: DE: c/o Corporation Service Company
251 Little Falls Drive
Wilmington, DE 19808

OWNED BY: LMBE-MC HoldCo II LLC

SUBSIDIARIES: None

PRINCIPAL ACTIVITY: Project finance company – power generation.

STATE OF INCORPORATION: Delaware

QUALIFIED TO DO BUSINESS IN: None

FEDERAL TAX EMPLOYER IDENTIFICATION NO: 30-1129239

OTHER BUSINESS LOCATIONS: N/A

DATE ORGANIZED/ACQUIRED: August 16, 2018

**TALEN GENERATION, LLC
LOWER MOUNT BETHEL ENERGY, LLC
FACT SHEET
SUBSIDIARY COMPANIES**

COMPANY NAME: Lower Mount Bethel Energy, LLC

REGISTERED OFFICE: DE: c/o Corporation Service Company
251 Little Falls Drive
Wilmington, DE 19808

PA: c/o Corporation Service Company
2595 Interstate Drive, Suite 103
Harrisburg, PA 17110

OWNED BY: Talen Generation, LLC

SUBSIDIARIES: None

PRINCIPAL ACTIVITY: Electricity generation – natural gas-fired generating assets

STATE OF INCORPORATION: Delaware

QUALIFIED TO DO BUSINESS IN: Pennsylvania

FEDERAL TAX EMPLOYER IDENTIFICATION NO: 54-1929268

OTHER BUSINESS LOCATIONS: N/A

DATE ORGANIZED/ACQUIRED: February 1, 1999

**TALEN GENERATION, LLC
MARTINS CREEK, LLC
FACT SHEET
SUBSIDIARY COMPANIES**

COMPANY NAME: Martins Creek, LLC

REGISTERED OFFICE: DE: c/o Corporation Service Company
251 Little Falls Drive
Wilmington, DE 19808

OWNED BY: PA: c/o Corporation Service Company
2595 Interstate Drive, Suite 103
Harrisburg, PA 17110

SUBSIDIARIES: Talen Generation, LLC
None

PRINCIPAL ACTIVITY: Electricity generation – oil, and gas-fired generating assets

STATE OF INCORPORATION: Delaware

QUALIFIED TO DO BUSINESS IN: Pennsylvania

FEDERAL TAX EMPLOYER IDENTIFICATION NO: 23-3022600

OTHER BUSINESS LOCATIONS: N/A

DATE ORGANIZED/ACQUIRED: November 29, 1999

**TALEN GENERATION, LLC
MC OPCO LLC
FACT SHEET
SUBSIDIARY COMPANIES**

COMPANY NAME: MC OpCo LLC

REGISTERED OFFICE: DE: c/o Corporation Service Company
251 Little Falls Drive
Wilmington, DE 19808

OWNED BY: PA: c/o Corporation Service Company
2595 Interstate Drive, Suite 103
Harrisburg, PA 17110

SUBSIDIARIES: Talen Generation, LLC
None

PRINCIPAL ACTIVITY: Project finance company – power generation.

STATE OF INCORPORATION: Delaware

QUALIFIED TO DO BUSINESS IN: Pennsylvania

FEDERAL TAX EMPLOYER IDENTIFICATION NO: 32-0585939

OTHER BUSINESS LOCATIONS: N/A

DATE ORGANIZED/ACQUIRED: December 3, 2018

**TALEN GENERATION, LLC
MONTOUR, LLC
FACT SHEET
SUBSIDIARY COMPANIES**

COMPANY NAME: Montour, LLC

REGISTERED OFFICE: DE: c/o Corporation Service Company
251 Little Falls Drive
Wilmington, DE 19808

PA: c/o Corporation Service Company
2595 Interstate Drive, Suite 103
Harrisburg, PA 17110

OWNED BY: Talen Generation, LLC

SUBSIDIARIES: Keystone – Conemaugh Projects, LLC (owns 22.22% interest)

PRINCIPAL ACTIVITY: Electricity generation – coal-fired generating assets

STATE OF INCORPORATION: Delaware

QUALIFIED TO DO BUSINESS IN: Pennsylvania

FEDERAL TAX EMPLOYER IDENTIFICATION NO: 23-3022599

OTHER BUSINESS LOCATIONS: N/A

DATE ORGANIZED/ACQUIRED: November 29, 1999

**TALEN GENERATION, LLC
MONTOUR SERVICES, LLC
FACT SHEET
SUBSIDIARY COMPANIES**

COMPANY NAME: Montour Services, LLC

REGISTERED OFFICE: PA: c/o Corporation Service Company
2595 Interstate Drive, Suite 103
Harrisburg, PA 17110

OWNED BY: Talen Generation, LLC

SUBSIDIARIES: None

PRINCIPAL ACTIVITY: Enters into transactions with third parties for the beneficial use of gypsum produced by the scrubbers at Brunner Island and Montour. Also purchases water from Montour, LLC for resale to a third-party wallboard manufacturing facility located on Talen Generation property.

STATE OF INCORPORATION: Pennsylvania

QUALIFIED TO DO BUSINESS IN: N/A

FEDERAL TAX EMPLOYER IDENTIFICATION NO: 23-3098401

OTHER BUSINESS LOCATIONS: N/A

DATE ORGANIZED/ACQUIRED: October 31, 2001

**TALEN GENERATION, LLC
PENNSYLVANIA MINES, LLC
FACT SHEET
SUBSIDIARY COMPANIES**

COMPANY NAME: Pennsylvania Mines, LLC

REGISTERED OFFICE: DE: c/o Corporation Service Company
251 Little Falls Drive
Wilmington, DE 19808

PA: c/o Corporation Service Company
2595 Interstate Drive, Suite 103
Harrisburg, PA 17110

OWNED BY: Talen Generation, LLC

SUBSIDIARIES: None

PRINCIPAL ACTIVITY: Provides treatment of refuse area leachate and monitoring of
underground mine water.

STATE OF INCORPORATION: Delaware

QUALIFIED TO DO BUSINESS IN: Pennsylvania

FEDERAL TAX EMPLOYER IDENTIFICATION NO: 23-3056813

OTHER BUSINESS LOCATIONS: N/A

DATE ORGANIZED/ACQUIRED: December 7, 1999

**TALEN GENERATION, LLC
RAVEN POWER GENERATION HOLDINGS LLC
FACT SHEET
SUBSIDIARY COMPANIES**

COMPANY NAME: Raven Power Generation Holdings LLC

REGISTERED OFFICE: DE: c/o Corporation Service Company
251 Little Falls Drive
Wilmington, DE 19808

OWNED BY: Talen Generation, LLC

SUBSIDIARIES: Raven Power Finance LLC
Raven Power Group LLC

PRINCIPAL ACTIVITY: Electric power generation

STATE OF INCORPORATION: Delaware

QUALIFIED TO DO BUSINESS IN: N/A

FEDERAL TAX EMPLOYER IDENTIFICATION NO: 47-1227220

OTHER BUSINESS LOCATIONS: N/A

DATE ORGANIZED/ACQUIRED: June 18, 2014

**TALEN GENERATION, LLC
REALTY COMPANY OF PENNSYLVANIA
FACT SHEET
SUBSIDIARY COMPANIES**

COMPANY NAME: Realty Company of Pennsylvania

REGISTERED OFFICE: PA: c/o Corporation Service Company
2595 Interstate Drive, Suite 103
Harrisburg, PA 17110

OWNED BY: Talen Generation, LLC

SUBSIDIARIES: BDW Corp.
Lady Jane Collieries, Inc.

PRINCIPAL ACTIVITY: Owns and develops land for commercial purposes

STATE OF INCORPORATION: Pennsylvania

QUALIFIED TO DO BUSINESS IN: New Jersey

FEDERAL TAX EMPLOYER IDENTIFICATION NO: 23-1612742

OTHER BUSINESS LOCATIONS: N/A

DATE ORGANIZED/ACQUIRED: November 29, 1950

**TALEN GENERATION, LLC
BDW CORP.
FACT SHEET
SUBSIDIARY COMPANIES**

COMPANY NAME: BDW Corp.

REGISTERED OFFICE: DE: c/o The Prentice-Hall Corporation System, Inc.
251 Little Falls Drive
Wilmington, DE 19808

PA: c/o The Prentice-Hall Corporation System, Inc.
2595 Interstate Drive, Suite 103
Harrisburg, PA 17110

OWNED BY: Realty Company of Pennsylvania

SUBSIDIARIES: None

PRINCIPAL ACTIVITY: Formerly held real estate associated with oil holdings tank assets.

STATE OF INCORPORATION: Delaware

QUALIFIED TO DO BUSINESS IN: Pennsylvania

FEDERAL TAX EMPLOYER IDENTIFICATION NO: 51-0116798

OTHER BUSINESS LOCATIONS: N/A

DATE ORGANIZED/ACQUIRED: December 11, 1972

**TALEN GENERATION, LLC,
LADY JANE COLLIERIES, INC.
FACT SHEET**

SUBSIDIARY COMPANIES

COMPANY NAME: Lady Jane Collieries, Inc.

REGISTERED OFFICE: c/o Corporation Service Company
2595 Interstate Drive, Suite 103
Harrisburg, PA 17110

OWNED BY: Realty Company of Pennsylvania

SUBSIDIARIES: None

PRINCIPAL ACTIVITY: Former coal mining company

STATE OF INCORPORATION: Pennsylvania

QUALIFIED TO DO BUSINESS IN: None

FEDERAL TAX EMPLOYER IDENTIFICATION NO: 24-0856538

OTHER BUSINESS LOCATIONS: N/A

DATE ORGANIZED/ACQUIRED: August 22, 1960

**TALEN GENERATION, LLC
RMGL HOLDINGS LLC
FACT SHEET
SUBSIDIARY COMPANIES**

COMPANY NAME: RMGL Holdings LLC (f/k/a Talen Generation Services, LLC)

REGISTERED OFFICE: DE: c/o Corporation Service Company
251 Little Falls Drive
Wilmington, DE 19808

PA: c/o Corporation Service Company
2595 Interstate Drive, Suite 103
Harrisburg, PA 17110

OWNED BY: Talen Generation, LLC

SUBSIDIARIES: None

PRINCIPAL ACTIVITY: Owns property that has beneficially reused fly ash.

STATE OF INCORPORATION: Delaware

QUALIFIED TO DO BUSINESS IN: Pennsylvania

FEDERAL TAX EMPLOYER IDENTIFICATION NO: 54-2009098

OTHER BUSINESS LOCATIONS: N/A

DATE ORGANIZED/ACQUIRED: June 9, 2000

**TALEN GENERATION, LLC
SAPPHIRE POWER GENERATION HOLDINGS LLC
FACT SHEET
SUBSIDIARY COMPANIES**

COMPANY NAME: Sapphire Power Generation Holdings LLC

REGISTERED OFFICE: DE: c/o Corporation Service Company
251 Little Falls Drive
Wilmington, DE 19808

OWNED BY: Talen Generation, LLC

SUBSIDIARIES: MEG Generating Company, LLC
Morris Energy Management Company, LLC
Morris Energy Operations Company, LLC
Sapphire Power LLC
Sapphire Power Finance LLC
Sapphire Power Marketing LLC

PRINCIPAL ACTIVITY: Electric power generation

STATE OF INCORPORATION: Delaware

QUALIFIED TO DO BUSINESS IN: N/A

FEDERAL TAX EMPLOYER IDENTIFICATION NO: 47-1206946

OTHER BUSINESS LOCATIONS: N/A

DATE ORGANIZED/ACQUIRED: June 18, 2014

Attachment 2 Officers List

Name	Title	First Elected
Lebsack, Dale E. Jr.	President	03/22/2022
Chesser, John	Chief Financial Officer	12/10/2021
Wright, Andrew M.	General Counsel and Secretary	08/16/2018
Douglass, Thomas G. Jr.	Assistant Secretary	08/16/2018
Endlich, Jason	Divisional Chief Financial Officer	08/16/2018
Figueroa, Orlando	Independent Manager	12/03/2018
Hadjisawas, Socrates	Controller	06/01/2022
Hernandez, Alejandro	Executive Vice President	03/19/2018
Kosa, Frank	Assistant Treasurer	08/16/2018
Muhr, Robert F.	Vice President - Finance	07/28/2021
Plagens, Anthony J.	Senior Vice President - Accounting	06/01/2022
Prakash, Rajat	Vice President and Treasurer	08/01/2022
Talen Generation, LLC	Member	08/16/2018
Torres, Alexander	Assistant Secretary	04/15/2019

ATTACHMENT 3

Persons exercising control:

<u>NAME</u>	<u>BUSINESS ADDRESS</u>	<u>TITLE</u>
William C. Lewis	6079 DePues Ferry Road Bangor, PA 18013 610.498.6310	Plant Manager
Alejandro Hernandez	1780 Hughes Landing Boulevard, Suite 800 The Woodlands, TX 77380	Executive Vice President
Dale E. Lebsack Jr.	1780 Hughes Landing Boulevard, Suite 800 The Woodlands, TX 77380	President

ATTACHMENT 4

List of Facility Permits and Registrations Issued or Managed by PA DEP:

Waste Program – Waste Generator EPA ID PAR00050776

Air Program – Title V Permit 48-00091; Plan Approval 48-00091B

Storage Tank Program - Facility 48-38803

ATTACHMENT 5 5-Year Compliance History

I. Waste Management Program – No inspections have been performed by PADEP

II. Title V Air Permit 48-00091 – There have been three (3) air program violations identified in the past five years.

Violation ID	Date	Violation Description														
969602	09/14/2022	<p>Construction, Modification, Reactivation and Operation of Sources, Operating Permit Requirements, Compliance requirements. A person may not cause or permit the operation of a source subject to this article unless the source and air cleaning devices identified in the application for the plan approval and operating permit and the plan approval issued to the source are operated and maintained in accordance with specifications in the application and conditions in the plan approval and operating permit issued by the Department. A person may not cause or permit the operation of an air contamination source subject to this chapter in a manner inconsistent with good operating practices.</p> <p>Resolution: Corrected/Abated</p> <p>Legal Citation: 25 Pa Code 127.444 : PA Code Website</p> <p>Violation Type: Environmental Health & Safety</p>														
Related Enforcements																
<p>Please note: the following related enforcement data is accumulated from possibly many different sites/facilities that may be unrelated to the facility for this inspection.</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Enforcement ID: 407772</td> <td style="width: 50%;">Penalty Final Date:</td> </tr> <tr> <td>Enforcement Type: Notice of Violation</td> <td>Penalty Amount Assessed:</td> </tr> <tr> <td>Date Executed: 09/30/2022</td> <td>Total Amount Due:</td> </tr> <tr> <td>Taken Against: LMBE PROJ CO LLC</td> <td>Total Amount Collected:</td> </tr> <tr> <td>On Appeal? N</td> <td>Penalty Status:</td> </tr> <tr> <td>Enforcement Status: Comply/Closed</td> <td></td> </tr> <tr> <td colspan="2"># of Violations Addressed by this Enforcement and Penalty Action (possibly from many facilities): 1</td> </tr> </table>			Enforcement ID: 407772	Penalty Final Date:	Enforcement Type: Notice of Violation	Penalty Amount Assessed:	Date Executed: 09/30/2022	Total Amount Due:	Taken Against: LMBE PROJ CO LLC	Total Amount Collected:	On Appeal? N	Penalty Status:	Enforcement Status: Comply/Closed		# of Violations Addressed by this Enforcement and Penalty Action (possibly from many facilities): 1	
Enforcement ID: 407772	Penalty Final Date:															
Enforcement Type: Notice of Violation	Penalty Amount Assessed:															
Date Executed: 09/30/2022	Total Amount Due:															
Taken Against: LMBE PROJ CO LLC	Total Amount Collected:															
On Appeal? N	Penalty Status:															
Enforcement Status: Comply/Closed																
# of Violations Addressed by this Enforcement and Penalty Action (possibly from many facilities): 1																

Violation ID	Date	Violation Description														
834287	05/01/2018	<p>Construction, Modification, Reactivation and Operation of Sources, Operating Permit Requirements, Compliance requirements. A person may not cause or permit the operation of a source subject to this article unless the source and air cleaning devices identified in the application for the plan approval and operating permit and the plan approval issued to the source are operated and maintained in accordance with specifications in the application and conditions in the plan approval and operating permit issued by the Department. A person may not cause or permit the operation of an air contamination source subject to this chapter in a manner inconsistent with good operating practices.</p> <p>Resolution: Addressed Through Enforcement</p> <p>Legal Citation: 25 Pa Code 127.444 : PA Code Website</p> <p>Violation Type: Environmental Health & Safety</p>														
Related Enforcements																
<p>Please note: the following related enforcement data is accumulated from possibly many different sites/facilities that may be unrelated to the facility for this inspection.</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Enforcement ID: 369811</td> <td style="width: 50%;">Penalty Final Date:</td> </tr> <tr> <td>Enforcement Type: Consent Assessment of Civil Penalty</td> <td>Penalty Amount Assessed: 1042</td> </tr> <tr> <td>Date Executed: 11/26/2018</td> <td>Total Amount Due: 0</td> </tr> <tr> <td>Taken Against: LOWER MT BETHEL ENERGY LLC</td> <td>Total Amount Collected: 1042</td> </tr> <tr> <td>On Appeal? N</td> <td>Penalty Status:</td> </tr> <tr> <td>Enforcement Status: Comply/Closed</td> <td></td> </tr> <tr> <td colspan="2"># of Violations Addressed by this Enforcement and Penalty Action (possibly from many facilities): 2</td> </tr> </table>			Enforcement ID: 369811	Penalty Final Date:	Enforcement Type: Consent Assessment of Civil Penalty	Penalty Amount Assessed: 1042	Date Executed: 11/26/2018	Total Amount Due: 0	Taken Against: LOWER MT BETHEL ENERGY LLC	Total Amount Collected: 1042	On Appeal? N	Penalty Status:	Enforcement Status: Comply/Closed		# of Violations Addressed by this Enforcement and Penalty Action (possibly from many facilities): 2	
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Date Executed: 11/26/2018	Total Amount Due: 0															
Taken Against: LOWER MT BETHEL ENERGY LLC	Total Amount Collected: 1042															
On Appeal? N	Penalty Status:															
Enforcement Status: Comply/Closed																
# of Violations Addressed by this Enforcement and Penalty Action (possibly from many facilities): 2																

Violation ID	Date	Violation Description														
834286	02/02/2018	<p>Construction, Modification, Reactivation and Operation of Sources, Operating Permit Requirements, Compliance requirements. A person may not cause or permit the operation of a source subject to this article unless the source and air cleaning devices identified in the application for the plan approval and operating permit and the plan approval issued to the source are operated and maintained in accordance with specifications in the application and conditions in the plan approval and operating permit issued by the Department. A person may not cause or permit the operation of an air contamination source subject to this chapter in a manner inconsistent with good operating practices.</p> <p>Resolution: Addressed Through Enforcement</p> <p>Legal Citation: 25 Pa Code 127.444 : PA Code Website</p> <p>Violation Type: Environmental Health & Safety</p>														
Related Enforcements																
<p>Please note: the following related enforcement data is accumulated from possibly many different sites/facilities that may be unrelated to the facility for this inspection.</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Enforcement ID: 369811</td> <td style="width: 50%;">Penalty Final Date:</td> </tr> <tr> <td>Enforcement Type: Consent Assessment of Civil Penalty</td> <td>Penalty Amount Assessed: 1042</td> </tr> <tr> <td>Date Executed: 11/26/2018</td> <td>Total Amount Due: 0</td> </tr> <tr> <td>Taken Against: LOWER MT BETHEL ENERGY LLC</td> <td>Total Amount Collected: 1042</td> </tr> <tr> <td>On Appeal? N</td> <td>Penalty Status:</td> </tr> <tr> <td>Enforcement Status: Comply/Closed</td> <td></td> </tr> <tr> <td colspan="2"># of Violations Addressed by this Enforcement and Penalty Action (possibly from many facilities): 2</td> </tr> </table>			Enforcement ID: 369811	Penalty Final Date:	Enforcement Type: Consent Assessment of Civil Penalty	Penalty Amount Assessed: 1042	Date Executed: 11/26/2018	Total Amount Due: 0	Taken Against: LOWER MT BETHEL ENERGY LLC	Total Amount Collected: 1042	On Appeal? N	Penalty Status:	Enforcement Status: Comply/Closed		# of Violations Addressed by this Enforcement and Penalty Action (possibly from many facilities): 2	
Enforcement ID: 369811	Penalty Final Date:															
Enforcement Type: Consent Assessment of Civil Penalty	Penalty Amount Assessed: 1042															
Date Executed: 11/26/2018	Total Amount Due: 0															
Taken Against: LOWER MT BETHEL ENERGY LLC	Total Amount Collected: 1042															
On Appeal? N	Penalty Status:															
Enforcement Status: Comply/Closed																
# of Violations Addressed by this Enforcement and Penalty Action (possibly from many facilities): 2																

Violation ID	Date	Violation Description
776550	01/13/2017	Construction, Modification, Reactivation and Operation of Sources, Operating Permit Requirements, Compliance requirements. A person may not cause or permit the operation of a source subject to this article unless the source and air cleaning devices identified in the application for the plan approval and operating permit and the plan approval issued to the source are operated and maintained in accordance with specifications in the application and conditions in the plan approval and operating permit issued by the Department. A person may not cause or permit the operation of an air contamination source subject to this chapter in a manner inconsistent with good operating practices.
		Resolution: Corrected/Abated
		Legal Citation: 25 Pa Code 127.444 : PA Code Website
		Violation Type: Environmental Health & Safety
		Related Enforcements
		Please note: the following related enforcement data is accumulated from possibly many different sites/facilities that may be unrelated to the facility for this inspection.
		Enforcement ID: 350179
		Enforcement Type: Notice of Violation
		Date Executed: 01/17/2017
		Taken Against: LOWER MT BETHEL ENERGY LLC
		On Appeal? N
		Enforcement Status: Comply/Closed
		# of Violations Addressed by this Enforcement and Penalty Action (possibly from many facilities): 1
		Penalty Final Date:
		Penalty Amount Assessed:
		Total Amount Due:
		Total Amount Collected:
		Penalty Status:

List of more recent air program inspections – no violations noted:

CEMS Source Monitoring Report Review (3101284)	10/30/2020	No Violations Noted
Administrative/File Review (3107393)	11/13/2020	No Violations Noted
Administrative/File Review (3107418)	11/13/2020	No Violations Noted
CEMS Source Monitoring Report Review (3141788)	02/01/2021	No Violations Noted
AES Submittal Review (3164910)	03/22/2021	No Violations Noted
CEMS Source Monitoring Report Review (3184820)	05/02/2021	No Violations Noted
Full Compliance Evaluation (3203206)	05/20/2021	No Violations Noted
CEMS Source Monitoring Report Review (3224635)	07/26/2021	No Violations Noted
Administrative/File Review (3249858)	09/15/2021	No Violations Noted
Administrative/File Review (3256263)	09/27/2021	No Violations Noted
CEMS Source Monitoring Report Review (3262782)	10/06/2021	No Violations Noted
CEMS Source Monitoring Report Review (3262783)	10/06/2021	No Violations Noted
CEMS Source Monitoring Report Review (3262784)	10/06/2021	No Violations Noted
CEMS Source Monitoring Report Review (3262785)	10/06/2021	No Violations Noted
CEMS Source Monitoring Report Review (3262786)	10/06/2021	No Violations Noted
CEMS Source Monitoring Report Review (3277507)	11/04/2021	No Violations Noted
CEMS Source Monitoring Report Review (3316357)	02/02/2022	No Violations Noted
Administrative/File Review (3329850)	03/14/2022	No Violations Noted
AES Submittal Review (3345188)	04/11/2022	No Violations Noted
Title V Compliance Cert. Received (3352665)	04/20/2022	No Violations Noted
CEMS Source Monitoring Report Review (3365064)	05/19/2022	No Violations Noted
Title V Compliance Cert. Review (3371184)	06/01/2022	No Violations Noted
CEMS Source Monitoring Report Review (3401204)	08/02/2022	No Violations Noted
Administrative/File Review (3440197)	10/17/2022	No Violations Noted
Administrative/File Review (3442476)	10/19/2022	No Violations Noted
Administrative/File Review (3442554)	10/19/2022	No Violations Noted
CEMS Source Monitoring Report Review (3454456)	11/08/2022	No Violations Noted

III. Storage Tank Program - Facility 48-38803

There have been three (3) storage tank program violations identified in the past five years.

Violation ID	Date	Violation Description
922497	07/07/2021	Failure to meet performance and design standards
		Resolution: Corrected/Abated
		PA Code Legal Citation: 25 Pa. Code 245.612 : PA Code Website
		Violation Type: Environmental Health & Safety Enforcement Type: No Enforcement Data

Violation ID	Date	Violation Description
915233	04/28/2021	Failure to meet performance and design standards
		Resolution: Corrected/Abated
		PA Code Legal Citation: 25 Pa. Code 245.612 : PA Code Website
		Violation Type: Environmental Health & Safety Enforcement Type: No Enforcement Data

Violation ID	Date	Violation Description														
799535	10/18/2017	Failure to meet performance and design standards														
		Resolution: Corrected/Abated														
		PA Code Legal Citation: 25 Pa. Code 245.612 : PA Code Website														
		Violation Type: Environmental Health & Safety														
Related Enforcements																
<p>Please note: the following related enforcement data is accumulated from possibly many different sites/facilities that may be unrelated to the facility for this inspection.</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 60%;">Enforcement ID: 358559</td> <td>Penalty Final Date:</td> </tr> <tr> <td>Enforcement Type: Field Notice of Violation</td> <td>Penalty Amount Assessed:</td> </tr> <tr> <td>Date Executed: 10/18/2017</td> <td>Total Amount Due:</td> </tr> <tr> <td>Taken Against: LOWER MT BETHEL ENERGY LLC</td> <td>Total Amount Collected:</td> </tr> <tr> <td>On Appeal? N</td> <td>Penalty Status:</td> </tr> <tr> <td>Enforcement Status: Comply/Closed</td> <td></td> </tr> <tr> <td colspan="2"># of Violations Addressed by this Enforcement and Penalty Action (possibly from many facilities): 1</td> </tr> </table>			Enforcement ID: 358559	Penalty Final Date:	Enforcement Type: Field Notice of Violation	Penalty Amount Assessed:	Date Executed: 10/18/2017	Total Amount Due:	Taken Against: LOWER MT BETHEL ENERGY LLC	Total Amount Collected:	On Appeal? N	Penalty Status:	Enforcement Status: Comply/Closed		# of Violations Addressed by this Enforcement and Penalty Action (possibly from many facilities): 1	
Enforcement ID: 358559	Penalty Final Date:															
Enforcement Type: Field Notice of Violation	Penalty Amount Assessed:															
Date Executed: 10/18/2017	Total Amount Due:															
Taken Against: LOWER MT BETHEL ENERGY LLC	Total Amount Collected:															
On Appeal? N	Penalty Status:															
Enforcement Status: Comply/Closed																
# of Violations Addressed by this Enforcement and Penalty Action (possibly from many facilities): 1																

PADEP inspections performed during the past 5 years:

Incident- Response to Accident or Event (2649631)	10/18/2017	Violation(s) Noted
Integrity In-Service (3128753)	12/28/2020	No Violations Noted
Compliance Evaluation (3183303)	04/28/2021	Violation(s) Noted
Compliance Evaluation (3215939)	07/07/2021	Violation(s) Noted

ATTACHMENT 6

Air Pollution Control Act Deviations (Past 5 years)

2022:

Sect./Cond. #	Citation #	Source	Noncompliance	Monitoring Method(s)	Date	Duration	Corrective Action(s)
Section E/Group 2 / Cond. # 002	25Pa Code §127.444	103/104	The exceedance of the natural gas consumption limit resulted from an increase in duct burner usage in 2021 and 2022 which was the result of increased market demand and PJM's dispatch of Units 1 and 2.	12-month Rolling Sum Spreadsheet	June-October 2022	5 months	<p>Upon identifying the exceedance of the natural gas consumption limit in September 2022, the LMBE Facility stopped using the duct burners and committed to not resume utilizing the duct burners until the 12-month rolling fuel usage falls below the permit limit, which occurred as of November 2022. The Facility had received an NOV alleging noncompliance with the applicable natural gas consumption limit on September 30, 2022. To prevent similar issues from occurring in the future, a real-time monitor and alarm for the 12-month rolling fuel usage for the duct burners has been added to the DAHS. This monitor is visible on the operator's screen in the control room and an alarm will provide immediate notice to operators if the actual consumption approaches the permit limit. Operators have been trained to cease duct burner firing when this alarm sounds.</p> <p>Additionally, the duct burner gas consumption limit was effectively superseded in 2019 when the Department established new lower facility-wide emission limits through a Plan Approval for the facility's turbine maintenance project. Such limits rendered unnecessary the 12-month rolling fuel usage limit for the duct burners. On this basis, the facility requested in its November 2020 Title V renewal application that the Department remove the relevant fuel usage limit from the permit. PADEP has removed the 12-month rolling fuel usage limit for the duct burners from the working draft of the renewed Title V permit received on July 20, 2022. On October 31, 2022, an NOV closure memo and letter were received by the Facility indicating the Department closed out the NOV with no further enforcement action.</p>

2021:

Sect./Cond. #	Citation #	Source	Non-Compliance	Monitoring Method(s)	Date	Duration	Corrective Action(s)
Section B/ #008	See entries below						
Section B/#026 Section C/#012	25 PA Code §127.513	Facility	Late 2021 Annual Compliance Certification Submittal	Reporting	NA	NA	During a recent records review, it was discovered that the annual compliance certification for the period covering January 1, 2021 – December 31, 2021, was not submitted due to some recent employee changes/turnover. Upon discovery of this oversight, this report was compiled immediately and submitted.
Section B/#025 Section C/#011	25 PA Code §127.511	Facility	Late 25 2021 Semi-Annual Monitoring Report Submittal	Reporting	NA	NA	During a recent records review, it was discovered that the semi-annual monitoring report for the period covering July 1, 2021 – December 31, 2021, was not submitted due to some recent employee changes/turnover. Upon discovery of this oversight, this report was compiled immediately and submitted.

2020: There have been no items of non-compliance during 2020 to date (deviations, exceedances or excursions).

2019: There were no items of non-compliance during 2019 (deviations, exceedances or excursions).

2018:

Sect./Cond. #	Citation #	Source	Non-Compliance	Monitoring Method(s)	Date	Duration	Corrective Action(s)
B, #007	See entry for Section E, Condition #002 below						
E, #002	25 PA Code §127.512	Facility	CO Emissions	CEMS	1/8/18	<1 day	Combustion Turbine Unit 2 auto-unloaded, resulting in operations at reduced load and excess carbon monoxide emissions until the unit was restored to normal operations. A penalty in the amount of \$476 was paid after submitting the 1 st quarter 2018 report. Apart from that event, there have been no deviations, exceedances or excursions for the above-referenced facility for the reporting period covering January 1, 2018 through December 31, 2018.

2017:

Sect./Cond. #	Citation #	Source	Non-Compliance	Monitoring Method(s)	Date	Duration	Corrective Action(s)
Section B #010(d)	25 PA Code §129.100 (b)(1)	Facility	Failure to demonstrate compliance with VOC RACT 2 regulatory limit by 1/1/2017	Testing	1/1/2017	32 days	This violation resulted from a special circumstance in that the comments from EPA were received approximately 2 weeks prior to the VOC RACT 2 deadline, LMBE could not resolve and respond to the comments and become a synthetic minor in time to avoid VOC RACT 2 applicability. Therefore, the facility withdrew the plan approval application and became subject to the presumptive VOC RACT 2 limit, which requires VOC emissions testing as a compliance demonstration. However, due to the requirement to submit a testing protocol and obtain a protocol approval prior to performing stack testing, as well as acquiring a testing contractor within short notice, the January 1, 2017 compliance date was not achievable. Testing was completed on Feb 2 2017. A penalty in the amount of \$2000 was paid in July 2017.

CEMS data as it was submitted for the 4th quarter 2017 resulted in an excess CO violation for three hours on December 27, 2017

APPENDIX D. NO_x RACT AVERAGING PLAN

RACT III NO_x EMISSIONS AVERAGING PLAN

**LMBE Project Company, LLC/Lower Mount Bethel
Energy**

Prepared By:

Christie Heath – Managing Consultant
Aiden Evans – Consultant

TRINITY CONSULTANTS

211 Welsh Pool Rd
Suite 238
Exton, PA 19341

December 16, 2022

Project 223902.0098



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1. INTRODUCTION AND REGULATORY BASIS

LMBE Project Company, LLC (LMBE) owns and operates the Lower Mount Bethel Energy Power Plant (LMBE) located in Lower Mount Bethel Township, Northampton County, Pennsylvania. LMBE currently operates under Title V permit No. 48-00091 issued June 1, 2016, revised January 29, 2019 and Plan Approval No. 48-00091B issued February 5, 2019. As a major source of NO_x¹, this facility is subject to the Additional RACT Requirements for Major Sources of NO_x for the 2015 Ozone NAAQS in 25 Pa Code §§ 129.111 – 129.115 (referred to as “RACT III”) published in the Pa Bulletin on November 12, 2022 (52 Pennsylvania Bulletin 6960). Section C Condition #005 of Plan Approval No. 48-00091B contains a federally enforceable VOC limit of 46.6 tpy. Thus, the facility is not a major source of VOC and RACT III VOC emission limits do not apply to LMBE.

LMBE is proposing to include the combined cycle combustion turbines (CCCT) and their associated duct burners at LMBE in a facility-wide NO_x emissions averaging plan. For the purposes of this document, the “facility” includes the following Title V Source IDs at LMBE:

- Combined Cycle Combustion Turbine (CCCT) Unit 1 W/ LOW NOX BURNER (Title V 48-00091 Source ID 101),
- Combined Cycle Combustion Turbine (CCCT) Unit 2 W/ LOW NOX BURNER (Title V 48-00091 Source ID 102),
- Unit 1 Heat Recovery Steam Generator (HRSG) Duct Burner (Title V 48-00091 Source ID 103), and
- Unit 2 Heat Recovery Steam Generator (HRSG) Duct Burner (Title V 48-00091 Source ID 104).

Units 1 and 2 at LMBE (Title V No. 48-00091 Source IDs 101 and 102) are both combined cycle combustion turbines that fire only natural gas. Both Unit 1 and Unit 2 HRSGs are equipped with natural gas-fired supplemental duct burners. Each HRSG duct burner exhausts to the same stack as the associated CCCT and each stack is equipped with a CEMS. As such, for the purposes of this report, the term “Unit 1” includes both Source IDs 101 and 103, and the term “Unit 2” includes both Source IDs 102 and 104. Note Source IDs 103 and 104 will be combined with Source IDs 101 and 102 respectively, when the facility’s renewed Title V permit is issued.

According to 25 Pa Code §129.113(a), the owner or operator of a major NO_x emitting facility subject to RACT III that includes at least one air contamination source subject to a presumptive NO_x RACT III emission limitation in 25 Pa Code §129.112 that cannot meet that limit may elect to average NO_x emissions on a facility-wide or system-wide basis using a 30 operating day rolling average. The plant contains emission units that are subject to presumptive RACT.

While the CCCTs at the plant are currently subject to a NO_x emissions limit of 3.5 ppmvd on a 3-hour rolling block average, per Group 1, Condition #005 of the Title V permit, this condition does not apply during periods of startup or shutdown. The presumptive RACT III NO_x limit for the turbines is 4 ppmvd on a 30 operating day rolling basis, including emissions from startups, shutdowns and malfunctions.² Per 25 Pa. Code 129.112(l), RACT III requires that presumptive RACT limitations be superseded by any more stringent permit limit already in place. However, since the current 3.5 ppmvd NO_x limit on Units 1 and 2 is established on a different averaging period and does not include startup, shutdown or malfunction

¹ As defined in 25 Pa Code 121.1

² Per 25 Pa. Code 129.115(b)(1)(ii).

emissions, LMBE does not find the existing permit limit (3.5 ppmvd NO_x) to be more stringent than the applicable presumptive RACT III limit for the turbines. Thus, LMBE will continue to comply with the existing NO_x permit limit for Units 1 and 2 in addition to the presumptive RACT III emission limit as outlined in this averaging plan.

A review of historical continuous emissions monitoring system (CEMS) data reveal that both units complied with presumptive RACT II limits on a facility-wide 30-operating day rolling sum from 2017-2021. However since 2017, each individual unit would have exceeded the presumptive RACT III limit on greater than 30 calendar days during which the daily actual emissions were greater than the allowable. The instances where the daily emissions are greater than the presumptive limit often correlate with unit startups and shutdowns and unit cycling. As discussed in detail in the permit application for Plan Approval No. 48-00091B, Units 1 and 2 are permitted to operate under two operating scenarios (1) baseload operation and (2) increased cycling operation. Note that operation under these scenarios is driven by future market conditions (i.e., the price of natural gas). When the price of natural gas is low, Units 1 and 2 will tend to operate as baseload units. As the price of natural gas rises, the CCCTs will begin to cycle more (that is units with a better heat rate will displace LMBE for baseload operation at this price). Since 2017, Units 1 and 2 have primarily operated as baseload units. However, with increased inflation which has particularly impacted energy prices, Units 1 and 2 may be called to cycle more frequently in the future impacting the facility's ability to comply with the presumptive RACT III requirements (which apply during periods of startup and shutdown). Consequently, the facility may not be able to meet applicable presumptive RACT III limits during periods with high frequencies of startups and shutdowns. This facility NO_x averaging plan satisfies the requirements of 25 Pa Code 129.113(b) and includes the following sections:

- ▶ Section 1 – Introduction and Regulatory Basis
- ▶ Section 2 – RACT III applicability for the combustion sources
- ▶ Section 3 – NO_x Emissions Averaging Approach

2. NO_x RACT III REQUIREMENTS

Table 2-1 outlines the specific combustion units being included in the facility averaging plan:

Table 2-1 Facility-wide Emissions Averaging Plan Sources

Source	Source Type	Source ID	Rating (MMBtu/hr)	Fuels Burned	NO _x Control Devices
Unit 1	Combined Cycle Combustion Turbine	101	2,155	Natural Gas	Selective Catalytic Reduction (SCR), Low NO _x Burners
Unit 2	Combined Cycle Combustion Turbine	102	2,155	Natural Gas	Selective Catalytic Reduction (SCR), Low NO _x Burners
Unit 1 HRSG Duct Burner	combustion unit	103	151	Natural Gas	Selective Catalytic Reduction (SCR), Low NO _x Burners
Unit 2 HRSG Duct Burner	combustion unit	104	151	Natural Gas	Selective Catalytic Reduction (SCR), Low NO _x Burners

Note: The 2,155 MMBtu/hr rated capacity reflects the turbine capacity in Plan Approval 48-00091B issued 2/5/2019 and the 151 MMBtu/hr rated capacity reflects the duct burner capacity in TVOP 48-00091. Source IDs 103 and 104 will be combined with Source IDs 101 and 102 respectively, when the facility's renewed Title V permit is issued.

2.1 Applicable Presumptive NO_x RACT III Requirements

As noted in Section 1, because the HRSG duct burner for each unit exhausts through the same stack as the associated CCCT and share a single CEMS, the emissions of each CCCT and associated HRSG duct burner will be monitored and reported together (denoted as Units 1 and 2 in this report). Thus, the compliance demonstration for Units 1 and 2 will be the continuous monitoring of the combined CCCT and the HRSG duct burner emissions against the RACT III limit for combined cycle turbines.

Per 25 Pa. Code 129.112(g)(2)(iii)(A) the presumptive RACT III limit for CCCT is 4 ppmvd NO_x @ 15% O₂. Both units are equipped with 40 CFR Part 75-certified NO_x CEMS. Compliance with the NO_x RACT III limit as established in this emissions averaging plan will be demonstrated through the continuous operation of each unit's CEMS and the corresponding calculation of the facility-wide 30 operating day rolling emissions.

3. NO_x AVERAGING APPROACH

As outlined in the previous section, both units have the same presumptive NO_x RACT III limit. LMBE is proposing to comply with this limit on each unit through the NO_x facility-wide averaging approach described under 25 Pa Code 129.113.

3.1 Compliance Approach

In accordance with 25 Pa Code 129.113(d), the emissions averaging plan must demonstrate that the cumulative actual NO_x mass-based emissions on a 30 operating day rolling basis do not exceed the cumulative allowable NO_x mass-based emissions.

Consistent with the facility's current RACT II averaging plan, LMBE will determine the allowable presumptive RACT III NO_x emissions for both units and compare that value to actual NO_x emissions on a 30 operating day rolling basis using the Equation 1 provided in 25 Pa Code 129.98(e):

$$\left[\sum_{i=1}^n E_{i\text{actual}} \right] \leq \left[\sum_{i=1}^n E_{i\text{allowable}} \right] \quad (\text{Eq} - 1)$$

Where,

$E_{i\text{actual}}$ = actual NO_x mass emissions, including startup/shutdown/malfunction emissions, for source i on a 30 operating day rolling basis

$E_{i\text{allowable}}$ = allowable NO_x mass emissions computed using allowable emission rate for source i on a 30 operating day rolling basis.

N = Number of air contamination sources in the NO_x emissions averaging plan

The NO_x emissions averaging approach for LMBE is further detailed in the following sections.

3.2 Calculation Methodology

This section provides the detailed approach to be used in demonstrating compliance with the NO_x RACT III limitations at the plant using an emissions averaging plan for the units discussed above. Note that while the presumptive RACT III limits are on 30 operating day rolling emission rate basis for individual units, the facility-wide averaging plan emissions are determined based on a 30 operating day rolling mass basis consistent with RACT II as detailed in the following sections.

3.2.1 Calculation of $E_{i\text{actual}}$

$E_{i\text{actual}}$ is equal to the actual NO_x mass emissions, including startup/shutdown/malfunction emissions, on a 30 operating day rolling basis. Each unit included in this facility-wide averaging plan is equipped with a 40 CFR 75 CEMS that measures NO_x emissions. Therefore, total actual mass NO_x emissions will be measured on an hourly basis via the CEMS and in accordance with Chapter 139, Subchapter C and the Pennsylvania Department of Environmental Protection (PaDEP) Continuous Source Monitoring Manual, Revision No. 8. For purposes of determining RACT III Rule compliance, an operating day shall be defined as a 24-hour period beginning at 12:00 midnight during which the source operates at any time and produces emissions. This time period includes emissions that were generated during startups, shutdowns, or malfunctions.³ Because this averaging plan includes more than one source, if any of the sources covered by this averaging

³ Question 62 of PaDEP's Responses to Frequently Asked Questions, Final Rulemaking Additional RACT Requirements for Major Sources of NO_x and VOCs.

plan operates during the 24-hour period, that day is considered to be an operating day for compliance with the facility-wide averaging plan. LMBE will continue to follow the data substitution procedures contained in the currently approved CEMS Monitoring Plan for each unit. The approved data substitution procedures consist of the following: 40 CFR Part 75, Subpart D data substitution procedures are used for NO_x concentration (ppmw) and 40 CFR Part 75, Appendix D data substitution procedures are used for fuel flow rate for the NO_x RACT III calculations. It should be noted that the fuel flow rate is used in calculation of both actual NO_x mass emissions and allowable NO_x mass emissions. Therefore, use of Part 75 data substitution procedures does not cause an unjustified compliance benefit for invalid data.

Actual daily NO_x mass emissions for each emission source will be calculated for each valid operating day using the hourly NO_x emission data generated by the CEMS as shown in Equation 2:

$$\text{Daily Actual NO}_x \text{ Emissions Per Source} \left(\frac{\text{ton NO}_x}{\text{day}} \right) = \sum_{i=1}^{24} \text{CEMS Data} \left(\frac{\text{tons NO}_x}{\text{hr}} \right)_i \text{ (Eq - 2)}$$

$E_{i_{\text{actual}}}$ is then calculated by summing the daily actual NO_x emissions over 30 facility operating days for all operating units. The 30 facility-wide operating day rolling NO_x mass emissions will be calculated on a daily basis in the data acquisition handling systems (DAHS) associated with the CEMS as shown in Equation 3.

$$E_{i_{\text{actual}}} \text{ 30 Facility - wide Operating Day Rolling Actual NO}_x \text{ Emissions} \left(\frac{\text{tons NO}_x}{\text{30-day period}} \right) = \sum_{i=1}^{30} \left[\text{Unit 1 Actual NO}_x \left(\frac{\text{ton NO}_x}{\text{day}} \right) + \text{Unit 2 Actual NO}_x \left(\frac{\text{ton NO}_x}{\text{day}} \right) \right] \text{ (Eq - 3)}$$

3.2.2 Calculation of $E_{i_{\text{allowable}}}$

Allowable NO_x mass emissions will be determined using the following steps:

1. Determine the hourly heat input from natural gas for each unit.
2. Multiply daily heat inputs by applicable presumptive RACT III limit and conversion factors in 40 CFR Part 75 Appendix F to determine daily allowable mass emissions.
3. Sum daily allowable mass emissions over both units to determine the total daily allowable mass emissions for both units.
4. Determine the 30 facility-wide operating day rolling allowable mass emission rate.

In addition, the detailed calculation equations for Units 1 and 2 are shown below. A spreadsheet summarizing the proposed equations and providing sample emission calculations is provided in Appendix A.

Per the calculation methodology in 40 CFR Part 75, Appendix F, Section 3.1 (Equation F-5), Equation 4 will be used to calculate daily allowable emissions: ⁴

⁴ The following two conversion factors will be used to convert the measured heat input value and presumptive limit into a mass of allowable emissions: 40 CFR Part 75 Appendix F Table 1 natural gas F-Factor of 8710 dscf/MMBtu, and 40 CFR Part 75 Appendix F 3.3.1. NO_x conversion factor of 1.194×10^{-07} (lb/dscf)/(ppm NO_x). In addition, the equation is corrected to 15% O₂ because the allowable limit is based on 15% O₂.

$$\begin{aligned}
 & \text{Lower Mount Bethel Daily Allowable NO}_x \text{ Emissions } \left(\frac{\text{ton NO}_x}{\text{day}} \right) \\
 &= \sum_{\text{Source}}^2 \left[\text{Heat Input of Natural Gas } \left(\frac{\text{MMBtu}}{\text{day}} \right) \times \text{FFactor} \left(8710 \frac{\text{dscf}}{\text{MMBtu}} \right) \times \right. \\
 & \quad \left. 1.194 \times 10^{-7} \frac{\left(\frac{\text{lb}}{\text{dscf}} \right)}{\text{ppm NO}_x} \times 4 \text{ ppmvd @ 15\% O}_2 \times \left(\frac{20.9\%}{20.9\% - 15\%} \right) \times \left(\frac{1 \text{ ton}}{2000 \text{ lb}} \right) \right]
 \end{aligned}
 \tag{Eq - 4}$$

3.2.2.1 Calculation of 30 Operating Day Rolling Allowable Emissions

Following calculation of daily allowable emissions for each unit via Equation 4, the facility-wide daily allowable NO_x mass emissions (in tons) will be summed across all units included in the plan on a 30 operating day rolling basis. Similar to Equation 3, the total daily NO_x emissions will be summed over 30 consecutive operating days for all units to determine the 30 operating day rolling allowable emission rate in tons, as shown in Equation 5.

$$\begin{aligned}
 & E_{i\text{allowable } 30 \text{ Facility - wide Operating Day Rolling Allowable NO}_x \text{ Emissions}} \left(\frac{\text{tons NO}_x}{30\text{-day period}} \right) = \\
 & \sum_{i=1}^{30} \left[\text{Lower Mount Bethel Daily Allowable NO}_x \text{ Emissions } \left(\frac{\text{ton NO}_x}{\text{day}} \right) \right] \tag{Eq - 5}
 \end{aligned}$$

3.2.3 Comparison of E_{iactual} to E_{iallowable}

In order to demonstrate compliance with the NO_x RACT III presumptive limits for all units facility-wide, the combined actual NO_x emissions from all the sources (E_{iactual}) in Equation 3 is compared to the combined allowable NO_x emissions for all the sources (E_{iallowable}) in Equation 5 for each 30 operating day period. If E_{iactual} is less or equal to E_{iallowable}, then all units are demonstrated to be in compliance with the RACT III provisions. E_{iactual} is compared to E_{iallowable} on a facility-wide 30 operating day rolling basis in the DAHS.

3.3 Compliance Demonstration Approach

Both sources (Units 1 and 2) included in the facility-wide averaging plan are equipped with NO_x CEMS which will continue to operate in accordance with the requirements of Chapter 139, Subchapter C (relating to requirements for source monitoring for stationary sources) and the PaDEP Continuous Source Monitoring Manual, Revision No. 8. Therefore, compliance with the NO_x RACT III limit will be demonstrated through continued use of the approved 40 CFR Part 75 CEMS for each unit. LMBE will submit quarterly reports providing the facility-wide 30 operating day rolling E_{iactual} and E_{iallowable} emissions to the Northeast Regional Office. LMBE will continue to operate under the approved monitoring plans for the CEMS included in this facility-wide averaging plan. Compliance with the presumptive NO_x RACT III limits for each unit will be determined based on the information and Equations 1 through 5 provided in Section 3.2 of this report.

If an emissions exceedance to the facility-wide averaging plan is recorded, LMBE proposes to determine which source contributed to the exceedance by comparing the actual NO_x mass emissions to the allowable NO_x mass emissions per source. In the event of an exceedance, LMBE will submit a deviation for the unit or unit(s) that exceeded their applicable individual presumptive RACT III limit only.

3.4 Recordkeeping and Reporting

In accordance with 25 Pa Code 129.115(f), LMBE is required to keep the following records to demonstrate compliance with the NO_x RACT III requirements:

- ▶ Sufficient data and calculations to demonstrate that the requirements of 129.111-129.114 are met.
- ▶ Data or information shall be recorded and maintained in a time frame consistent with the averaging period of the requirement,

Beginning January 1, 2023, LMBE will keep records of the hourly CEMS data for Units 1 and 2 in accordance with this averaging plan. Per 25 Pa Code 129.115(k), the records shall be retained in the facility's DAHS for five years and made available to the PaDEP upon receipt of a written request. LMBE will submit a quarterly report demonstrating compliance with this facility-wide averaging plan to the Northeast PaDEP Regional Office.⁵

⁵ Question 68 of PaDEP's Responses to Frequently Asked Questions, Final Rulemaking Additional RACT Requirements for Major Sources of NO_x and VOCs.

APPENDIX A. SAMPLE EMISSION CALCULATIONS

**Lower Mount Bethel Energy
NOx Averaging Plan Equation Descriptions**

	Unit 1	Unit 2
Fuel	Natural Gas	Natural Gas
Emission Limit (ppmvd @ 15% O2)	RACT III Limit 4.0	RACT III Limit 4.0
Calculated Emission Limit (lb/MMBtu)	0.015	0.015

¹Calculated based on equation F-5 in 40 CFR Part 75 Appendix F.

Constants

F-Factor ²	8710 dsct/MMBtu
NOx conversion Factor ³	1.19E-07 ppm/(lb NOx/dscf)

²Factor based on 40 CFR Part 75 Appendix F Table 1 for natural gas

³Factor based on 40 CFR Part 75 Appendix F 3.3.1

Facility-wide Averaging Plan Compliance Demonstration

Report Equation #	Unit 1		Unit 2		Actual NOx Emissions
	Heat Input	Allowable NOx Emissions Equation 4	Heat Input	Allowable NOx Emissions Equation 4	
Variable	A	B = A X Calculated RACT III Limit (lb/MMBtu)	D	E = D X Calculated RACT III limit (lb/MMBtu)	F
Date	MMBtu/day	Tons/day NOx	MMBtu/day	Tons/day NOx	Tons/day NOx
1/1/2023		Calculation -		Calculation -	
1/2/2023		CEMS Daily Heat Input on Unit 1		CEMS Daily Heat Input on Unit 2	
1/3/2023		multiplied by		multiplied by	
1/4/2023	From CEMS -	Calculated RACT III Emission Limit (0.015 lb/MMBtu)	From CEMS -	Calculated RACT III Emission Limit (0.015 lb/MMBtu)	
1/5/2023	Total Daily Heat Input on Unit 1	divided by	Total Daily Heat Input on Unit 2	divided by	
1/6/2023	2000 lb/ton		2000 lb/ton		
1/7/2023					
1/8/2023					
1/9/2023					
1/10/2023					
1/11/2023					
1/12/2023					
1/13/2023					
1/14/2023					
1/15/2023					
1/16/2023					
1/17/2023					
1/18/2023					
1/19/2023					
1/20/2023					
1/21/2023					
1/22/2023					
1/23/2023					
1/24/2023					
1/25/2023					
1/26/2023					
1/27/2023					
1/28/2023					
1/29/2023					
1/30/2023					

Report Equation #	Facility-wide Total		30 Operating Day Rolling Average		In Compliance?
	Daily Cumulative Actual Equation 2	Daily Cumulative Allowable Equation 4	30 Operating Day Rolling Actual Equation 3	30 Operating Day Rolling Allowable Equation 5	
Variable	G = C + F	H = B + E	I = Σ G over 30-operating days	J = Σ H over 30-operating days	If I < J, Yes; If I > J, No
	Tons/day NOx	Tons/day NOx	Tons/30 day NOx	Tons/30 day NOx	1/h
1/1/2023					
1/2/2023					
1/3/2023					
1/4/2023					
1/5/2023					
1/6/2023					
1/7/2023					
1/8/2023					
1/9/2023					
1/10/2023					
1/11/2023					
1/12/2023					
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1/27/2023					
1/28/2023					
1/29/2023					
1/30/2023					

Calculation -
Sum of 30 Operating Day Rolling Actual NOx emissions from Units 1 and 2

Calculation -
Sum of 30 Operating Day Rolling Allowable NOx emissions from Units 1 and 2

Calculation -
Sum of Allowable NOx emissions from Units 1 and 2

Calculation -
Sum of Actual NOx emissions from Units 1 and 2

Calculation -
Sum of 30 Operating Day Rolling Actual NOx emissions from Units 1 and 2

Calculation -
Sum of 30 Operating Day Rolling Allowable NOx emissions from Units 1 and 2

If 30 Operating Day Rolling Sum of Actual Emissions is less than or equal to the 30 Operating Day Rolling Sum of Allowable Emissions, the Facility Wide emissions are in compliance with RACT III Limits

Lower Mount Bethel Energy
NOx Averaging Plan Sample Calculations

	Unit 1	Unit 2
Fuel	Natural Gas	Natural Gas
RACT III Limit	RACT III Limit	RACT III Limit
Emission Limit (ppmv @ 15% O2)	4.0	4.0
Calculated Emission Limit (lb/MMBtu)	0.015	0.015

¹Calculated based on equation F-5 in 40 CFR Part 75 Appendix F.

Constants

F-Factor ²	8710 dscf/MMBtu
NOx conversion Factor ³	1.19E-07 ppmv/(lb NOx/dscf)

²Factor based on 40 CFR Part 75 Appendix F Table 1 for natural gas

³Factor based on 40 CFR Part 75 Appendix F 3.3.1

Facility-wide Averaging Plan Compliance Demonstration

Date	Unit 1			Unit 2		
	Heat Input ¹ MMBtu/day	Allowable NOx Emissions ¹ Tons/day NOx	Actual NOx Emissions ¹ Tons/day NOx	Heat Input ¹ MMBtu/day	Allowable NOx Emissions ¹ Tons/day NOx	Actual NOx Emissions ¹ Tons/day NOx
4/1/2021	41501	0.31	0.17	41660	0.31	0.14
4/2/2021	36065	0.27	0.16	36309	0.27	0.15
4/3/2021	45467	0.33	0.18	44647	0.33	0.16
4/4/2021	35877	0.27	0.15	36077	0.27	0.15
4/5/2021	39802	0.30	0.17	40459	0.30	0.15
4/6/2021	41120	0.31	0.16	41533	0.31	0.15
4/7/2021	46625	0.36	0.18	45953	0.36	0.14
4/8/2021	37612	0.32	0.18	38297	0.32	0.18
4/9/2021	47920	0.38	0.20	48168	0.38	0.20
4/10/2021	46908	0.35	0.19	47363	0.35	0.19
4/11/2021	48091	0.36	0.20	48621	0.36	0.21
4/12/2021	44554	0.33	0.18	44624	0.33	0.16
4/13/2021	47372	0.36	0.19	45954	0.36	0.18
4/14/2021	44827	0.34	0.19	45274	0.34	0.18
4/15/2021	51325	0.39	0.22	52754	0.40	0.20
4/16/2021	47424	0.36	0.19	48123	0.36	0.20
4/17/2021	46099	0.35	0.17	46659	0.35	0.17
4/18/2021	42304	0.32	0.17	42754	0.32	0.16
4/19/2021	42441	0.33	0.16	43696	0.33	0.19
4/20/2021	32708	0.30	0.22	32882	0.40	0.17
4/21/2021	30772	0.38	0.21	31858	0.38	0.19
4/22/2021	30702	0.38	0.21	30965	0.38	0.19
4/23/2021	45392	0.33	0.19	45658	0.33	0.19
4/24/2021	45351	0.34	0.18	45785	0.34	0.16
4/25/2021	39324	0.30	0.17	40163	0.30	0.15
4/26/2021	42470	0.32	0.17	42712	0.32	0.17
4/27/2021	45478	0.34	0.18	45513	0.33	0.18
4/28/2021	45871	0.36	0.17	46132	0.34	0.18
4/29/2021	39834	0.30	0.16	40656	0.30	0.16
5/1/2021	39834	0.30	0.16	39852	0.30	0.16
5/2/2021	45996	0.34	0.19	37907	0.28	0.19
5/3/2021	45800	0.34	0.19	46419	0.35	0.19
5/4/2021	48795	0.37	0.21	49745	0.37	0.22

Date	Facility-wide Total		30 Operating Day Rolling Average		In Compliance? y/n
	Daily Cumulative Actual Tons/day NOx	Daily Cumulative Allowable Tons/day NOx	30 Operating Day Rolling Actual Tons/30 day NOx	30 Operating Day Rolling Allowable Tons/30 day NOx	
4/1/2021	0.31	0.62			
4/2/2021	0.31	0.54			
4/3/2021	0.34	0.67			
4/4/2021	0.30	0.54			
4/5/2021	0.34	0.60			
4/6/2021	0.31	0.62			
4/7/2021	0.30	0.61			
4/8/2021	0.36	0.55			
4/9/2021	0.40	0.57			
4/10/2021	0.38	0.71			
4/11/2021	0.40	0.73			
4/12/2021	0.36	0.72			
4/13/2021	0.36	0.72			
4/14/2021	0.37	0.72			
4/15/2021	0.37	0.72			
4/16/2021	0.42	0.72			
4/17/2021	0.38	0.72			
4/18/2021	0.36	0.70			
4/19/2021	0.33	0.64			
4/20/2021	0.34	0.55			
4/21/2021	0.34	0.55			
4/22/2021	0.39	0.77			
4/23/2021	0.40	0.77			
4/24/2021	0.40	0.76			
4/25/2021	0.38	0.66			
4/26/2021	0.34	0.68			
4/27/2021	0.34	0.60			
4/28/2021	0.36	0.65			
4/29/2021	0.36	0.68	10.8	20.1	Yes
5/1/2021	0.32	0.60	10.8	20.1	Yes
5/2/2021	0.35	0.59	10.8	20.1	Yes
5/3/2021	0.38	0.63	10.8	20.1	Yes
5/4/2021	0.38	0.69	10.9	20.2	Yes
5/5/2021	0.43	0.74	11.0	20.4	Yes

APPENDIX E. AIR QUALITY FEE SCHEDULE

QUALITY FEES FOR TITLE V OPERATING PERMIT

Company Information				
Federal Tax ID: 37-1908140-1		Firm Name: LMBE Project Co LLC		
Permit # (If any): 48-00091		Facility Name: Lower Mount Bethel Energy SES/Bangor		
Municipality: Lower Mount Bethel Twp		County: Northampton County		
Contact Person Name: Jamie Kleinle		Telephone Number: 610-498-6348		
E-mail: jamie.kleinle@TalenEnergy.com				
Title V Operating Permit				
Line #	Check the appropriate box below	Type of Authorization	Fee 2021 - 2025	Total Fees
1	<input type="checkbox"/>	New Application, Subchapter G	\$5,000	
2	<input type="checkbox"/>	Renewal	\$4,000	
3	<input type="checkbox"/>	Minor Modification	\$1,500	
4	<input checked="" type="checkbox"/>	Significant Modification	\$4,000	\$4,000
5	<input type="checkbox"/>	Administrative Amendment / Change of Ownership	\$1,500	
6	<input type="checkbox"/>	Plantwide Applicability Limit (PAL) for NSR regulated pollutants or PAL for PSD regulated pollutants or both	\$10,000	

Pay maximum amount of fee when one or more authorizations are requested. For example, when a renewal application and a change of ownership forms are submitted, please pay only the highest amount of fee (\$4,000).