pennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

July 24, 2019

Mr. Brannen McElmurray
Head of Development
Bradford County Real Estate Partners LLC
111 West 19th St
8th Floor
New York, NY 10011

Re: Issuance of Plan Approval 08-00058A
Bradford County Real Estate Partners LLC
BCRP/Natural Gas Proc Plant
Wyalusing Township, Bradford County

Dear Mr. McElmurray:

Please find enclosed the plan approval for the construction of the BCRP Natural Gas Processing Plant LNG facility located in Wyalusing Township, Bradford County. A regular Department operating permit will be subsequently issued IF: (1) all conditions incorporated within the plan approval have all been fulfilled, (2) it has been demonstrated to the Department's satisfaction that the project was carried out as proposed in the application and that the operation of the source(s) and any associated air pollution control equipment conforms with the operational information stated in the application and any supplemental information, and (3) it has been demonstrated to the Department's satisfaction that the air contaminant emissions from the source(s) are in compliance with the requirements specified in, or established pursuant to, all applicable Department Rules and Regulations.

Plan Approval 08-00058A was issued and became effective on July 24, 2019. The plan approval will expire on January 23, 2021. Please include the following identification number with any correspondence to the Department concerning this Plan Approval: 08-00058A.

The Department recommends that you carefully review the terms and conditions of this plan approval so that you do not inadvertently violate them. Failure to comply with the terms and conditions of this plan approval constitutes a violation of Section 127.25 of the Department's Rules and Regulation, upon which legal action could be taken, and such failure is also grounds for denial of an operating permit.

This letter also contains the Department's responses to requests dated June 24, 2019 with further clarifications received on July 2 and July 11, 2019, regarding the proposed plan approval. The following is an item-by-item response to the requests as they were received in the correspondence. The Department's responses to the requests mainly focused on the concerns related to the terms and conditions of the proposed plan approval.

Response to Requests 1 and 12
The annual facility-wide emission limits have been updated in the Site Level Section as well as the Source Level Section for the emergency engines in the plan approval.

Response to Request 2
The "visible emissions" language in that condition is taken directly from 25 Pa. Code §123.43; therefore, the language has not been revised.

Response to Request 3
The Department appreciates the benefits gained by consolidating like sources by grouping identical requirements. The sources and their associated individual requirements will remain separate as they were in the draft plan approval. This delineation aids with accurate compliance tracking, recordkeeping, and reporting, especially with emissions reports. Therefore, this request has not been incorporated into the plan approval.

Response to Request 4
It is not required to use a pre-control NOx CEMS as part of the feed-forward process loop as a means to minimize emissions. The plan approval now contains the ammonia injection rate limitations proposed by Bradford County Real Estate Partners LLC intended to help achieve the same goal while remaining in compliance with emission limitations.

Response to Request 5
The plan approval now provides flexibility in choosing a boiler vendor by allowing for an alternate boiler as long as the chosen boiler is determined, by the Department, to have an equivalent of lower, air contaminant emission potential.

Response to Request 6
The correct lb/MMBtu PM emission limitations for Sources P101 through P105 have been incorporated into the plan approval.

Response to Request 7
The annual hour operational restrictions governing startups and shutdowns for Sources P101 and P102 as well as Sources P103 through P105 have been combined accordingly and incorporated into the plan approval.

Response to Request 8
The VOC emissions limitations for the combustor associated with the thermal oxidizer in Source P302 have been updated to reflect the appropriate post-control emission rates.

Response to Request 9
The testing requirement in the plan approval requires testing of Source P302 to demonstrate compliance with the emission limits of the source as it and the control device are operating as designed. The combustor of the thermal oxidizer will not be tested by itself (i.e., without operation of the source, including control device, as a whole).

Response to Request 10
The plan approval now incorporates language that allows Bradford County Real Estate Partners LLC to request testing the thermal oxidizer at temperatures less than 1500° F. A proposal to test at such a temperature and any revision to the temperature requirement in the plan approval require Department approval prior to such testing and revision.

Response to Request 11
The correct annual VOC emission limit for Source P303 has been incorporated into the plan approval.

The following responses are those to the comments provided on June 24, 2019, as an appendix titled *Appendix A: Errata Sheet*, in the comment document. I will address the comments in the order they were presented in that table.

Response to Request 1
The request to update the title of the Responsible Official has been incorporated into the plan approval.

Response to Request 2
The request to revise the description of the flare capacity has been incorporated into the plan approval.

Response to Request 3
The request to update the identification of the compressor turbines has been incorporated into the plan approval.

Response to Request 4
The 5000-gallon ultra-low sulfur diesel tank has been incorporated into the plan approval.

Response to Request 5
Source P303 is identified in the manner proposed in the draft plan approval because the 6 MM gallon LNG storage tank and truck loadout system are the sources and the flare is the control device (Control Device C303), as those terms are defined in 25 Pa. Code §121.1. This request has not been incorporated into the plan approval.

Response to Request 6
Section B of the plan approval incorporates language developed by the Department's Central Office and is designed to be boilerplate language in all plan approvals. Therefore, the language in Section B will not be revised. This request has not been incorporated into the plan approval.

Response to Request 7
The request to replace 40 CFR Part 98 Subpart D with Subpart W has been incorporated into the plan approval.

Response to Request 8
The correct sulfur oxides emission limit of 0.0038 lb/MMBtu for Source P303 has been incorporated into the plan approval.

Response to Request 9
The response to this request mirrors the very first Response to Request 1 above on page 2 of this letter.

Response to Request 10
The 100 hour per year operational restriction for the emergency engines does not apply to emergency situations. Such language has been incorporated in the plan approval.

Response to Request 11
This request was withdrawn on July 2, 2019.

Any person aggrieved by this action may appeal the action to the Environmental Hearing Board (Board), pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. § 7514, and the Administrative Agency Law, 2 Pa.C.S. Chapter 5A. The Board's address is: Environmental Hearing Board, Rachel Carson State Office Building, Second Floor, 400 Market Street, P.O. Box 8457, Harrisburg, PA 17105-8457.

TDD users may contact the Environmental Hearing Board through the Pennsylvania Relay Service, 800-654-5984.

Appeals must be filed with the Board within 30 days of receipt of notice of this action unless the appropriate statute provides a different time. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

A Notice of Appeal form and the Board's rules of practice and procedure may be obtained online at http://ehb.courtapps.com or by contacting the Secretary to the Board at 717-787-3483. The Notice of Appeal form and the Board's rules are also available in braille and on audiotape from the Secretary to the Board.

IMPORTANT LEGAL RIGHTS ARE AT STAKE. YOU SHOULD SHOW THIS DOCUMENT TO A LAWYER AT ONCE. IF YOU CANNOT AFFORD A LAWYER, YOU MAY QUALIFY FOR FREE PRO BONO REPRESENTATION. CALL THE SECRETARY TO THE BOARD AT 717-787-3483 FOR MORE INFORMATION. YOU DO NOT NEED A LAWYER TO FILE A NOTICE OF APPEAL WITH THE BOARD.

IF YOU WANT TO CHALLENGE THIS ACTION, YOUR APPEAL MUST BE FILED WITH AND RECEIVED BY THE BOARD WITHIN 30 DAYS OF RECEIPT OF NOTICE OF THIS ACTION.

We would like to extend our appreciation to Bradford County Real Estate LLC's and AECOM's staff for the continued cooperation throughout the plan approval application review process. Especially, we would like to thank you, Mr. Joe Hoyt, Mr. Jefferson Byler, P.E., Mr. Jerry Joseph, and Mr. Curtis Barrick, P.E. C.F.M. for the considerable effort put forth in providing the requested information in a timely manner.

If you have any questions concerning the terms and conditions of the plan approval, please contact David M. Shimmel, P.E., Chief, New Source Review Section, Air Quality Program, at 570.327.3568.

Sincerely,

Muhammad Q. Zaman
Environmental Program Manager
Air Quality Program

Enclosure

cc: File No. FAC OP BCRP/Natural Gas Processing Plant 08-00058
Central Office, Air Quality Permits

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
AIR QUALITY PROGRAM

PLAN APPROVAL

Issue Date: July 24, 2019 Effective Date: July 24, 2019

Expiration Date: January 23, 2021

In accordance with the provisions of the Air Pollution Control Act, the Act of January 8, 1960, P.L. 2119, as amended, and 25 Pa. Code Chapter 127, the Owner, [and Operator if noted] (hereinafter referred to as permittee) identified below is authorized by the Department of Environmental Protection (Department) to construct, install, modify or reactivate the air emission source(s) more fully described in the site inventory list. This Facility is subject to all terms and conditions specified in this plan approval. Nothing in this plan approval relieves the permittee from its obligations to comply with all applicable Federal, State and Local laws and regulations.

The regulatory or statutory authority for each plan approval condition is set forth in brackets. All terms and conditions in this permit are federally enforceable unless otherwise designated as "State-Only" requirements.

Plan Approval No. 08-00058A

Federal Tax Id - Plant Code: 83-2591487-1

Owner Information

Name: BRADFORD CNTY REAL ESTATE PARTNERS LLC
Mailing Address: 111 WEST 19TH ST
8TH FLOOR
NEW YORK, NY 10011

Plant Information

Plant: BCRP/NATURAL GAS PROC PLT
Location: 08 Bradford County 08951 Wyalusing Township
SIC Code: 4924 Trans. & Utilities - Natural Gas Distribution

Responsible Official

Name: BRANNEN MCELMURRAY
Title: HEAD OF DEVELOPMENT
Phone (516) 268 - 7413

Plan Approval Contact Person

Name: BRANNEN MCELMURRAY
Title: HEAD OF DEVELOPMENT
Phone: (516) 268 - 7413

[Signature] Muhammad Q. Zaman

MUHAMMAD Q. ZAMAN, ENVIRONMENTAL PROGRAM MANAGER, NORTHCENTRAL REGION

Plan Approval Description

This plan approval is issued for the construction of:

1. Two GE Model LM6000PF+ gas compression turbines each rated at 509 MMBtu/hr controlled with selective catalytic reduction and an oxidation catalyst,

2. Three Siemens SGT-400 gas turbine generators each rated at 142 MMBtu/hr controlled with selective catalytic reduction and an oxidation catalyst,

3. Two gas steam boilers each rated at 58.2 MMBtu/hr controlled with selective catalytic reduction and an oxidation catalyst,

4. One gas regeneration heater rated at 36.6 MMBtu/hr,

5. One thermal oxidizer rated at 42.8 MMBtu/hr, with bypass vent stack to control emissions from the acid gas removal system, and

6. One multipoint ground flare normally combusting only pilot and purge gas rated at 2.6 MMBtu/hr but available to combust larger volumes for maintenance or emergency situations

to be used for the production of LNG at the proposed BCRP/Natural Gas Processing Plant facility. The facility will also include:

1. Fugitive vapor emissions from equipment leaks (i.e., valves, flanges, and seals) and fugitive emissions from facility roads and

2. Two diesel engines each rated 4423 bhp for emergency generators each rated at 3.0 MW and two diesel firewater pumps each rated at 700 hp.

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SECTION A. Table of Contents

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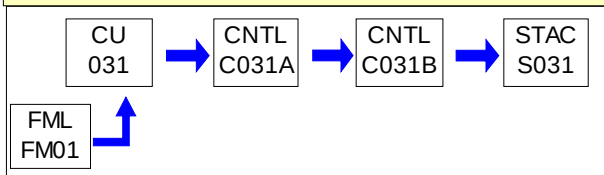
SECTION A. Plan Approval Inventory List

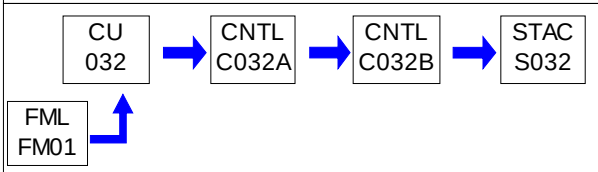
Source ID	Source Name	Capacity/Throughput	Fuel/Material
031	STEAM BOILER FOR AMINE SOLUTION SYSTEM	58.200 MMBTU/HR	
032	STEAM BOILER FOR AMINE SOLUTION SYSTEM	58.200 MMBTU/HR	
P101	GE MODEL LM6000PF+ COMPRESSOR TURBINE	509.200 MMBTU/HR	
P102	GE MODEL LM6000PF+ COMPRESSOR TURBINE	509.200 MMBTU/HR	
P103	SIEMENS MODEL SGT-400 GENERATOR TURBINE	142.400 MMBTU/HR	
P104	SIEMENS MODEL SGT-400 GENERATOR TURBINE	142.400 MMBTU/HR	
P105	SIEMENS MODEL SGT-400 GENERATOR TURBINE	142.400 MMBTU/HR	
P301	REGENERATION HEATER		
P302	ACID GAS REMOVAL SYSTEM (AMINE SYSTEM)		
P303	6 MMGAL LNG STORAGE TANK AND TRUCK LOADOUT SYSTEM		
P401	TWO DIESEL EMERGENCY GENERATOR ENGINES		
P402	TWO DIESEL FIRE PUMP ENGINES		
Z101	FACILITY FUGITIVES		
Z102	FACILITY ROADS		
C031A	OXIDATION CATALYST		
C031B	SELECTIVE CATALYTIC REDUCTION		
C032A	OXIDATION CATALYST		
C032B	SELECTIVE CATALYTIC REDUCTION		
C101A	OXIDATION CATALYST		
C101B	SELECTIVE CATALYTIC REDUCTION		
C102A	OXIDATION CATALYST		
C102B	SELECTIVE CATALYTIC REDUCTION		
C103A	OXIDATION CATALYST		
C103B	SELECTIVE CATALYTIC REDUCTION		
C104A	OXIDATION CATALYST		
C104B	SELECTIVE CATALYTIC REDUCTION		
C105A	OXIDATION CATALYST		
C105B	SELECTIVE CATALYTIC REDUCTION		
C302	THERMAL OXIDIZER		
C303	FLARE		
FM01	NATURAL GAS		
FM02	TWO ULTRA-LOW SULFUR DIESEL TANKS (1000 GAL EACH)		
FM03	TWO ULTRA-LOW SULFUR DIESEL TANKS (829 GAL EACH)		
FM04	5000 GALLON ULTRA-LOW SULFUR DIESEL TANK		
S031	STACK		
S032	STACK		
S101	STACK		
S102	STACK		
S103	STACK		
S104	STACK		
S105	STACK		
S301	STACK		

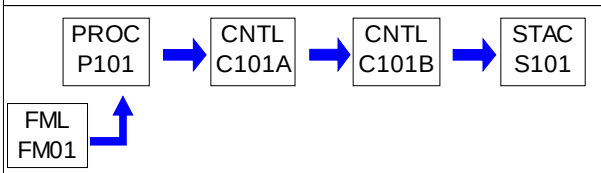
SECTION A. Plan Approval Inventory List

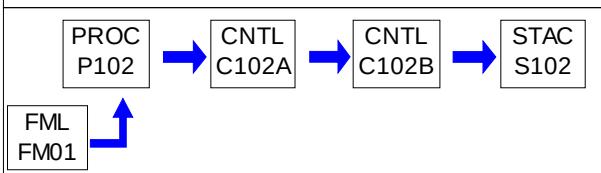
Source ID	Source Name	Capacity/Throughput	Fuel/Material
S302	STACK		
S303	STACK		
S401	STACK		
S402	STACK		
Z01	FUGITIVES		

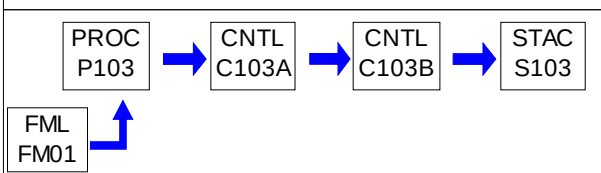
PERMIT MAPS

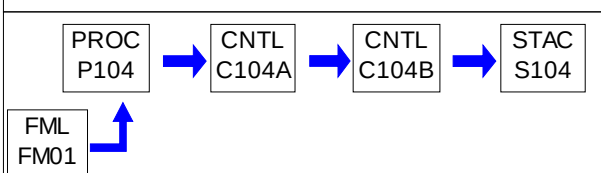


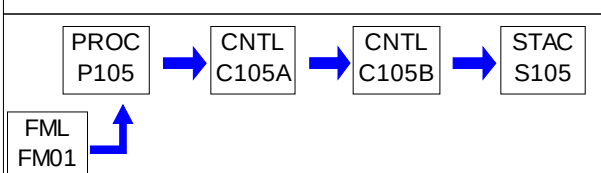




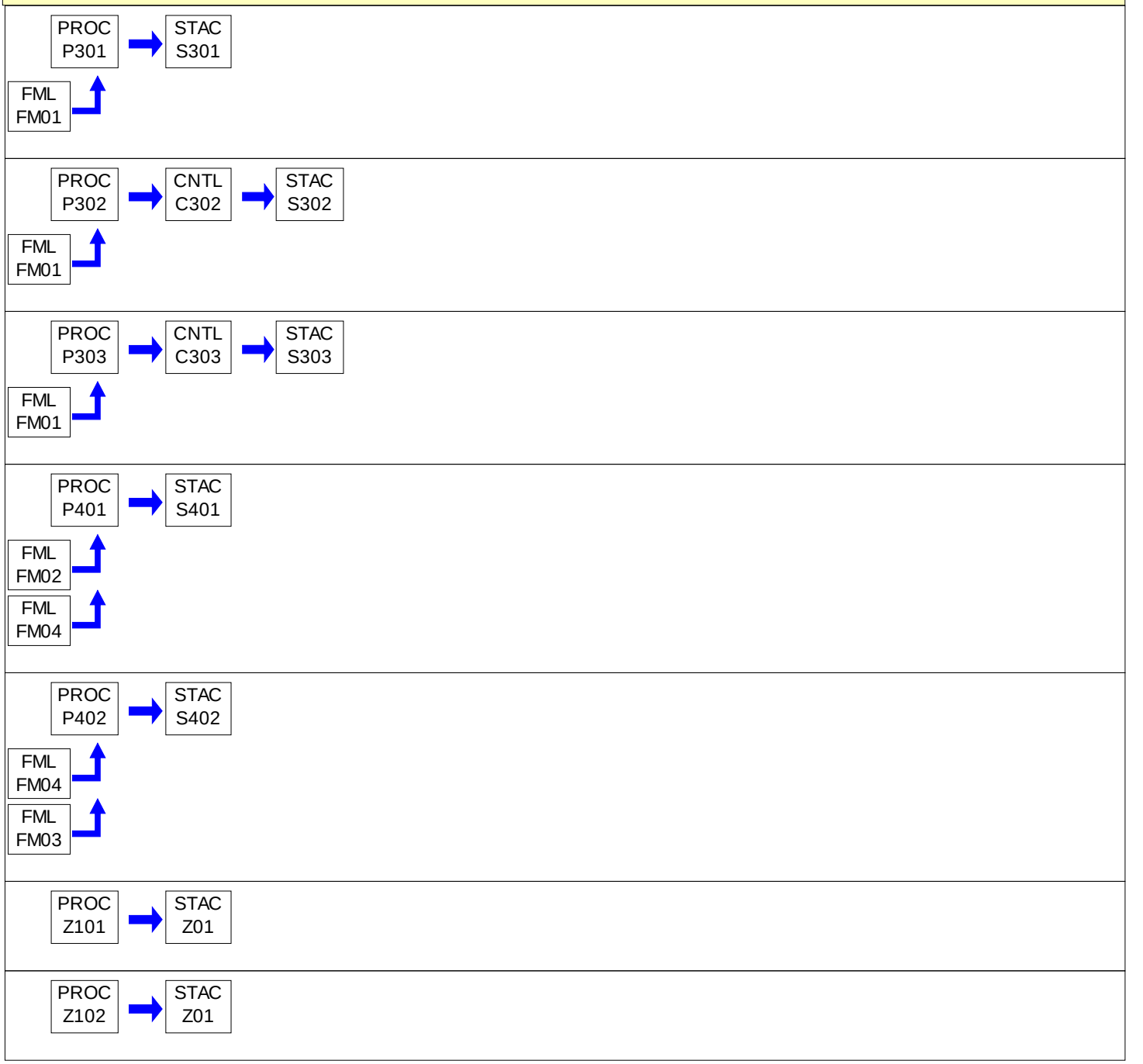








PERMIT MAPS


PROC P301
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FML FM01
PROC P302
CNTL C302
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PROC P303
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PROC P401
STAC S401
FML FM02
FML FM04
PROC P402
STAC S402
FML FM04
FML FM03
PROC Z101
STAC Z01
PROC Z102
STAC Z01

SECTION B. General Plan Approval Requirements

#001 [25 Pa. Code § 121.1]

Definitions

Words and terms that are not otherwise defined in this plan approval shall have the meanings set forth in Section 3 of the Air Pollution Control Act (35 P.S. § 4003) and 25 Pa. Code § 121.1.

#002 [25 Pa. Code § 127.12b (a) (b)]

Future Adoption of Requirements

The issuance of this plan approval does not prevent the future adoption by the Department of any rules, regulations or standards, or the issuance of orders necessary to comply with the requirements of the Federal Clean Air Act or the Pennsylvania Air Pollution Control Act, or to achieve or maintain ambient air quality standards. The issuance of this plan approval shall not be construed to limit the Department's enforcement authority.

#003 [25 Pa. Code § 127.12b]

Plan Approval Temporary Operation

This plan approval authorizes temporary operation of the source(s) covered by this plan approval provided the following conditions are met.

(a) When construction, installation, modification, or reactivation is being conducted, the permittee shall provide written notice to the Department of the completion of the activity approved by this plan approval and the permittee's intent to commence operation at least five (5) working days prior to the completion of said activity. The notice shall state when the activity will be completed and when the permittee expects to commence operation. When the activity involves multiple sources on different time schedules, notice is required for the commencement of operation of each source.

(b) Pursuant to 25 Pa. Code § 127.12b (d), temporary operation of the source(s) is authorized to facilitate the shakedown of sources and air cleaning devices, to permit operations pending the issuance of a permit under 25 Pa. Code Chapter 127, Subchapter F (relating to operating permits) or Subchapter G (relating to Title V operating permits) or to permit the evaluation of the air contaminant aspects of the source.

(c) This plan approval authorizes a temporary operation period not to exceed 180 days from the date of commencement of operation, provided the Department receives notice from the permittee pursuant to paragraph (a), above.

(d) The permittee may request an extension of the 180-day shakedown period if further evaluation of the air contamination aspects of the source(s) is necessary. The request for an extension shall be submitted, in writing, to the Department at least 15 days prior to the end of the initial 180-day shakedown period and shall provide a description of the compliance status of the source, a detailed schedule for establishing compliance, and the reasons compliance has not been established. This temporary operation period will be valid for a limited time and may be extended for additional limited periods, each not to exceed 180 days.

(e) The notice submitted by the permittee pursuant to subpart (a) above, prior to the expiration of the plan approval, shall modify the plan approval expiration date on Page 1 of this plan approval. The new plan approval expiration date shall be 180 days from the date of commencement of operation.

#004 [25 Pa. Code § 127.12(a) (10)]

Content of Applications

The permittee shall maintain and operate the sources and associated air cleaning devices in accordance with good engineering practice as described in the plan approval application submitted to the Department.

#005 [25 Pa. Code §§ 127.12(c) and (d) & 35 P.S. § 4013.2]

Public Records and Confidential Information

(a) The records, reports or information obtained by the Department or referred to at public hearings shall be available to the public, except as provided in paragraph (b) of this condition.

(b) Upon cause shown by the permittee that the records, reports or information, or a particular portion thereof, but not emission data, to which the Department has access under the act, if made public, would divulge production or sales figures or methods, processes or production unique to that person or would otherwise tend to affect adversely the

SECTION B. General Plan Approval Requirements

competitive position of that person by revealing trade secrets, including intellectual property rights, the Department will consider the record, report or information, or particular portion thereof confidential in the administration of the act. The Department will implement this section consistent with sections 112(d) and 114(c) of the Clean Air Act (42 U.S.C.A. § § 7412(d) and 7414(c)). Nothing in this section prevents disclosure of the report, record or information to Federal, State or local representatives as necessary for purposes of administration of Federal, State or local air pollution control laws, or when relevant in a proceeding under the act.

#006 [25 Pa. Code § 127.12b]

Plan Approval terms and conditions.

[Additional authority for this condition is derived from 25 Pa. Code Section 127.13]

(a) This plan approval will be valid for a limited time, as specified by the expiration date contained on Page 1 of this plan approval. Except as provided in § § 127.11a and 127.215 (relating to reactivation of sources; and reactivation), at the end of the time, if the construction, modification, reactivation or installation has not been completed, a new plan approval application or an extension of the previous approval will be required.

(b) If construction has commenced, but cannot be completed before the expiration of this plan approval, an extension of the plan approval must be obtained to continue construction. To allow adequate time for departmental action, a request for the extension shall be postmarked at least thirty (30) days prior to the expiration date. The request for an extension shall include the following:

(i) A justification for the extension,
(ii) A schedule for the completion of the construction

If construction has not commenced before the expiration of this plan approval, then a new plan approval application must be submitted and approval obtained before construction can commence.

(c) If the construction, modification or installation is not commenced within 18 months of the issuance of this plan approval or if there is more than an 18-month lapse in construction, modification or installation, a new plan approval application that meets the requirements of 25 Pa. Code Chapter 127, Subchapter B (related to plan approval requirements), Subchapter D (related to prevention of significant deterioration of air quality), and Subchapter E (related to new source review) shall be submitted. The Department may extend the 18-month period upon a satisfactory showing that an extension is justified.

#007 [25 Pa. Code § 127.32]

Transfer of Plan Approvals

(a) This plan approval may not be transferred from one person to another except when a change of ownership is demonstrated to the satisfaction of the Department and the Department approves the transfer of the plan approval in writing.

(b) Section 127.12a (relating to compliance review) applies to a request for transfer of a plan approval. A compliance review form shall accompany the request.

(c) This plan approval is valid only for the specific source and the specific location of the source as described in the application.

#008 [25 Pa. Code § 127.12(4) & 35 P.S. § 4008 & § 114 of the CAA]

Inspection and Entry

(a) Pursuant to 35 P.S. § 4008, no person shall hinder, obstruct, prevent or interfere with the Department or its personnel in the performance of any duty authorized under the Air Pollution Control Act.

(b) The permittee shall also allow the Department to have access at reasonable times to said sources and associated air cleaning devices with such measuring and recording equipment, including equipment recording visual observations, as the Department deems necessary and proper for performing its duties and for the effective enforcement of the Air Pollution Control Act and regulations adopted under the act.

SECTION B. General Plan Approval Requirements

(c) Nothing in this plan approval condition shall limit the ability of the Environmental Protection Agency to inspect or enter the premises of the permittee in accordance with Section 114 or other applicable provisions of the Clean Air Act.

#009 [25 Pa. Code 127.13a]

Plan Approval Changes for Cause

This plan approval may be terminated, modified, suspended or revoked and reissued if one or more of the following applies:

(a) The permittee constructs or operates the source subject to the plan approval in violation of the act, the Clean Air Act, the regulations promulgated under the act or the Clean Air Act, a plan approval or permit or in a manner that causes air pollution.

(b) The permittee fails to properly or adequately maintain or repair an air pollution control device or equipment attached to or otherwise made a part of the source.

(c) The permittee fails to submit a report required by this plan approval.

(d) The Environmental Protection Agency determines that this plan approval is not in compliance with the Clean Air Act or the regulations thereunder.

#010 [25 Pa. Code §§ 121.9 & 127.216]

Circumvention

(a) The permittee, or any other person, may not circumvent the new source review requirements of 25 Pa. Code Chapter 127, Subchapter E by causing or allowing a pattern of ownership or development, including the phasing, staging, delaying or engaging in incremental construction, over a geographic area of a facility which, except for the pattern of ownership or development, would otherwise require a permit or submission of a plan approval application.

(b) No person may permit the use of a device, stack height which exceeds good engineering practice stack height, dispersion technique or other technique which, without resulting in reduction of the total amount of air contaminants emitted, conceals or dilutes an emission of air contaminants which would otherwise be in violation of this plan approval, the Air Pollution Control Act or the regulations promulgated thereunder, except that with prior approval of the Department, the device or technique may be used for control of malodors.

#011 [25 Pa. Code § 127.12c]

Submissions

Reports, test data, monitoring data, notifications shall be submitted to the:

Regional Air Program Manager
PA Department of Environmental Protection
(At the address given on the plan approval transmittal letter or otherwise notified)

#012 [25 Pa. Code § 127.12(9) & 40 CFR Part 68]

Risk Management

(a) If required by Section 112(r) of the Clean Air Act, the permittee shall develop and implement an accidental release program consistent with requirements of the Clean Air Act, 40 CFR Part 68 (relating to chemical accident prevention provisions) and the Federal Chemical Safety Information, Site Security and Fuels Regulatory Relief Act (P.L. 106-40).

(b) The permittee shall prepare and implement a Risk Management Plan (RMP) which meets the requirements of Section 112(r) of the Clean Air Act, 40 CFR Part 68 and the Federal Chemical Safety Information, Site Security and Fuels Regulatory Relief Act when a regulated substance listed in 40 CFR § 68.130 is present in a process in more than the listed threshold quantity at the facility. The permittee shall submit the RMP to the Environmental Protection Agency according to the following schedule and requirements:

(1) The permittee shall submit the first RMP to a central point specified by the Environmental Protection Agency no later than the latest of the following:

SECTION B. General Plan Approval Requirements

(i) Three years after the date on which a regulated substance is first listed under § 68.130; or,
(ii) The date on which a regulated substance is first present above a threshold quantity in a process.

(2) The permittee shall submit any additional relevant information requested by the Department or the Environmental Protection Agency concerning the RMP and shall make subsequent submissions of RMPs in accordance with 40 CFR § 68.190.

(3) The permittee shall certify that the RMP is accurate and complete in accordance with the requirements of 40 CFR Part 68, including a checklist addressing the required elements of a complete RMP.

(c) As used in this plan approval condition, the term "process" shall be as defined in 40 CFR § 68.3. The term "process" means any activity involving a regulated substance including any use, storage, manufacturing, handling, or on-site movement of such substances or any combination of these activities. For purposes of this definition, any group of vessels that are interconnected, or separate vessels that are located such that a regulated substance could be involved in a potential release, shall be considered a single process.

#013 [25 Pa. Code § 127.25]

Compliance Requirement

A person may not cause or permit the operation of a source subject to § 127.11 (relating to plan approval requirements), unless the source and air cleaning devices identified in the application for the plan approval 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 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.

SECTION C. Site Level Plan Approval Requirements

I. RESTRICTIONS.

Emission Restriction(s).

 # 001 [25 Pa. Code §123.1]

Prohibition of certain fugitive emissions

No person may permit the emission into the outdoor atmosphere of fugitive air contaminants from a source other than the following:

(1) Construction or demolition of buildings or structures,

(2) Grading, paving and maintenance of roads and streets,

(3) Use of roads and streets. Emissions from material in or on trucks, railroad cars and other vehicular equipment are not considered as emissions from use of roads and streets,

(4) Clearing of land,

(5) Stockpiling of materials,

(6) Open burning operations.

(7) Blasting in open pit mines. Emissions from drilling are not considered emission from blasting.

(8) Sources and classes of sources other than those identified above, for which the permittee has obtained a determination from the Department that fugitive emissions from the source, after appropriate control, meet the following requirements:

(a) The emissions are of minor significance with respect to causing air pollution,

(b) The emissions are not preventing or interfering with the attainment or maintenance of any ambient air quality standard.

 # 002 [25 Pa. Code §123.2]

Fugitive particulate matter

A person may not permit fugitive particulate matter to be emitted into the outdoor atmosphere from a source specified in Condition #001(1)-(8) above, if the emissions are visible at the point the emissions pass outside the person's property.

 # 003 [25 Pa. Code §123.41]

Limitations

A person may not permit the emission of visible air contaminants into the outdoor atmosphere in such a manner that the opacity of the emission is either of the following:

(1) Equal to or greater than 20% for a period or periods aggregating more than three minutes in any 1 hour,

(2) Equal to or greater than 60% at any time.

 # 004 [25 Pa. Code §123.42]

Exceptions

The emission limitations of 25 Pa. Code Section 123.41 shall not apply when:

(1) The presence of uncombined water is the only reason for failure of the emission to meet the limitations,

(2) The emission results from the operation of equipment used solely to train and test persons in observing the opacity of visible emissions,

(3) The emission results from sources specified in 25 Pa. Code Section 123.1(a)(1)-(9).

 # 005 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12, the air contaminant emissions from all of the sources at the facility shall not equal or exceed the following emission limitations:

SECTION C. Site Level Plan Approval Requirements

(1) Nitrogen oxides (NOx, expressed as NO2) – 97.86 tons in any 12 consecutive month period

(2) Carbon monoxide (CO) – 90.87 tons in any 12 consecutive month period

(3) Sulfur oxides (SOx, expressed as SO2) – 83.25 tons in any 12 consecutive month period

(4) Total Particulate matter (filterable plus condensable) (PM) – 99.95 tons in any 12 consecutive month period

(5) Particulate matter equal to or less than 10 microns (PM-10) – 99.95 tons in any 12 consecutive month period

(6) Particulate matter equal to or less than 2.5 microns (PM-2.5) – 99.88 tons in any 12 consecutive month period

(7) Total combined volatile organic compounds – 36.30 tons in any 12 consecutive month period

(8) Total combined hazardous air pollutants – 8.77 tons in any 12 consecutive month period

(9) Any single hazardous air pollutant – 4.55 tons in any 12 consecutive month period

(10) Ammonia – 49.02 tons in any 12 consecutive month period

(11) Greenhouse gases (expressed as carbon dioxide equivalent, CO2e) – 1,107,679 tons in any 12 consecutive month period

(12) H2SO4 – 25.90 tons in any 12 consecutive month period

II. TESTING REQUIREMENTS.

 # 006 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) Pursuant to 25 Pa. Code § 139.3, at least 90 calendar days prior to commencing a EPA reference method testing program, a test protocol shall be submitted to the Department for review and approval. One hardcopy and one electronic copy shall be sent to the Northcentral Regional Office Air Quality Program Manager and one hardcopy and one electronic copy shall be sent to the Department's Source Testing Division in Harrisburg. The test protocol shall meet all applicable requirements specified in the most current version of the Department's Source Testing Manual.

(b) Pursuant to 25 Pa. Code § 139.3, at least 15 calendar days prior to commencing an emission testing program, notification as to the date and time of testing shall be given to the appropriate Regional Office. Notification shall also be sent to the Division of Source Testing and Monitoring. Notification shall not be made without prior receipt of a protocol acceptance letter from the Department.

(c) Pursuant to 40 CFR § 60.8(a), 40 CFR § 61.13(f) and 40 CFR § 63.7(g), complete test reports shall be submitted to the Department no later than 60 calendar days after completion of the on-site testing portion of an EPA reference method test program.

(d) Pursuant to 25 Pa. Code § 139.53(b) a complete test report shall include a summary of the emission results on the first page of the report indicating if each pollutant measured is within permitted limits and a statement of compliance or noncompliance with all applicable permit conditions. The summary results will include, at a minimum, the following information:

1. A statement that the owner or operator has reviewed the report from the emissions testing body and agrees with the findings.

SECTION C. Site Level Plan Approval Requirements

2. Permit number(s) and condition(s) which are the basis for the evaluation.

3. Summary of results with respect to each applicable permit condition.

4. Statement of compliance or non-compliance with each applicable permit condition.

(e) Pursuant to 25 Pa. Code § 139.3, all submittals shall meet all applicable requirements specified in the most current version of the Department's Source Testing Manual.

(f) All testing shall be performed in accordance with the provisions of Chapter 139 of the Rules and Regulations of the Department of Environmental Protection.

(g) The permittee shall ensure all federal reporting requirements contained in the applicable subpart of 40 CFR are followed, including timelines more stringent than those contained herein. In the event of an inconsistency or any conflicting requirements between state and the federal, the most stringent provision, term, condition, method or rule shall be used by default.

 # 007 [25 Pa. Code §139.1]

Sampling facilities.

Upon the request of the Department, the permittee shall provide adequate sampling ports, safe sampling platforms and adequate utilities for the performance by the Department of tests on a source. The Department will set forth, in the request, the time period in which the facilities shall be provided as well as the specifications for such facilities.

 # 008 [25 Pa. Code §139.11]

General requirements.

(a) As specified in 25 Pa. Code Section 139.11(1), performance tests shall be conducted while the source is operating at maximum routine operating conditions or under such other conditions, within the capacity of the equipment, as may be requested by the Department.

(b) As specified in 25 Pa. Code Section 139.11(2), the Department will consider test results for approval where sufficient information is provided to verify the source conditions existing at the time of the test and where adequate data is available to show the manner in which the test was conducted. Information submitted to the Department shall include, as a minimum, all of the following:

(1) A thorough source description, including a description of any air cleaning devices and the flue,

(2) Process conditions, for example, the charging rate of raw material or rate of production of final product, boiler pressure, oven temperature, and other conditions, which may effect emissions from the process,

(3) The location of sampling ports,

(4) Effluent characteristics, including velocity, temperature, moisture content, gas density (percentage of CO, CO2, O2 and N2), static and barometric pressures,

(5) Sample collection techniques employed, including procedures used, equipment descriptions and data to verify that isokinetic sampling for particulate matter collection occurred and that acceptable test conditions were met,

(6) Laboratory procedures and results,

(7) Calculated results.

III. MONITORING REQUIREMENTS.

 # 009 [25 Pa. Code §123.43]

Measuring techniques

Visible emissions may be measured using either of the following:

SECTION C. Site Level Plan Approval Requirements

(1) A device approved by the Department and maintained to provide accurate opacity measurements,

(2) Observers, trained and qualified, to measure plume opacity with the naked eye or with the aid of any devices approvedby the Department.

 # 010 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Additional authority for this permit condition is also derived from 25 Pa. Code §§123.1, 123.31, 127.1 and 127.12 as well as 40 CFR Part 60 Subpart OOOOa]

(a) The owner or operator must comply with the following leak detection and repair (LDAR) program.
Within 180 days after the facility is put into production, and quarterly thereafter, the owner/operator will perform LDAR that includes the use of an optical gas imaging camera calibrated according to 40 CFR § 60.18 and a detection sensitivity level of 60 grams/hour, Method 21 of 40 CFR Part 60, or other leak detection monitoring devices approved by the Department. LDAR is to be conducted on valves, flanges, connectors, storage vessels/storage tanks, and compressor seals in natural gas or hydrocarbon liquids service. Leaks are to be repaired no later than 15 days after leak detections unless facility shutdowns or ordering of replacement parts are necessary for repair of the leaks. The optical gas imaging camera, Method 21, or other Department-approved gas leak detection equipment is to be operated in accordance with manufacturer-recommended procedures. Any leak detection and repair will be performed in accordance with 40 CFR Part 60, Subpart OOOOa, as applicable.

(A) A leak is considered repaired if one of the following can be demonstrated:

(1) No detectable emissions consistent with Method 21 specified in 40 CFR Part 60, Appendix A;

(2) A leak of less than 500 ppm calibrated as methane is detected when the gas leak detector probe inlet is placed at the surface of the component;

(3) No visible leak image when using an optical gas imaging camera;

(4) No bubbling at leak interface using a soap solution bubble test specified in Method 21; or a procedure based on the formation of bubbles in a soap solution that is sprayed on a potential leak source may be used for those sources that do not have continuously moving parts and that do not have a surface temperature greater than the boiling point or less than the freezing point of the soap solution; or

(5) Any other method approved by the Department.

(B) Leaks, repair methods and repair delays will be recorded and maintained for five years. If a gas leak detector is used, a leak is to be detected by placing the probe inlet at the surface of a component. The Department may grant an extension for leak detection deadlines or repairs upon the receipt of a written request from the owner or operator of the facility documenting the justification for the requested extension.

 # 011 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Additional authority for this permit condition is also derived from 25 Pa. Code §§123.1, 123.31, 127.1 and 127.12]

(a) Beginning on the start-up date of this facility, the permittee shall conduct daily walk-around inspections during daylight hours and while the facility is operating. Daily inspections are performed to detect for: (1) the presence of visible emissions; (2) the presence of visible fugitive air contaminants; (3) the presence of audible fugitive air contaminants; (4) the presence of malodors beyond the boundaries of the facility.

(b) The detected visible emissions and visible, audible or olfactible fugitive air contaminants that have the potential to exceed applicable standards shall be reported to the manager of the facility.

SECTION C. Site Level Plan Approval Requirements

IV. RECORDKEEPING REQUIREMENTS.

 # 012 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Additional authority for this permit condition is also derived from 25 Pa. Code §§ 127.1 and 127.12]

(a) The permittee shall keep records of the following operating parameters for the gas used at the facility:

(1) The gas quality characteristics in a current, valid purchase contract, tariff sheet, transportation contract for the fuel or other data compiled by the gas pipeline company, specifying the maximum total sulfur content of the fuel.

OR

(2) Representative fuel sampling data showing the sulfur content of the fuel and shall include the following:

(i) The date, place, and time of sampling;

(ii) The date(s) analyses were performed;

(iii) The company or entity that performed the analyses;

(iv) The analytical techniques or methods used;

(v) The results of such analyses; and,

(vi) The operating conditions at the time of sampling or measurement.

(b) The above information shall be used to demonstrate compliance with fuel requirements established herein and to calculate applicable sulfur oxide emissions for all sources at the facility.

 # 013 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) The permittee shall maintain a log for the results of each daily inspection, including date of each inspection performance and the name of the company representative performing the inspection.

(b) The permittee shall maintain all LDAR monitoring data, including calibration data, identification of leaking components, date of leak discovery, date of each attempted repair and date of final repair.

(c) All information generated to satisfy this recordkeeping condition shall be kept for a minimum of 5 years and shall be made available to the Department upon request.

 # 014 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) The permittee shall keep accurate and comprehensive records of:

(1) the nitrogen oxides, carbon monoxide, total volatile organic compounds, greenhouse gasses, total hazardous air pollutants, sulfur oxides (SO2), ammonia, sulfuric acid mist, total PM, total PM10, and total PM2.5 emissions including emissions calculations from all air-contaminant sources, on a monthly basis, in order to demonstrate compliance with the emission limitations for all sources at the facility.

(b) All information used to satisfy this recordkeeping requirement shall be kept for a minimum of five (5) years and shall be made available to the Department upon request.

SECTION C. Site Level Plan Approval Requirements

V. REPORTING REQUIREMENTS.

 # 015 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) The permittee shall submit semi-annual reports that include:

(1) the nitrogen oxides, carbon monoxide, total volatile organic compounds, greenhouse gasses, total hazardous air pollutants, sulfur oxides (SO2), ammonia, sulfuric acid mist, total PM, total PM10, and total PM2.5 emissions including emissions calculations from all air-contaminant sources, on a monthly basis, in order to demonstrate compliance with the emission limitations for all sources at the facility.

(b) The semi-annual reports shall be submitted to the Department no later than March 1 (for January 1 through December 31 of the previous year) and September 1 (for July 1 of the previous year through June 30 of the concurrent year).

 # 016 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

The submission of all requests, reports, applications, submittals and other communications required by the Standards of Performance for New Stationary Sources (40 CFR Part 60) and/or the National Emissions Standards for Hazardous Air Pollutants (40 CFR Part 63) shall be submitted to both the U. S. Environmental Protection Agency and the Department. The Environmental Protection Agency copies may be sent to:

R3_Air_Apps_and_Notices@epa.gov

and

The Pennsylvania Department of Environmental Protection
Air Quality Program Manager
208 W. Third Street, Suite 101
Williamsport, PA 17701-6448

 # 017 [25 Pa. Code §127.442]

Reporting requirements.

(a) The permittee shall report malfunctions to the Department. A malfunction is any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

(b) Failures that are caused in part by poor maintenance or careless operation shall be reported as excess emissions or deviations from the operating permit requirements.

(c) When the malfunction, excess emissions or deviation from this operating permit requirements poses an imminent danger to the public health, safety, welfare, or environment shall be reported by telephone to the Department and the County Emergency Management Agency within one (1) hour after the incident. The owner or operator shall submit a written report of instances of such incidents to the Department within three (3) business days of the telephone report.

(d) Except as reported to the Department in accordance with 25 Pa. Code Chapter 139 and the Department's Continuous Source Monitoring Manual, any malfunction or excess emissions that is not subject to the notice requirements of subsection (c) of this operating permit condition shall be reported to the Department within 24 hours of discovery or the next business day. In notifying the Department, the permittee shall describe the following:

(i) name and location of the facility;

(ii) nature and cause of the malfunction or breakdown;

(iii) time when the malfunction or breakdown was first observed;

(iv) expected duration of excess emissions;

SECTION C. Site Level Plan Approval Requirements

(v) estimated rate of emissions; and

(vi) corrective actions or preventative measures taken.

(e) The permittee shall notify the Department within 24 hours, or the next business day, when corrective measures have been accomplished.

(f) Upon the request of the Department, the permittee shall submit a full written report to the Regional Air Program Manager within 15 days of the malfunction, excess emissions or deviation from the operating permit requirements.

VI. WORK PRACTICE REQUIREMENTS.

 # 018 [25 Pa. Code §123.1]

Prohibition of certain fugitive emissions

The permittee shall take all reasonable actions to prevent particulate matter from becoming airborne as specified in 25 Pa. Code Section 123.1 subsection(s) (a)(1)-(7) or (a)(9). These actions shall include, but not be limited to, the following:

(1) Use, where possible, of water or chemicals for control of dust in the demolition of buildings or structures, construction operations, the grading of roads or the clearing of land,

(2) Application of asphalt, oil, or suitable chemicals on dirt roads, material stockpiles and other surfaces which may give rise to airborne dusts,

(3) Paving and maintenance of roadways,

(4) Prompt removal of earth or other material from paved streets onto which earth or other material has been transported by trucking or earth moving equipment, erosion by water, or other means.

 # 019 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12, all air-contaminant sources and control devices at this facility shall be maintained and operated in a manner consistent with good air pollution control practices and in accordance with the manufacturer's recommendations.

VII. ADDITIONAL REQUIREMENTS.

 # 020 [25 Pa. Code §121.7]

Prohibition of air pollution.

The permittee shall not permit air pollution as that term is defined in the Pennsylvania Air Pollution Control Act (35 P.S. Sections 4001-4015).

 # 021 [25 Pa. Code §123.31]

Limitations

The permittee shall not permit the emission into the outdoor atmosphere of any malodorous air contaminants from any source in a manner that the malodors are detectable outside the property of the person on whose land the source is being operated.

 # 022 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

Issuance of an operating permit is contingent upon the sources specified herein being constructed, maintained, and operated as described in the plan approval application and supplemental materials submitted with the application, and in accordance with all conditions contained in this plan approval, and upon satisfactory demonstration that any air contaminant emissions are in compliance with all restrictions specified herein, as well as in compliance with the requirements specified in, or established pursuant to, any other applicable rules and regulations contained in Article III of the Rules and Regulations of the Department of Environmental Protection.

 # 023 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

Sources at this facility are subject to Subpart OOOOa of the federal Standards of Performance for New Stationary Sources,

SECTION C. Site Level Plan Approval Requirements

40 CFR §§ 60.5360a-60.5499a. The permittee shall comply with all applicable requirements specified in 40 CFR §§ 60.5360a-60.5499a.

 # 024 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

The permittee shall comply with the applicable Mandatory GHG Reporting requirements of 40 CFR Part 98.

(a) The permittee shall comply with the requirements in 40 CFR Part 98 Subpart A, (40 CFR §§ 98.1 through 98.9).

(b) The permittee shall comply with the requirements in 40 CFR Part 98 Subpart C, (40 CFR §§ 98.30 through 98.38).

(c) The permittee shall comply with the requirements in 40 CFR Part 98 Subpart W, (40 CFR §§ 98.230 through 98.238).

 # 025 [25 Pa. Code §129.14]

Open burning operations

The permittee shall not permit the open burning of material at the facility unless in accordance with 25 Pa. Code Section 129.14.

VIII. COMPLIANCE CERTIFICATION.

No additional compliance certifications exist except as provided in other sections of this plan approval including Section B (relating to Plan Approval General Requirements).

IX. COMPLIANCE SCHEDULE.

No compliance milestones exist.

SECTION D. Source Level Plan Approval Requirements

Source ID: 031 Source Name: STEAM BOILER FOR AMINE SOLUTION SYSTEM

Source Capacity/Throughput: 58.200 MMBTU/HR

I. RESTRICTIONS.

Emission Restriction(s).

 # 001 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

Pursuant to best available technology requirements of 25 Pa. Code Sections 127.1 and 127.12, the boiler incorporated into this source shall not emit air contaminants at rates in excess of the following limitations:

(1) 1.88 tons in any 12 consecutive month period for nitrogen oxides, NOx (expressed as NO2);

(2) 5.25 tons in any 12 consecutive month period for carbon monoxide, CO;

(3) 4.21 tons in any 12 consecutive month period for total particulate matter (condensable and filterable) having an aerodynamic diameter equal to or less than 10 micrometers (PM10);

(4) 4.21 tons in any 12 consecutive month period for total particulate matter (condensable and filterable) having an aerodynamic diameter equal to or less than 2.5 micrometers (PM2.5);

(5) 0.96 tons in any 12 consecutive month period for volatile organic compounds, VOC (expressed as propane);

(6) 0.97 tons in any 12 consecutive month period for sulfur oxides (SOx, expressed as SO2)

(7) 3.39 tons in any 12 consecutive month period for ammonia slip

(8) 0.67 tons in any 12 consecutive month period for H2SO4

(9) 30,053 tons in any 12 consecutive month period for greenhouse gases (expressed as carbon dioxide equivalent, CO2e)

 # 002 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

Pursuant to best available technology requirements of 25 Pa. Code Sections 127.1 and 127.12, the permittee shall not permit the emission into the atmosphere of visible air contaminants in such a manner that the opacity of the emission from the boiler incorporated in this source is greater than:

(1) 10% for a period or periods aggregating more than 3 minutes in any 1 hour;

(2) 20% at any time.

 # 003 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Compliance with this permit condition will assure compliance with the requirements of 25 Pa. Code §§ 123.11 and 123.22]

Pursuant to best available technology requirements of 25 Pa. Code Sections 127.1 and 127.12, the boiler incorporated into this source shall not emit air contaminants at rates in excess of the following limitations:

SECTION D. Source Level Plan Approval Requirements

(1) 0.0074 pounds per MMBtu for nitrogen oxides, NOx (expressed as NO2) (3-hour block average);

(2) 0.0206 pounds per MMBtu for carbon monoxide, CO (3-hour block average);

(3) 0.0165 pounds per MMBtu for total particulate matter (condensable and filterable) having an aerodynamic diameter equal to or less than 10 micrometers (PM10);

(4) 0.0165 pounds per MMBtu for total particulate matter (condensable and filterable) having an aerodynamic diameter equal to or less than 2.5 micrometers (PM2.5);

(5) 0.0038 pounds per MMBtu for volatile organic compounds, VOC (expressed as propane);

(6) 0.0038 pounds per MMBtu for sulfur oxides (SOx, expressed as SO2)

(7) 0.0133 pounds per MMBtu for ammonia slip

(8) 0.0026 pounds per MMBtu for H2SO4

(9) 118 pounds per MMBtu for greenhouse gases (expressed as carbon dioxide equivalent, CO2e)

 # 004 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Compliance with this permit condition will assure compliance with the requirements of 25 Pa. Code §§ 123.11 and 123.22]

Pursuant to best available technology requirements of 25 Pa. Code Sections 127.1 and 127.12, the boiler incorporated into this source shall not emit air contaminants at rates in excess of the following limitations:

(1) 0.43 pounds per hour for nitrogen oxides, NOx (expressed as NO2);

(2) 1.20 pounds per hour for carbon monoxide, CO;

(3) 0.96 pounds per hour for total particulate matter (condensable and filterable) having an aerodynamic diameter equal to or less than 10 micrometers (PM10);

(4) 0.96 pounds per hour for total particulate matter (condensable and filterable) having an aerodynamic diameter equal to or less than 2.5 micrometers (PM2.5);

(5) 0.22 pounds per hour for volatile organic compounds, VOC (expressed as propane);

(6) 0.22 pounds per hour for sulfur oxides (SOx, expressed as SO2)

(7) 0.77 pounds per hour for ammonia slip

(8) 0.15 pounds per hour for H2SO4

(9) 6861 pounds per hour for greenhouse gases (expressed as carbon dioxide equivalent, CO2e)

Fuel Restriction(s).

 # 005 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Compliance with this streamlined permit condition will assure compliance with the provisions of 25 Pa. Code Section 123.22]

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall only use

SECTION D. Source Level Plan Approval Requirements

natural gas as fuel for this source which has a maximum sulfur content equal to or less than 1.25 grains per 100 standard cubic foot.

II. TESTING REQUIREMENTS.

 # 006 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) The permittee shall perform nitrogen oxide (NOx, expressed as NO2), carbon monoxide, total volatile organic compounds, ammonia, total (filterable and condensable) particulate matter, total PM10, and total PM2.5 stack tests upon this source within 180 days from the initial operation to verify compliance with the applicable emission limitations from the control device associated with this source.

(b) The performance test shall consist of three (3) separate test runs and each run shall last at least in one (1) hour in duration.

(c) The inlet gas temperature and the pressure drop across the control devices and ammonia injection system operation parameters shall be recorded on a continuous basis during the test. The requirement for the temperature range and pressure drop across the control devices and the ammonia injection system operation parameters will be established based upon the recorded data and stack test report.

(d) All testing is to be done using reference method test procedures acceptable to the Department and in accordance with applicable federal regulations. The testing shall be performed while the boiler incorporated into this source is operating at peak load.

(e) During the initial performance stack testing, the permittee shall record, at least every 15 minutes, the appropriate operational parameters and other manufacturer's suggested parameters and inlet/outlet exhaust temperatures of the control devices which will verify compliance with the emissions limitations.

(f) The Department may establish a requirement that includes operational parameter range(s) based on shakedown data, stack test data, manufacturer's suggested ranges and the initial test report.

 # 007 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) At least 90 days prior to the performance of any testing required herein, the permittee shall submit one hardcopy and one electronic copy to the Northcentral Regional Office Air Quality Program Manager and one hardcopy and one electronic copy shall be sent to the Department's Source Testing Division in Harrisburg for review in accordance with the provisions of 25 Pa. Code Chapter 139. The protocol shall describe the test methods and procedure to be used in the performance of testing, and shall include dimensioned sketches of the exhaust system showing the locations of all proposed sampling ports. The protocol shall also describe how the peak load and heat input will be determined during each test run, and also identify all other process data which will be monitored and recorded during testing including oxidation catalyst and selective catalytic reduction temperatures in addition to the appropriate operational parameters with description of basis for selecting the operational parameters and any target value.

(b) The Department shall be given at least 15 days advance notice of the scheduled dates for the performance of any testing required herein. The Department is under no obligation to accept the results of any testing performed without receipt of proper notification.

(c) Within 60 days of the completion of any stack testing required herein, one hardcopy and one electronic copy shall be sent to the Northcentral Regional Office Air Quality Program Manager and one hardcopy and one electronic copy shall be sent to the Department's Source Testing Division in Harrisburg in accordance with the provision of 25 Pa. Code Chapter 139. This test report shall contain the results of the testing, a description of the test methods and procedures actually used in the performance of the tests, copies of all process data collected during the testing, copies of all raw test data and copies of all calculations generated during data analysis. The results of the testing shall be expressed in units which allow for a direct comparison and determination of compliance, with the air contaminant emissions limitations contained herein. Additionally,

SECTION D. Source Level Plan Approval Requirements

the permittee shall propose the ranges for oxidation catalyst and selective catalytic reduction temperatures that demonstrates compliance with the limitations described above. Any proposed operational parameter range(s) shall be based on an engineering assessment of the shakedown/testing data and manufacturer's suggested ranges.

III. MONITORING REQUIREMENTS.

 # 008 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall install, certify, maintain and operate continuous emission monitoring systems (CEMS) for nitrogen oxides and carbon monoxide emissions on the exhaust of the boiler incorporated into this source in accordance with all applicable requirements specified in 25 Pa. Code Chapter 139 and the Department's "Continuous Source Monitoring Manual." No CEMS may however be installed unless Phase I approval has first been obtained from the Department.

(b) The permittee shall submit a Phase I application to the Department for all CEMS to be associated with the boiler at least 180 days prior to the expected commencement of operation date of the unit.

(c) The permittee shall implement a carbon dioxide mass emission monitoring system in accordance with the requirements in 40 CFR § 98.43 and 40 CFR § 75.13.

 # 009 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the Best Available Technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the oxidation catalyst shall be equipped with instrumentation to continuously monitor the catalyst bed inlet and outlet temperatures as well as the pressure differential across the catalyst bed to verify the temperature and pressure differential parameters are within the acceptable ranges established during performance testing. Visual and audible alarms shall be utilized to indicate improper operation.

 # 010 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12, the selective catalytic reduction catalyst shall be equipped with instrumentation to continuously monitor the catalyst bed inlet and outlet temperatures as well as the pressure differential across the catalyst bed to verify the temperature and pressure differential parameters are within the acceptable ranges established during performance testing. Visual and audible alarms shall be utilized to indicate improper operation.

 # 011 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12, the postcontrol nitrogen oxides (expressed as NO2) emissions from this source shall be monitored and recorded by the feed-forward process control loop to ensure maximum control efficiency and minimum ammonia slip. Additionally, the ammonia injection rate shall be monitored and controlled to minimize ammonia slip emissions. Visual and audible alarms shall be utilized to indicate improper operation.

 # 012 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12, a monitoring system shall be in the stack to monitor and record percent oxygen levels to ensure maximum combustion efficiency.

 # 013 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the Best Available Technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the operating parameters associated with the boiler and control devices being monitored shall be monitored during the initial and subsequent EPA reference method testing program for this source as required herein.

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IV. RECORDKEEPING REQUIREMENTS.

 # 014 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall keep records of the following information:

(1) The supporting calculations on a monthly basis used to verify compliance with the nitrogen oxide, carbon monoxide, volatile organic compound, total PM10, total PM2.5, sulfur oxide, ammonia, CO2e, and H2SO4 emission limitations for this source for any 12 consecutive month period.

(2) The test reports and supporting calculations used to verify compliance with the nitrogen oxide, carbon monoxide, volatile organic compound, total PM10, total PM2.5, sulfur oxide, and ammonia emission limitations.

(3) The pressure drop across and the inlet gas temperature of the control devices on a continuous basis via a data acquisition system and shall compute the hourly averages.

(4) The amount of fuel fired in this source to demonstrate compliance with applicable emission limitations.

(b) All records generated pursuant to this condition shall be retained for a minimum of five (5) years and shall be made available to the Department upon request.

 # 015 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall keep records of the manufacturers' recommended maintenance practices and activities for their monitoring instrumentation which is used to meet the monitoring requirements for this source, as well as maintenance records including calibrations performed and any corrective actions taken.

(b) All records generated pursuant to this condition shall be retained for a minimum of five (5) years and shall be made available to the Department upon request.

 # 016 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.48c]
Subpart Dc - Standards of Performance for Small Industrial- Commercial-Institutional Steam Generating Units
Reporting and recordkeeping requirements.

The permittee shall comply with the applicable requirements specified in 40 CFR §§ 60.48c(a), (g), (i), and (j).

V. REPORTING REQUIREMENTS.

 # 017 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall submit semi-annual reports to the Department which included the following information:

(1) The supporting calculations on a monthly basis used to verify compliance with the nitrogen oxide, carbon monoxide, volatile organic compound, total PM10, total PM2.5, sulfur oxide, ammonia, CO2e, and H2SO4 emission limitations for this source for any 12 consecutive month period.

(2) The pressure drop across and the inlet gas temperature of the control devices on a continuous basis via a data acquisition system and shall compute the hourly averages.

(3) The amount of fuel fired in this source to demonstrate compliance with applicable emission limitations.

(b) The semi-annual report shall be submitted to the Department no later than March 1 (for January 1 through December 31 of the previous year) and September 1 (For July 1 of the previous year through June 30 of the concurrent year).

SECTION D. Source Level Plan Approval Requirements

VI. WORK PRACTICE REQUIREMENTS.

 # 018 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall follow the manufacturer's recommended procedures of startup and shutdown of this source.

 # 019 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to best available technology requirements of 25 Pa. Code Sections 127.1 and 127.12, the permittee shall operate and maintain the boiler and control devices incorporated into this source in a manner consistent with good air pollution control and good combustion practices for minimizing emissions at all times, including during startup, shutdown, and malfunction events.

VII. ADDITIONAL REQUIREMENTS.

 # 020 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

This source consists of one 58.2 MMBtu/hr natural gas fired Cleaver Brooks boiler (or alternate boiler determined by the Department to have an equivalent, or lower, air contaminant emission potential) utilizing flue gas recirculation and controlled by an oxidation catalyst and selective catalytic reduction unit.

 # 021 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Within 30 days of the selection of the specific manufacturer and model of the boilers, the permittee shall submit specifications for the selected boilers to the Department for review and final approval. These specifications shall include the maximum rated heat input of the boiler, the make and model of the unit, and any other information pertinent to the boiler's performance. In order for the selected boilers to be given final approval by the Department, their specifications must be determined by the Department to be equivalent, or better, to those contained in the application and supplemental materials submitted for plan approval

 # 022 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.40c]
Subpart Dc - Standards of Performance for Small Industrial- Commercial-Institutional Steam Generating Units
Applicability and delegation of authority.

The steam generating unit incorporated into this source is subject to Title 40 Part 60 Subpart Dc (Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units). The permittee shall comply with all applicable provisions specified in 40 CFR Sections 60.40c - 60.48c.

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Source ID: 032 Source Name: STEAM BOILER FOR AMINE SOLUTION SYSTEM

Source Capacity/Throughput: 58.200 MMBTU/HR

I. RESTRICTIONS.

Emission Restriction(s).

 # 001 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

Pursuant to best available technology requirements of 25 Pa. Code Sections 127.1 and 127.12, the boiler incorporated into this source shall not emit air contaminants at rates in excess of the following limitations:

(1) 1.88 tons in any 12 consecutive month period for nitrogen oxides, NOx (expressed as NO2);

(2) 5.25 tons in any 12 consecutive month period for carbon monoxide, CO;

(3) 4.21 tons in any 12 consecutive month period for total particulate matter (condensable and filterable) having an aerodynamic diameter equal to or less than 10 micrometers (PM10);

(4) 4.21 tons in any 12 consecutive month period for total particulate matter (condensable and filterable) having an aerodynamic diameter equal to or less than 2.5 micrometers (PM2.5);

(5) 0.96 tons in any 12 consecutive month period for volatile organic compounds, VOC (expressed as propane);

(6) 0.97 tons in any 12 consecutive month period for sulfur oxides (SOx, expressed as SO2)

(7) 3.39 tons in any 12 consecutive month period for ammonia slip

(8) 0.67 tons in any 12 consecutive month period for H2SO4

(9) 30,053 tons in any 12 consecutive month period for greenhouse gases (expressed as carbon dioxide equivalent, CO2e)

 # 002 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

Pursuant to best available technology requirements of 25 Pa. Code Sections 127.1 and 127.12, the permittee shall not permit the emission into the atmosphere of visible air contaminants in such a manner that the opacity of the emission from the boiler incorporated in this source is greater than:

(1) 10% for a period or periods aggregating more than 3 minutes in any 1 hour;

(2) 20% at any time.

 # 003 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Compliance with this permit condition will assure compliance with the requirements of 25 Pa. Code §§ 123.11 and 123.22]

Pursuant to best available technology requirements of 25 Pa. Code Sections 127.1 and 127.12, the boiler incorporated into this source shall not emit air contaminants at rates in excess of the following limitations:

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(1) 0.0074 pounds per MMBtu for nitrogen oxides, NOx (expressed as NO2) (3-hour block average);

(2) 0.0206 pounds per MMBtu for carbon monoxide, CO (3-hour block average);

(3) 0.0165 pounds per MMBtu for total particulate matter (condensable and filterable) having an aerodynamic diameter equal to or less than 10 micrometers (PM10);

(4) 0.0165 pounds per MMBtu for total particulate matter (condensable and filterable) having an aerodynamic diameter equal to or less than 2.5 micrometers (PM2.5);

(5) 0.0038 pounds per MMBtu for volatile organic compounds, VOC (expressed as propane);

(6) 0.0038 pounds per MMBtu for sulfur oxides (SOx, expressed as SO2)

(7) 0.0133 pounds per MMBtu for ammonia slip

(8) 0.0026 pounds per MMBtu for H2SO4

(9) 118 pounds per MMBtu for greenhouse gases (expressed as carbon dioxide equivalent, CO2e)

 # 004 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Compliance with this permit condition will assure compliance with the requirements of 25 Pa. Code §§ 123.11 and 123.22]

Pursuant to best available technology requirements of 25 Pa. Code Sections 127.1 and 127.12, the boiler incorporated into this source shall not emit air contaminants at rates in excess of the following limitations:

(1) 0.43 pounds per hour for nitrogen oxides, NOx (expressed as NO2);

(2) 1.20 pounds per hour for carbon monoxide, CO;

(3) 0.96 pounds per hour for total particulate matter (condensable and filterable) having an aerodynamic diameter equal to or less than 10 micrometers (PM10);

(4) 0.96 pounds per hour for total particulate matter (condensable and filterable) having an aerodynamic diameter equal to or less than 2.5 micrometers (PM2.5);

(5) 0.22 pounds per hour for volatile organic compounds, VOC (expressed as propane);

(6) 0.22 pounds per hour for sulfur oxides (SOx, expressed as SO2)

(7) 0.77 pounds per hour for ammonia slip

(8) 0.15 pounds per hour for H2SO4

(9) 6861 pounds per hour for greenhouse gases (expressed as carbon dioxide equivalent, CO2e)

Fuel Restriction(s).

 # 005 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Compliance with this streamlined permit condition will assure compliance with the provisions of 25 Pa. Code Section 123.22]

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall only use

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natural gas as fuel for this source which has a maximum sulfur content equal to or less than 1.25 grains per 100 standard cubic foot.

II. TESTING REQUIREMENTS.

 # 006 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) The permittee shall perform nitrogen oxide (NOx, expressed as NO2), carbon monoxide, total volatile organic compounds, ammonia, total (filterable and condensable) particulate matter, total PM10, and total PM2.5 stack tests upon this source within 180 days from the initial operation to verify compliance with the applicable emission limitations from the control device associated with this source.

(b) The performance test shall consist of three (3) separate test runs and each run shall last at least in one (1) hour in duration.

(c) The inlet gas temperature and the pressure drop across the control devices and ammonia injection system operation parameters shall be recorded on a continuous basis during the test. The requirement for the temperature range and pressure drop across the control devices and the ammonia injection system operation parameters will be established based upon the recorded data and stack test report.

(d) All testing is to be done using reference method test procedures acceptable to the Department and in accordance with applicable federal regulations. The testing shall be performed while the boiler incorporated into this source is operating at peak load.

(e) During the initial performance stack testing, the permittee shall record, at least every 15 minutes, the appropriate operational parameters and other manufacturer's suggested parameters and inlet/outlet exhaust temperatures of the control devices which will verify compliance with the emissions limitations.

(f) The Department may establish a requirement that includes operational parameter range(s) based on shakedown data, stack test data, manufacturer's suggested ranges and the initial test report.

 # 007 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) At least 90 days prior to the performance of any testing required herein, the permittee shall submit one hardcopy and one electronic copy to the Northcentral Regional Office Air Quality Program Manager and one hardcopy and one electronic copy shall be sent to the Department's Source Testing Division in Harrisburg for review in accordance with the provisions of 25 Pa. Code Chapter 139. The protocol shall describe the test methods and procedure to be used in the performance of testing, and shall include dimensioned sketches of the exhaust system showing the locations of all proposed sampling ports. The protocol shall also describe how the peak load and heat input will be determined during each test run, and also identify all other process data which will be monitored and recorded during testing including oxidation catalyst and selective catalytic reduction temperatures in addition to the appropriate operational parameters with description of basis for selecting the operational parameters and any target value.

(b) The Department shall be given at least 15 days advance notice of the scheduled dates for the performance of any testing required herein. The Department is under no obligation to accept the results of any testing performed without receipt of proper notification.

(c) Within 60 days of the completion of any stack testing required herein, one hardcopy and one electronic copy shall be sent to the Northcentral Regional Office Air Quality Program Manager and one hardcopy and one electronic copy shall be sent to the Department's Source Testing Division in Harrisburg in accordance with the provision of 25 Pa. Code Chapter 139. This test report shall contain the results of the testing, a description of the test methods and procedures actually used in the performance of the tests, copies of all process data collected during the testing, copies of all raw test data and copies of all calculations generated during data analysis. The results of the testing shall be expressed in units which allow for a direct comparison and determination of compliance, with the air contaminant emissions limitations contained herein. Additionally,

SECTION D. Source Level Plan Approval Requirements

the permittee shall propose the ranges for oxidation catalyst and selective catalytic reduction temperatures that demonstrates compliance with the limitations described above. Any proposed operational parameter range(s) shall be based on an engineering assessment of the shakedown/testing data and manufacturer's suggested ranges.

III. MONITORING REQUIREMENTS.

 # 008 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall install, certify, maintain and operate continuous emission monitoring systems (CEMS) for nitrogen oxides and carbon monoxide emissions on the exhaust of the boiler incorporated into this source in accordance with all applicable requirements specified in 25 Pa. Code Chapter 139 and the Department's "Continuous Source Monitoring Manual." No CEMS may however be installed unless Phase I approval has first been obtained from the Department.

(b) The permittee shall submit a Phase I application to the Department for all CEMS to be associated with the boiler at least 180 days prior to the expected commencement of operation date of the unit.

(c) The permittee shall implement a carbon dioxide mass emission monitoring system in accordance with the requirements in 40 CFR § 98.43 and 40 CFR § 75.13.

 # 009 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the Best Available Technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the oxidation catalyst shall be equipped with instrumentation to continuously monitor the catalyst bed inlet and outlet temperatures as well as the pressure differential across the catalyst bed to verify the temperature and pressure differential parameters are within the acceptable ranges established during performance testing. Visual and audible alarms shall be utilized to indicate improper operation.

 # 010 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12, the selective catalytic reduction catalyst shall be equipped with instrumentation to continuously monitor the catalyst bed inlet and outlet temperatures as well as the pressure differential across the catalyst bed to verify the temperature and pressure differential parameters are within the acceptable ranges established during performance testing. Visual and audible alarms shall be utilized to indicate improper operation.

 # 011 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12, the postcontrol nitrogen oxides (expressed as NO2) emissions from this source shall be monitored and recorded by the feed-forward process control loop to ensure maximum control efficiency and minimum ammonia slip. Additionally, the ammonia injection rate shall be monitored and controlled to minimize ammonia slip emissions. Visual and audible alarms shall be utilized to indicate improper operation.

 # 012 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12, a monitoring system shall be in the stack to monitor and record percent oxygen levels to ensure maximum combustion efficiency.

 # 013 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the Best Available Technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the operating parameters associated with the boiler and control devices being monitored shall be monitored during the initial and subsequent EPA reference method testing program for this source as required herein.

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IV. RECORDKEEPING REQUIREMENTS.

 # 014 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall keep records of the following information:

(1) The supporting calculations on a monthly basis used to verify compliance with the nitrogen oxide, carbon monoxide, volatile organic compound, total PM10, total PM2.5, sulfur oxide, ammonia, CO2e, and H2SO4 emission limitations for this source for any 12 consecutive month period.

(2) The test reports and supporting calculations used to verify compliance with the nitrogen oxide, carbon monoxide, volatile organic compound, total PM10, total PM2.5, sulfur oxide, and ammonia emission limitations.

(3) The pressure drop across and the inlet gas temperature of the control devices on a continuous basis via a data acquisition system and shall compute the hourly averages.

(4) The amount of fuel fired in this source to demonstrate compliance with applicable emission limitations.

(b) All records generated pursuant to this condition shall be retained for a minimum of five (5) years and shall be made available to the Department upon request.

 # 015 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall keep records of the manufacturers' recommended maintenance practices and activities for their monitoring instrumentation which is used to meet the monitoring requirements for this source, as well as maintenance records including calibrations performed and any corrective actions taken.

(b) All records generated pursuant to this condition shall be retained for a minimum of five (5) years and shall be made available to the Department upon request.

 # 016 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.48c]
Subpart Dc - Standards of Performance for Small Industrial- Commercial-Institutional Steam Generating Units
Reporting and recordkeeping requirements.

The permittee shall comply with the applicable requirements specified in 40 CFR §§ 60.48c(a), (g), (i), and (j).

V. REPORTING REQUIREMENTS.

 # 017 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall submit semi-annual reports to the Department which included the following information:

(1) The supporting calculations on a monthly basis used to verify compliance with the nitrogen oxide, carbon monoxide, volatile organic compound, total PM10, total PM2.5, sulfur oxide, ammonia, CO2e, and H2SO4 emission limitations for this source for any 12 consecutive month period.

(2) The pressure drop across and the inlet gas temperature of the control devices on a continuous basis via a data acquisition system and shall compute the hourly averages.

(3) The amount of fuel fired in this source to demonstrate compliance with applicable emission limitations.

(b) The semi-annual report shall be submitted to the Department no later than March 1 (for January 1 through December 31 of the previous year) and September 1 (For July 1 of the previous year through June 30 of the concurrent year).

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VI. WORK PRACTICE REQUIREMENTS.

 # 018 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall follow the manufacturer's recommended procedures of startup and shutdown of this source.

 # 019 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to best available technology requirements of 25 Pa. Code Sections 127.1 and 127.12, the permittee shall operate and maintain the boiler and control devices incorporated into this source in a manner consistent with good air pollution control and good combustion practices for minimizing emissions at all times, including during startup, shutdown, and malfunction events.

VII. ADDITIONAL REQUIREMENTS.

 # 020 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

This source consists of one 58.2 MMBtu/hr natural gas fired Cleaver Brooks boiler (or alternate boiler determined by the Department to have an equivalent, or lower, air contaminant emission potential) utilizing flue gas recirculation and controlled by an oxidation catalyst and selective catalytic reduction unit.

 # 021 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Within 30 days of the selection of the specific manufacturer and model of the boilers, the permittee shall submit specifications for the selected boilers to the Department for review and final approval. These specifications shall include the maximum rated heat input of the boiler, the make and model of the unit, and any other information pertinent to the boiler's performance. In order for the selected boilers to be given final approval by the Department, their specifications must be determined by the Department to be equivalent, or better, to those contained in the application and supplemental materials submitted for plan approval

 # 022 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.40c]
Subpart Dc - Standards of Performance for Small Industrial- Commercial-Institutional Steam Generating Units
Applicability and delegation of authority.

The steam generating unit incorporated into this source is subject to Title 40 Part 60 Subpart Dc (Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units). The permittee shall comply with all applicable provisions specified in 40 CFR Sections 60.40c - 60.48c.

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Source ID: P101 Source Name: GE MODEL LM6000PF+ COMPRESSOR TURBINE

Source Capacity/Throughput: 509.200 MMBTU/HR

I. RESTRICTIONS.

Emission Restriction(s).

 # 001 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Compliance with this streamlined condition assures compliance with the requirements of 25 Pa. Code § 123.41]

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee may not permit the emission of visible air contaminants from the exhaust of the control device associated with this source into the outdoor atmosphere in such a manner that the opacity of the emission is equal to or greater than 10% at any time.

 # 002 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall not permit the following air contaminant emissions from the exhaust of the control device associated with this source in excess of the limitations listed below:

(1) Nitrogen oxides (NOx, expressed as NO2) – 16.49 tons in any 12 consecutive month period

(2) Carbon monoxide (CO) – 8.92 tons in any 12 consecutive month period

(3) Sulfur oxides (SOx, expressed as SO2) – 8.47 tons in any 12 consecutive month period

(4) Total particulate matter (filterable plus condensable) - 28.58 tons in any 12 consecutive month period

(5) Total PM10 – 28.58 tons in any 12 consecutive month period

(6) Total PM2.5 – 28.58 tons in any 12 consecutive month period

(7) Total combined volatile organic compounds (expressed as propane) – 6.02 tons in any 12 consecutive month period

(8) Formaldehyde – 1.58 tons in any 12 consecutive month period

(9) Ammonia – 14.88 tons in any 12 consecutive month period

(10) Greenhouse gases (expressed as carbon dioxide equivalent, CO2e) – 262,300 tons in any 12 consecutive month period

(11) H2SO4 – 9.19 tons in any 12 consecutive month period

(b) The above emissions limits do not include emissions from startups and shutdowns.

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 # 003 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Compliance with this streamlined condition will assure compliance with the NOx emission limitation of 25 ppm pursuant to 40 CFR Part 60 Subpart KKKK § 60.4320(a)]

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall not permit the following air contaminant emissions from the exhaust of the control device associated with this source in excess of the limitations listed below:

(1) Nitrogen oxides (NOx, expressed as NO2) – 2.0 parts per million volume on a dry gas basis, corrected to 15 percent oxygen (3-hour block average)

(2) Carbon monoxide (CO) – 1.75 parts per million volume on a dry gas basis, corrected to 15 percent oxygen (3-hour block average)

(3) Total combined volatile organic compounds (expressed as propane) – 0.80 parts per million volume on a dry gas basis, corrected to 15 percent oxygen

(4) Formaldehyde – 0.0007 pounds per MMBtu

(5) Total (filterable and condensable) particulate matter – 0.016 pounds per MMBtu

(6) Total PM10 – 0.016 pounds per MMBtu

(7) Total PM2.5 – 0.016 pounds per MMBtu

(8) Ammonia (NH3) slip – 5.0 parts per million volume on a dry gas basis, corrected to 15 percent oxygen

(9) Greenhouse gases (expressed as carbon dioxide equivalent, CO2e) – 117.7 pounds per MMBtu

(10) H2SO4 - 0.0041 pounds per MMBtu

(11) Sulfur oxides (SOx, expressed as SO2) - 0.0038 pounds per MMBtu

(b) The above emissions limits shall apply at all times except for periods of startup and shutdown.

(c) The above emission limitations do not apply when the ambient temperature is below 20°F.

 # 004 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Compliance with this streamlined condition will assure compliance with the requirements of 25 Pa. Code § 123.13]

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall not permit the following air contaminant emissions from the exhaust of the control device associated with this source in excess of the limitations listed below:

(1) Nitrogen oxides (NOx, expressed as NO2) – 3.77 pounds per hour

(2) Carbon monoxide (CO) – 2.04 pounds per hour

(3) Total combined volatile organic compounds (expressed as propane) -1.37 pounds per hour

(4) Formaldehyde – 0.36 pounds per hour

(5) Total (filterable and condensable) particulate matter – 6.53 pounds per hour

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(6) Total PM10 – 6.53 pounds per hour

(7) Total PM2.5 – 6.53 pounds per hour

(8) Ammonia (NH3) slip – 3.40 pounds per hour

(9) H2SO4 – 2.10 pounds per hour

(10) Greenhouse gases (expressed as carbon dioxide equivalent, CO2e) – 59,933 pounds per hour

(11) Sulfur oxides (expressed as sulfur dioxide, SO2) - 1.93 pounds per hour

(b) The above emissions limits shall apply at all times except for periods of startup and shutdown.

 # 005 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Compliance with this streamlined condition will assure compliance with the requirements of 25 Pa. Code § 123.21]

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall not permit the emission of sulfur oxides (SOx, expressed as SO2) from the exhaust of the control device associated with this source in excess of 1.93 pounds per hour.

 # 006 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

Pursuant to best available technology requirements of 25 Pa. Code Sections 127.1 and 127.12, the turbine incorporated into this source shall comply with the following limitations:

(1) The total combined nitrogen oxides (NOx, expressed as NO2) emissions, resulting from all of the startups and shutdowns combined, from the combustion turbines incorporated into Sources P101 and P102 shall not exceed 0.18 tons in any 12 consecutive month period.

(2) The total combined carbon monoxide emissions, resulting from all of the startups and shutdowns combined, from the combustion turbines incorporated into Sources P101 and P102 shall not exceed 0.60 tons in any 12 consecutive month period.

(3) The total combined volatile organic compounds (expressed as propane) emissions, resulting from all of the startups and shutdowns combined, from the combustion turbines incorporated into Sources P101 and P102 shall not exceed 0.082 tons in any 12 consecutive month period.

(4) The total combined (filterable and condensable) particulate matter emissions, resulting from all of the startups and shutdowns combined, from the combustion turbines incorporated into Sources P101 and P102 shall not exceed 0.090 tons in any 12 consecutive month period.

(5) Total combined PM10 emissions, resulting from all of the startups and shutdowns combined, from the combustion turbines incorporated into Sources P101 and P102 shall not exceed 0.090 tons in any 12 consecutive month period.

(6) Total combined PM2.5 emissions, resulting from all of the startups and shutdowns combined, from the combustion turbines incorporated into Sources P101 and P102 shall not exceed 0.090 tons in any 12 consecutive month period.

Fuel Restriction(s).

 # 007 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Additional authority for this condition is derived from 40 CFR §§ 60.4330 and 60.4360]

SECTION D. Source Level Plan Approval Requirements

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall only use natural gas as fuel for this source which has a maximum sulfur content equal to or less than 1.25 grains per 100 standard cubic foot.

Operation Hours Restriction(s).

 # 008 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12:

(a) The durations of startups and shutdowns shall be minimized to the extent practicable.

(b) Startup and shutdown shall be accomplished as follows:

(1) Startup is identified as the period between the commencement of ignition and when the combustion turbine reaches 60 percent operating level, or the following emission limits are all met simultaneously: Nitrogen oxides (expressed as NO2) emissions are 2.0 parts per million volume on a dry gas basis or less and carbon monoxide emissions are 1.75 parts per million volume on a dry gas basis or less, all corrected to 15 percent oxygen. Each startup shall not exceed 10 minutes in duration.

(2) Shutdown is identified as the period between the time that the combustion turbine drops below 60 percent operating level and the fuel is cut to the unit. Steadystate operation below 60 percent operating level when compliance with the following limits are all met simultaneously: Nitrogen oxides (expressed as NO2) emissions are 2.0 parts per million volume on a dry gas basis or less and carbon monoxide emissions are 1.75 parts per million volume on a dry gas basis or less all corrected to 15 percent oxygen, does not constitute shutdown. Each shutdown shall not exceed 10 minutes in duration.

(c) The permittee shall record the time, date and duration of each startup and shutdown as well as the reason for each startup and shutdown.

 # 009 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12:

(1) the total combined hours of startups for the combustion turbines incorporated into Sources P101 and P102 shall not exceed 8 hours in any 12 consecutive month period.

(2) the total combined hours of shutdowns for the combustion turbines incorporated into Sources P101 and P102 shall not exceed 8 hours in any 12 consecutive month period.

II. TESTING REQUIREMENTS.

 # 010 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) At least 90 days prior to the performance of any testing required herein, the permittee shall submit one hardcopy and one electronic copy to the Northcentral Regional Office Air Quality Program Manager and one hardcopy and one electronic copy shall be sent to the Department's Source Testing Division in Harrisburg for review in accordance with the provisions of 25 Pa. Code Chapter 139. The protocol shall describe the test methods and procedure to be used in the performance of testing, and shall include dimensioned sketches of the exhaust system showing the locations of all proposed sampling ports. The protocol shall also describe how the peak load and heat input will be determined during each test run, and also identify all other process data which will be monitored and recorded during testing including oxidation catalyst and selective catalytic reduction temperatures in addition to the appropriate operational parameters with description of basis for selecting the operational parameters and any target value.

SECTION D. Source Level Plan Approval Requirements

(b) The Department shall be given at least 15 days advance notice of the scheduled dates for the performance of any testing required herein. The Department is under no obligation to accept the results of any testing performed without receipt of proper notification.

(c) Within 60 days of the completion of any stack testing required herein, one hardcopy and one electronic copy shall be sent to the Northcentral Regional Office Air Quality Program Manager and one hardcopy and one electronic copy shall be sent to the Department's Source Testing Division in Harrisburg in accordance with the provision of 25 Pa. Code Chapter 139. This test report shall contain the results of the testing, a description of the test methods and procedures actually used in the performance of the tests, copies of all process data collected during the testing, copies of all raw test data and copies of all calculations generated during data analysis. The results of the testing shall be expressed in units which allow for a direct comparison and determination of compliance, with the air contaminant emissions limitations contained herein. Additionally, the permittee shall propose the ranges for oxidation catalyst and selective catalytic reduction temperatures that demonstrates compliance with the limitations described above. Any proposed operational parameter range(s) shall be based on an engineering assessment of the shakedown/testing data and manufacturer's suggested ranges.

 # 011 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) The permittee shall perform nitrogen oxide (NOx, expressed as NO2), carbon monoxide, total volatile organic compounds, ammonia, total (filterable and condensable) particulate matter, total PM10, total PM2.5, and formaldehyde stack tests upon this source within 180 days from the initial operation to verify compliance with the applicable emission limitations from the control device associated with this source.

(b) Subsequent EPA reference method testing for total volatile organic compounds, ammonia, total PM, total PM10, total PM2.5, formaldehyde emissions shall be conducted every two years from the date of the previous tests. The testing frequency may be revised based upon the satisfactory demonstration of compliance with the emission limitations.

(c) The performance test shall consist of three (3) separate test runs and each run shall last at least in one (1) hour in duration.

(d) The inlet gas temperature and the pressure drop across the control devices and ammonia injection system operation parameters shall be recorded on a continuous basis during the test. The requirement for the temperature range and pressure drop across the control devices and the ammonia injection system operation parameters will be established based upon the recorded data and stack test report.

(e) All testing is to be done using reference method test procedures acceptable to the Department and in accordance with applicable federal regulations. The testing shall be performed while the combustion turbine incorporated into this source is operating at peak load.

(f) During the initial performance stack testing, the permittee shall record, at least every 15 minutes, the appropriate operational parameters and other manufacturer's suggested parameters and inlet/outlet exhaust temperatures of the control devices which will verify compliance with the emissions limitations.

(g) The Department may establish a requirement that includes operational parameter range(s) based on shakedown data, stack test data, manufacturer's suggested ranges and the initial test report.

III. MONITORING REQUIREMENTS.

 # 012 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) The permittee shall install, certify, maintain and operate continuous emission monitoring systems (CEMS) for nitrogen oxides and carbon monoxide emissions on the exhaust of the combustion turbine incorporated into this source in accordance with all applicable requirements specified in 25 Pa. Code Chapter 139 and the Department's "Continuous Source Monitoring Manual." No CEMS may however be installed unless Phase I approval has first been obtained from the Department.

SECTION D. Source Level Plan Approval Requirements

(b) The permittee shall submit a Phase I application to the Department for all CEMS to be associated with the combustion turbine at least 180 days prior to the expected commencement of operation date of the unit.

(c) The permittee shall implement a carbon dioxide mass emission monitoring system in accordance with the requirements in 40 CFR § 98.43 and 40 CFR § 75.13.

 # 013 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the Best Available Technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the oxidation catalyst shall be equipped with instrumentation to continuously monitor the catalyst bed inlet and outlet temperatures as well as the pressure differential across the catalyst bed to verify the temperature and pressure differential parameters are within the acceptable ranges established during performance testing. Visual and audible alarms shall be utilized to indicate improper operation.

 # 014 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12, the selective catalytic reduction catalyst shall be equipped with instrumentation to continuously monitor the catalyst bed inlet and outlet temperatures as well as the pressure differential across the catalyst bed to verify the temperature and pressure differential parameters are within the acceptable ranges established during performance testing. Visual and audible alarms shall be utilized to indicate improper operation.

 # 015 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12, the postcontrol nitrogen oxides (expressed as NO2) emissions from this source shall be monitored and recorded by the feed-forward process control loop to ensure maximum control efficiency and minimum ammonia slip. Additionally, the ammonia injection rate shall be monitored and controlled to minimize ammonia slip emissions. Visual and audible alarms shall be utilized to indicate improper operation.

 # 016 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12, a monitoring system shall be in the stack to monitor and record percent oxygen levels to ensure maximum combustion efficiency.

 # 017 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12, the permittee shall monitor and record the pressure differential across the high-efficiency inlet air filters for this source on a weekly basis.

 # 018 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the Best Available Technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the operating parameters associated with the turbine and control devices being monitored shall be monitored during the initial and subsequent EPA reference method testing program for this source as required herein.

 # 019 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4340]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
How do I demonstrate continuous compliance for NOX if I do not use water or steam injection?

The permittee shall comply with all applicable monitoring requirements specified in 40 CFR §§ 60.4340.

 # 020 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4345]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
What are the requirements for the continuous emission monitoring system equipment, if I choose to use this option?

The permittee shall comply with all applicable monitoring requirements specified in 40 CFR § 60.4345.

SECTION D. Source Level Plan Approval Requirements

 # 021 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4350]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
How do I use data from the continuous emission monitoring equipment to identify excess emissions?

The permittee shall comply with all applicable monitoring requirements specified in 40 CFR § 60.4350.

 # 022 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4355]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
How do I establish and document a proper parameter monitoring plan?

The permittee shall comply with all applicable monitoring requirements specified in 40 CFR § 60.4355.

 # 023 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4360]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
How do I determine the total sulfur content of the turbine's combustion fuel?

The permittee shall comply with all applicable SO2 monitoring requirements specified in 40 CFR § 60.4360.

 # 024 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4365]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
How can I be exempted from monitoring the total sulfur content of the fuel?

The permittee shall comply with all applicable SO2 monitoring requirements specified in 40 CFR § 60.4365.

 # 025 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4370]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
How often must I determine the sulfur content of the fuel?

The permittee shall comply with all applicable SO2 monitoring requirements specified in 40 CFR § 60.4370.

IV. RECORDKEEPING REQUIREMENTS.

 # 026 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall keep records of the following information:

(1) The supporting calculations on a monthly basis used to verify compliance with the nitrogen oxide, carbon monoxide, volatile organic compound, particulate matter, sulfur oxide, ammonia, CO2e, H2SO4, and formaldehyde emission limitations for this source for any 12 consecutive month period.

(2) The test reports and supporting calculations used to verify compliance with the nitrogen oxide, carbon monoxide, volatile organic compound, particulate matter, ammonia, and formaldehyde emission limitations.

(3) The pressure drop across and the inlet gas temperature of the control devices on a continuous basis via a data acquisition system and shall compute the hourly averages.

(4) The amount of fuel fired in this source to demonstrate compliance with applicable emission limitations.

(5) The number of hours that this source operated in startup and shutdown on a monthly basis.

(6) The date and time of the inspections, the identification of the inspector, what was inspected, the location of any observed fugitive emissions, identification of any corrective action taken to eliminate the observed fugitive emissions and the success, or failure, of the corrective action to eliminate the fugitive emissions.

(7) Ambient temperature on a 30-minute basis.

(b) All records generated pursuant to this condition shall be retained for a minimum of five (5) years and shall be made available to the Department upon request.

SECTION D. Source Level Plan Approval Requirements

 # 027 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall keep records of the manufacturers' recommended maintenance practices and activities for their monitoring instrumentation which is used to meet the monitoring requirements for this source, as well as maintenance records including calibrations performed and any corrective actions taken.

(b) All records generated pursuant to this condition shall be retained for a minimum of five (5) years and shall be made available to the Department upon request.

V. REPORTING REQUIREMENTS.

 # 028 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall submit semi-annual reports to the Department which included the following information:

(1) The supporting calculations on a monthly basis used to verify compliance with the nitrogen oxide, carbon monoxide, volatile organic compound, particulate matter, sulfur oxide, ammonia, CO2e, H2SO4, and formaldehyde emission limitations for this source for any 12 consecutive month period.

(2) The pressure drop across and the inlet gas temperature of the control devices on a continuous basis via a data acquisition system and shall compute the hourly averages.

(3) The amount of fuel fired in this source to demonstrate compliance with applicable emission limitations.

(4) The number of hours that this source operated in startup and shutdown on a monthly basis.

(5) The date and time of the inspections, the identification of the inspector, what was inspected, the location of any observed fugitive emissions, identification of any corrective action taken to eliminate the observed fugitive emissions and the success, or failure, of the corrective action to eliminate the fugitive emissions.

(6) Ambient temperature on a 30-minute basis.

(b) The semi-annual report shall be submitted to the Department no later than March 1 (for January 1 through December 31 of the previous year) and September 1 (For July 1 of the previous year through June 30 of the concurrent year).

 # 029 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4375]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
What reports must I submit?

The permittee shall comply with the applicable reporting requirements specified in 40 CFR §§ 60.4375.

 # 030 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4380]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
How are excess emissions and monitor downtime defined for NOX ?

The permittee shall comply with the applicable reporting requirements specified in 40 CFR § 60.4380.

VI. WORK PRACTICE REQUIREMENTS.

 # 031 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall follow the manufacturer's recommended procedures of startup and shutdown of this source.

 # 032 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

SECTION D. Source Level Plan Approval Requirements

Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12, high efficiency inlet air filters shall be used in the air inlet section of the combustion turbine incorporated into this source.

 # 033 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology provisions in 25 Pa. Code §§ 127.1 and 127.12, the combustion turbine incorporated into this source shall be equipped with dry-low-NOx (DLN) combustors.

 # 034 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the ammonia injection rate for the turbine incorporated into this source shall not exceed the following limits:

(1) 135 pounds per hour at 50% operation
(2) 201 pounds per hour at 100% operation

 # 035 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4333]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
What are my general requirements for complying with this subpart?

[Additional authority for this permit condition is also derived from the requirements specified in 40 CFR § 60.4333(a)]

Pursuant to the Best Available Technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall operate and maintain the combustion turbine, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction.

VII. ADDITIONAL REQUIREMENTS.

 # 036 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

This source consists of one natural gas fired GE Model LM6000PF+ gas compression turbine rated at 509.2 MMBtu/hr equipped with Dry Low NOx and controlled with selective catalytic reduction and an oxidation catalyst.

 # 037 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4300]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
What is the purpose of this subpart?

This source is subject to Subpart KKKK of the federal Standards of Performance for New Stationary Source, 40 CFR §§ 60.4300 through 60.4420. The permittee shall comply with all applicable requirements specified in 40 CFR §§ 60.4300 through 60.4420.

SECTION D. Source Level Plan Approval Requirements

Source ID: P102 Source Name: GE MODEL LM6000PF+ COMPRESSOR TURBINE

Source Capacity/Throughput: 509.200 MMBTU/HR

I. RESTRICTIONS.

Emission Restriction(s).

 # 001 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Compliance with this streamlined condition assures compliance with the requirements of 25 Pa. Code § 123.41]

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee may not permit the emission of visible air contaminants from the exhaust of the control device associated with this source into the outdoor atmosphere in such a manner that the opacity of the emission is equal to or greater than 10% at any time.

 # 002 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall not permit the following air contaminant emissions from the exhaust of the control device associated with this source in excess of the limitations listed below:

(1) Nitrogen oxides (NOx, expressed as NO2) – 16.49 tons in any 12 consecutive month period

(2) Carbon monoxide (CO) – 8.92 tons in any 12 consecutive month period

(3) Sulfur oxides (SOx, expressed as SO2) – 8.47 tons in any 12 consecutive month period

(4) Total particulate matter (filterable plus condensable) - 28.58 tons in any 12 consecutive month period

(5) Total PM10 – 28.58 tons in any 12 consecutive month period

(6) Total PM2.5 – 28.58 tons in any 12 consecutive month period

(7) Total combined volatile organic compounds (expressed as propane) – 6.02 tons in any 12 consecutive month period

(8) Formaldehyde – 1.58 tons in any 12 consecutive month period

(9) Ammonia – 14.88 tons in any 12 consecutive month period

(10) Greenhouse gases (expressed as carbon dioxide equivalent, CO2e) – 262,300 tons in any 12 consecutive month period

(11) H2SO4 – 9.19 tons in any 12 consecutive month period

(b) The above emissions limits do not include emissions from startups and shutdowns.

SECTION D. Source Level Plan Approval Requirements

 # 003 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Compliance with this streamlined condition will assure compliance with the NOx emission limitation of 25 ppm pursuant to 40 CFR Part 60 Subpart KKKK § 60.4320(a)]

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall not permit the following air contaminant emissions from the exhaust of the control device associated with this source in excess of the limitations listed below:

(1) Nitrogen oxides (NOx, expressed as NO2) – 2.0 parts per million volume on a dry gas basis, corrected to 15 percent oxygen (3-hour block average)

(2) Carbon monoxide (CO) – 1.75 parts per million volume on a dry gas basis, corrected to 15 percent oxygen (3-hour block average)

(3) Total combined volatile organic compounds (expressed as propane) – 0.80 parts per million volume on a dry gas basis, corrected to 15 percent oxygen

(4) Formaldehyde – 0.0007 pounds per MMBtu

(5) Total (filterable and condensable) particulate matter – 0.016 pounds per MMBtu

(6) Total PM10 – 0.016 pounds per MMBtu

(7) Total PM2.5 – 0.016 pounds per MMBtu

(8) Ammonia (NH3) slip – 5.0 parts per million volume on a dry gas basis, corrected to 15 percent oxygen

(9) Greenhouse gases (expressed as carbon dioxide equivalent, CO2e) – 117.7 pounds per MMBtu

(10) H2SO4 - 0.0041 pounds per MMBtu

(11) Sulfur oxides (SOx, expressed as SO2) - 0.0038 pounds per MMBtu

(b) The above emissions limits shall apply at all times except for periods of startup and shutdown.

(c) The above emission limitations do not apply when the ambient temperature is below 20°F.

 # 004 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Compliance with this streamlined condition will assure compliance with the requirements of 25 Pa. Code § 123.13]

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall not permit the following air contaminant emissions from the exhaust of the control device associated with this source in excess of the limitations listed below:

(1) Nitrogen oxides (NOx, expressed as NO2) – 3.77 pounds per hour

(2) Carbon monoxide (CO) – 2.04 pounds per hour

(3) Total combined volatile organic compounds (expressed as propane) -1.37 pounds per hour

(4) Formaldehyde – 0.36 pounds per hour

(5) Total (filterable and condensable) particulate matter – 6.53 pounds per hour

SECTION D. Source Level Plan Approval Requirements

(6) Total PM10 – 6.53 pounds per hour

(7) Total PM2.5 – 6.53 pounds per hour

(8) Ammonia (NH3) slip – 3.40 pounds per hour

(9) H2SO4 – 2.10 pounds per hour

(10) Greenhouse gases (expressed as carbon dioxide equivalent, CO2e) – 59,933 pounds per hour

(11) Sulfur oxides (expressed as sulfur dioxide, SO2) - 1.93 pounds per hour

(b) The above emissions limits shall apply at all times except for periods of startup and shutdown.

 # 005 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Compliance with this streamlined condition will assure compliance with the requirements of 25 Pa. Code § 123.21]

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall not permit the emission of sulfur oxides (SOx, expressed as SO2) from the exhaust of the control device associated with this source in excess of 1.93 pounds per hour.

 # 006 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

Pursuant to best available technology requirements of 25 Pa. Code Sections 127.1 and 127.12, the turbine incorporated into this source shall comply with the following limitations:

(1) The total combined nitrogen oxides (NOx, expressed as NO2) emissions, resulting from all of the startups and shutdowns combined, from the combustion turbines incorporated into Sources P101 and P102 shall not exceed 0.18 tons in any 12 consecutive month period.

(2) The total combined carbon monoxide emissions, resulting from all of the startups and shutdowns combined, from the combustion turbines incorporated into Sources P101 and P102 shall not exceed 0.60 tons in any 12 consecutive month period.

(3) The total combined volatile organic compounds (expressed as propane) emissions, resulting from all of the startups and shutdowns combined, from the combustion turbines incorporated into Sources P101 and P102 shall not exceed 0.082 tons in any 12 consecutive month period.

(4) The total combined (filterable and condensable) particulate matter emissions, resulting from all of the startups and shutdowns combined, from the combustion turbines incorporated into Sources P101 and P102 shall not exceed 0.090 tons in any 12 consecutive month period.

(5) Total combined PM10 emissions, resulting from all of the startups and shutdowns combined, from the combustion turbines incorporated into Sources P101 and P102 shall not exceed 0.090 tons in any 12 consecutive month period.

(6) Total combined PM2.5 emissions, resulting from all of the startups and shutdowns combined, from the combustion turbines incorporated into Sources P101 and P102 shall not exceed 0.090 tons in any 12 consecutive month period.

Fuel Restriction(s).

 # 007 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Additional authority for this condition is derived from 40 CFR §§ 60.4330 and 60.4360]

SECTION D. Source Level Plan Approval Requirements

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall only use natural gas as fuel for this source which has a maximum sulfur content equal to or less than 1.25 grains per 100 standard cubic foot.

Operation Hours Restriction(s).

 # 008 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12:

(a) The durations of startups and shutdowns shall be minimized to the extent practicable.

(b) Startup and shutdown shall be accomplished as follows:

(1) Startup is identified as the period between the commencement of ignition and when the combustion turbine reaches 60 percent operating level, or the following emission limits are all met simultaneously: Nitrogen oxides (expressed as NO2) emissions are 2.0 parts per million volume on a dry gas basis or less and carbon monoxide emissions are 1.75 parts per million volume on a dry gas basis or less, all corrected to 15 percent oxygen. Each startup shall not exceed 10 minutes in duration.

(2) Shutdown is identified as the period between the time that the combustion turbine drops below 60 percent operating level and the fuel is cut to the unit. Steadystate operation below 60 percent operating level when compliance with the following limits are all met simultaneously: Nitrogen oxides (expressed as NO2) emissions are 2.0 parts per million volume on a dry gas basis or less and carbon monoxide emissions are 1.75 parts per million volume on a dry gas basis or less all corrected to 15 percent oxygen, does not constitute shutdown. Each shutdown shall not exceed 10 minutes in duration.

(c) The permittee shall record the time, date and duration of each startup and shutdown as well as the reason for each startup and shutdown.

 # 009 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12:

(1) the total combined hours of startups for the combustion turbines incorporated into Sources P101 and P102 shall not exceed 8 hours in any 12 consecutive month period.

(2) the total combined hours of shutdowns for the combustion turbines incorporated into Sources P101 and P102 shall not exceed 8 hours in any 12 consecutive month period.

II. TESTING REQUIREMENTS.

 # 010 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) At least 90 days prior to the performance of any testing required herein, the permittee shall submit one hardcopy and one electronic copy to the Northcentral Regional Office Air Quality Program Manager and one hardcopy and one electronic copy shall be sent to the Department's Source Testing Division in Harrisburg for review in accordance with the provisions of 25 Pa. Code Chapter 139. The protocol shall describe the test methods and procedure to be used in the performance of testing, and shall include dimensioned sketches of the exhaust system showing the locations of all proposed sampling ports. The protocol shall also describe how the peak load and heat input will be determined during each test run, and also identify all other process data which will be monitored and recorded during testing including oxidation catalyst and selective catalytic reduction temperatures in addition to the appropriate operational parameters with description of basis for selecting the operational parameters and any target value.

SECTION D. Source Level Plan Approval Requirements

(b) The Department shall be given at least 15 days advance notice of the scheduled dates for the performance of any testing required herein. The Department is under no obligation to accept the results of any testing performed without receipt of proper notification.

(c) Within 60 days of the completion of any stack testing required herein, one hardcopy and one electronic copy shall be sent to the Northcentral Regional Office Air Quality Program Manager and one hardcopy and one electronic copy shall be sent to the Department's Source Testing Division in Harrisburg in accordance with the provision of 25 Pa. Code Chapter 139. This test report shall contain the results of the testing, a description of the test methods and procedures actually used in the performance of the tests, copies of all process data collected during the testing, copies of all raw test data and copies of all calculations generated during data analysis. The results of the testing shall be expressed in units which allow for a direct comparison and determination of compliance, with the air contaminant emissions limitations contained herein. Additionally, the permittee shall propose the ranges for oxidation catalyst and selective catalytic reduction temperatures that demonstrates compliance with the limitations described above. Any proposed operational parameter range(s) shall be based on an engineering assessment of the shakedown/testing data and manufacturer's suggested ranges.

 # 011 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) The permittee shall perform nitrogen oxide (NOx, expressed as NO2), carbon monoxide, total volatile organic compounds, ammonia, total (filterable and condensable) particulate matter, total PM10, total PM2.5, and formaldehyde stack tests upon this source within 180 days from the initial operation to verify compliance with the applicable emission limitations from the control device associated with this source.

(b) Subsequent EPA reference method testing for total volatile organic compounds, ammonia, total PM, total PM10, total PM2.5, formaldehyde emissions shall be conducted every two years from the date of the previous tests. The testing frequency may be revised based upon the satisfactory demonstration of compliance with the emission limitations.

(c) The performance test shall consist of three (3) separate test runs and each run shall last at least in one (1) hour in duration.

(d) The inlet gas temperature and the pressure drop across the control devices and ammonia injection system operation parameters shall be recorded on a continuous basis during the test. The requirement for the temperature range and pressure drop across the control devices and the ammonia injection system operation parameters will be established based upon the recorded data and stack test report.

(e) All testing is to be done using reference method test procedures acceptable to the Department and in accordance with applicable federal regulations. The testing shall be performed while the combustion turbine incorporated into this source is operating at peak load.

(f) During the initial performance stack testing, the permittee shall record, at least every 15 minutes, the appropriate operational parameters and other manufacturer's suggested parameters and inlet/outlet exhaust temperatures of the control devices which will verify compliance with the emissions limitations.

(g) The Department may establish a requirement that includes operational parameter range(s) based on shakedown data, stack test data, manufacturer's suggested ranges and the initial test report.

III. MONITORING REQUIREMENTS.

 # 012 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) The permittee shall install, certify, maintain and operate continuous emission monitoring systems (CEMS) for nitrogen oxides and carbon monoxide emissions on the exhaust of the combustion turbine incorporated into this source in accordance with all applicable requirements specified in 25 Pa. Code Chapter 139 and the Department's "Continuous Source Monitoring Manual." No CEMS may however be installed unless Phase I approval has first been obtained from the Department.

SECTION D. Source Level Plan Approval Requirements

(b) The permittee shall submit a Phase I application to the Department for all CEMS to be associated with the combustion turbine at least 180 days prior to the expected commencement of operation date of the unit.

(c) The permittee shall implement a carbon dioxide mass emission monitoring system in accordance with the requirements in 40 CFR § 98.43 and 40 CFR § 75.13.

 # 013 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the Best Available Technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the oxidation catalyst shall be equipped with instrumentation to continuously monitor the catalyst bed inlet and outlet temperatures as well as the pressure differential across the catalyst bed to verify the temperature and pressure differential parameters are within the acceptable ranges established during performance testing. Visual and audible alarms shall be utilized to indicate improper operation.

 # 014 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12, the selective catalytic reduction catalyst shall be equipped with instrumentation to continuously monitor the catalyst bed inlet and outlet temperatures as well as the pressure differential across the catalyst bed to verify the temperature and pressure differential parameters are within the acceptable ranges established during performance testing. Visual and audible alarms shall be utilized to indicate improper operation.

 # 015 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12, the postcontrol nitrogen oxides (expressed as NO2) emissions from this source shall be monitored and recorded by the feed-forward process control loop to ensure maximum control efficiency and minimum ammonia slip. Additionally, the ammonia injection rate shall be monitored and controlled to minimize ammonia slip emissions. Visual and audible alarms shall be utilized to indicate improper operation.

 # 016 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12, a monitoring system shall be in the stack to monitor and record percent oxygen levels to ensure maximum combustion efficiency.

 # 017 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12, the permittee shall monitor and record the pressure differential across the high-efficiency inlet air filters for this source on a weekly basis.

 # 018 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the Best Available Technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the operating parameters associated with the turbine and control devices being monitored shall be monitored during the initial and subsequent EPA reference method testing program for this source as required herein.

 # 019 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4340]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
How do I demonstrate continuous compliance for NOX if I do not use water or steam injection?

The permittee shall comply with all applicable monitoring requirements specified in 40 CFR §§ 60.4340.

 # 020 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4345]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
What are the requirements for the continuous emission monitoring system equipment, if I choose to use this option?

The permittee shall comply with all applicable monitoring requirements specified in 40 CFR § 60.4345.

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 # 021 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4350]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
How do I use data from the continuous emission monitoring equipment to identify excess emissions?

The permittee shall comply with all applicable monitoring requirements specified in 40 CFR § 60.4350.

 # 022 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4355]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
How do I establish and document a proper parameter monitoring plan?

The permittee shall comply with all applicable monitoring requirements specified in 40 CFR § 60.4355.

 # 023 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4360]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
How do I determine the total sulfur content of the turbine's combustion fuel?

The permittee shall comply with all applicable SO2 monitoring requirements specified in 40 CFR § 60.4360.

 # 024 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4365]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
How can I be exempted from monitoring the total sulfur content of the fuel?

The permittee shall comply with all applicable SO2 monitoring requirements specified in 40 CFR § 60.4365.

 # 025 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4370]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
How often must I determine the sulfur content of the fuel?

The permittee shall comply with all applicable SO2 monitoring requirements specified in 40 CFR § 60.4370.

IV. RECORDKEEPING REQUIREMENTS.

 # 026 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall keep records of the following information:

(1) The supporting calculations on a monthly basis used to verify compliance with the nitrogen oxide, carbon monoxide, volatile organic compound, particulate matter, sulfur oxide, ammonia, CO2e, H2SO4, and formaldehyde emission limitations for this source for any 12 consecutive month period.

(2) The test reports and supporting calculations used to verify compliance with the nitrogen oxide, carbon monoxide, volatile organic compound, particulate matter, ammonia, and formaldehyde emission limitations.

(3) The pressure drop across and the inlet gas temperature of the control devices on a continuous basis via a data acquisition system and shall compute the hourly averages.

(4) The amount of fuel fired in this source to demonstrate compliance with applicable emission limitations.

(5) The number of hours that this source operated in startup and shutdown on a monthly basis.

(6) The date and time of the inspections, the identification of the inspector, what was inspected, the location of any observed fugitive emissions, identification of any corrective action taken to eliminate the observed fugitive emissions and the success, or failure, of the corrective action to eliminate the fugitive emissions.

(7) Ambient temperature on a 30-minute basis.

(b) All records generated pursuant to this condition shall be retained for a minimum of five (5) years and shall be made available to the Department upon request.

SECTION D. Source Level Plan Approval Requirements

 # 027 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall keep records of the manufacturers' recommended maintenance practices and activities for their monitoring instrumentation which is used to meet the monitoring requirements for this source, as well as maintenance records including calibrations performed and any corrective actions taken.

(b) All records generated pursuant to this condition shall be retained for a minimum of five (5) years and shall be made available to the Department upon request.

V. REPORTING REQUIREMENTS.

 # 028 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall submit semi-annual reports to the Department which included the following information:

(1) The supporting calculations on a monthly basis used to verify compliance with the nitrogen oxide, carbon monoxide, volatile organic compound, particulate matter, sulfur oxide, ammonia, CO2e, H2SO4, and formaldehyde emission limitations for this source for any 12 consecutive month period.

(2) The pressure drop across and the inlet gas temperature of the control devices on a continuous basis via a data acquisition system and shall compute the hourly averages.

(3) The amount of fuel fired in this source to demonstrate compliance with applicable emission limitations.

(4) The number of hours that this source operated in startup and shutdown on a monthly basis.

(5) The date and time of the inspections, the identification of the inspector, what was inspected, the location of any observed fugitive emissions, identification of any corrective action taken to eliminate the observed fugitive emissions and the success, or failure, of the corrective action to eliminate the fugitive emissions.

(6) Ambient temperature on a 30-minute basis.

(b) The semi-annual report shall be submitted to the Department no later than March 1 (for January 1 through December 31 of the previous year) and September 1 (For July 1 of the previous year through June 30 of the concurrent year).

 # 029 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4375]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
What reports must I submit?

The permittee shall comply with the applicable reporting requirements specified in 40 CFR §§ 60.4375.

 # 030 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4380]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
How are excess emissions and monitor downtime defined for NOX ?

The permittee shall comply with the applicable reporting requirements specified in 40 CFR § 60.4380.

VI. WORK PRACTICE REQUIREMENTS.

 # 031 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall follow the manufacturer's recommended procedures of startup and shutdown of this source.

 # 032 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

SECTION D. Source Level Plan Approval Requirements

Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12, high efficiency inlet air filters shall be used in the air inlet section of the combustion turbine incorporated into this source.

 # 033 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology provisions in 25 Pa. Code §§ 127.1 and 127.12, the combustion turbine incorporated into this source shall be equipped with dry-low-NOx (DLN) combustors.

 # 034 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the ammonia injection rate for the turbine incorporated into this source shall not exceed the following limits:

(1) 135 pounds per hour at 50% operation
(2) 201 pounds per hour at 100% operation

 # 035 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4333]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
What are my general requirements for complying with this subpart?

[Additional authority for this permit condition is also derived from the requirements specified in 40 CFR § 60.4333(a)]

Pursuant to the Best Available Technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall operate and maintain the combustion turbine, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction.

VII. ADDITIONAL REQUIREMENTS.

 # 036 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

This source consists of one natural gas fired GE Model LM6000PF+ gas compression turbine rated at 509.2 MMBtu/hr equipped with Dry Low NOx and controlled with selective catalytic reduction and an oxidation catalyst.

 # 037 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4300]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
What is the purpose of this subpart?

This source is subject to Subpart KKKK of the federal Standards of Performance for New Stationary Source, 40 CFR §§ 60.4300 through 60.4420. The permittee shall comply with all applicable requirements specified in 40 CFR §§ 60.4300 through 60.4420.

SECTION D. Source Level Plan Approval Requirements

Source ID: P103 Source Name: SIEMENS MODEL SGT-400 GENERATOR TURBINE

Source Capacity/Throughput: 142.400 MMBTU/HR

I. RESTRICTIONS.

Emission Restriction(s).

 # 001 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Compliance with this streamlined condition assures compliance with the requirements of 25 Pa. Code § 123.41]

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee may not permit the emission of visible air contaminants from the exhaust of the control device associated with this source into the outdoor atmosphere in such a manner that the opacity of the emission is equal to or greater than 10% at any time.

 # 002 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall not permit the following air contaminant emissions from the exhaust of the control device associated with this source in excess of the limitations listed below:

(1) Nitrogen oxides (NOx, expressed as NO2) – 4.49 tons in any 12 consecutive month period

(2) Carbon monoxide (CO) – 2.43 tons in any 12 consecutive month period

(3) Sulfur oxides (SOx, expressed as SO2) – 2.37 tons in any 12 consecutive month period

(4) Total (filterable plus condensable) particulate matter – 8.88 tons in any 12 consecutive month period

(5) Total PM10 – 8.88 tons in any 12 consecutive month period

(6) Total PM2.5 – 8.88 tons in any 12 consecutive month period

(7) Total combined volatile organic compounds (expressed as propane) – 2.99 tons in any 12 consecutive month period

(8) Formaldehyde – 0.45 tons in any 12 consecutive month period

(9) Ammonia – 4.16 tons in any 12 consecutive month period

(10) Greenhouse gases (expressed as carbon dioxide equivalent, CO2e) – 73,330 tons in any 12 consecutive month period

(11) H2SO4 – 2.06 tons in any 12 consecutive month period

(b) The above emissions limits do not include emissions from startups and shutdowns.

 # 003 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Compliance with this streamlined condition will assure compliance with the NOx emission limitation of 25 ppm pursuant to

SECTION D. Source Level Plan Approval Requirements

40 CFR Part 60 Subpart KKKK § 60.4320(a)]

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall not permit the following air contaminant emissions from the exhaust of the control device associated with this source in excess of the limitations listed below:

(1) Nitrogen oxides (NOx, expressed as NO2) – 2.0 parts per million volume on a dry gas basis, corrected to 15 percent oxygen (3-hour block average)

(2) Carbon monoxide (CO) – 1.75 parts per million volume on a dry gas basis, corrected to 15 percent oxygen (3-hour block average)

(3) Total combined volatile organic compounds (expressed as propane) – 1.30 parts per million volume on a dry gas basis, corrected to 15 percent oxygen

(4) Formaldehyde – 0.0007 pounds per MMBtu

(5) Total (filterable and condensable) particulate matter – 0.016 pounds per MMBtu

(6) Total PM10 – 0.016 pounds per MMBtu

(7) Total PM2.5 – 0.016 pounds per MMBtu

(8) Ammonia (NH3) slip – 5.0 parts per million volume on a dry gas basis, corrected to 15 percent oxygen

(9) Greenhouse gases (expressed as carbon dioxide equivalent, CO2e) – 117.7 pounds per MMBtu

(10) H2SO4 - 0.0033 pounds per MMBtu

(11) Sulfur oxides (SOx, expressed as SO2) - 0.0038 pounds per MMBtu

(b) The above emissions limits shall apply at all times except for periods of startup and shutdown.

(c) The above emission limitations do not apply when the ambient temperature is below 20°F.

 # 004 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Compliance with this streamlined condition will assure compliance with the requirements of 25 Pa. Code § 123.13]

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall not permit the following air contaminant emissions from the exhaust of the control device associated with this source in excess of the limitations listed below:

(1) Nitrogen oxides (NOx, expressed as NO2) – 1.03 pounds per hour

(2) Carbon monoxide (CO) – 0.56 pounds per hour

(3) Total combined volatile organic compounds (expressed as propane) -0.68 pounds per hour

(4) Formaldehyde – 0.10 pounds per hour

(5) Total (filterable and condensable) particulate matter – 2.03 pounds per hour

(6) Total PM10 – 2.03 pounds per hour

SECTION D. Source Level Plan Approval Requirements

(7) Total PM2.5 – 2.03 pounds per hour

(8) Ammonia (NH3) slip – 0.95 pounds per hour

(9) H2SO4 – 0.47 pounds per hour

(10) Greenhouse gases (expressed as carbon dioxide equivalent, CO2e) – 16,760 pounds per hour

(11) Sulfur oxides (expressed as sulfur dioxide, SO2) - 0.54 pounds per hour

(b) The above emissions limits shall apply at all times except for periods of startup and shutdown.

 # 005 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Compliance with this streamlined condition will assure compliance with the requirements of 25 Pa. Code § 123.21]

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall not permit the emission of sulfur oxides (SOx, expressed as SO2) from the exhaust of the control device associated with this source in excess of 0.54 pounds per hour.

 # 006 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

Pursuant to best available technology requirements of 25 Pa. Code Sections 127.1 and 127.12, the turbine incorporated into this source shall comply with the following limitations:

(1) The total combined nitrogen oxides (NOx, expressed as NO2) emissions, resulting from all of the startups and shutdowns combined, from the combustion turbines incorporated into Sources P103, P104, and P105 shall not exceed 0.06 tons in any 12 consecutive month period.

(2) The total combined carbon monoxide emissions, resulting from all of the startups and shutdowns combined, from the combustion turbines incorporated into Sources P103, P104, and P105 shall not exceed 2.34 tons in any 12 consecutive month period.

(3) The total combined volatile organic compounds (expressed as propane) emissions, resulting from all of the startups and shutdowns combined, from the combustion turbines incorporated into Sources P103, P104, and P105 shall not exceed 2.97 tons in any 12 consecutive month period.

Fuel Restriction(s).

 # 007 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Additional authority for this condition is derived from 40 CFR §§ 60.4330 and 60.4360]

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall only use natural gas as fuel for this source which has a maximum sulfur content equal to or less than 1.25 grains per 100 standard cubic foot.

Operation Hours Restriction(s).

 # 008 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12:

SECTION D. Source Level Plan Approval Requirements

(1) the total combined hours of startups for the combustion turbines incorporated into Sources P103, P104, and P105 shall not exceed 24 hours in any 12 consecutive month period.

(2) the total combined hours of shutdowns for the combustion turbines incorporated into Sources P103, P104, and P105 shall not exceed 6 hours in any 12 consecutive month period.

 # 009 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12:

(a) The durations of startups and shutdowns shall be minimized to the extent practicable.

(b) Startup and shutdown shall be accomplished as follows:

(1) Startup is identified as the period between the commencement of ignition and when the combustion turbine reaches 40 percent operating level, or the following emission limits are all met simultaneously: Nitrogen oxides (expressed as NO2) emissions are 2.0 parts per million volume on a dry gas basis or less and carbon monoxide emissions are 1.75 parts per million volume on a dry gas basis or less, all corrected to 15 percent oxygen. Each startup shall not exceed 20 minutes in duration.

(2) Shutdown is identified as the period between the time that the combustion turbine drops below 40 percent operating level and the fuel is cut to the unit. Steadystate operation below 40 percent operating level when compliance with the following limits are all met simultaneously: Nitrogen oxides (expressed as NO2) emissions are 2.0 parts per million volume on a dry gas basis or less and carbon monoxide emissions are 1.75 parts per million volume on a dry gas basis or less all corrected to 15 percent oxygen, does not constitute shutdown. Each shutdown shall not exceed 5 minutes in duration.

(c) The permittee shall record the time, date and duration of each startup and shutdown as well as the reason for each startup and shutdown.

II. TESTING REQUIREMENTS.

 # 010 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) At least 90 days prior to the performance of any testing required herein, the permittee shall submit one hardcopy and one electronic copy to the Northcentral Regional Office Air Quality Program Manager and one hardcopy and one electronic copy shall be sent to the Department's Source Testing Division in Harrisburg for review in accordance with the provisions of 25 Pa. Code Chapter 139. The protocol shall describe the test methods and procedure to be used in the performance of testing, and shall include dimensioned sketches of the exhaust system showing the locations of all proposed sampling ports. The protocol shall also describe how the peak load and heat input will be determined during each test run, and also identify all other process data which will be monitored and recorded during testing including oxidation catalyst and selective catalytic reduction temperatures in addition to the appropriate operational parameters with description of basis for selecting the operational parameters and any target value.

(b) The Department shall be given at least 15 days advance notice of the scheduled dates for the performance of any testing required herein. The Department is under no obligation to accept the results of any testing performed without receipt of proper notification.

(c) Within 60 days of the completion of any stack testing required herein, one hardcopy and one electronic copy shall be sent to the Northcentral Regional Office Air Quality Program Manager and one hardcopy and one electronic copy shall be sent to the Department's Source Testing Division in Harrisburg in accordance with the provision of 25 Pa. Code Chapter 139. This test report shall contain the results of the testing, a description of the test methods and procedures actually used in the performance of the tests, copies of all process data collected during the testing, copies of all raw test data and copies of all calculations generated during data analysis. The results of the testing shall be expressed in units which allow for a direct comparison and determination of compliance, with the air contaminant emissions limitations contained herein. Additionally,

SECTION D. Source Level Plan Approval Requirements

the permittee shall propose the ranges for oxidation catalyst and selective catalytic reduction temperatures that demonstrates compliance with the limitations described above. Any proposed operational parameter range(s) shall be based on an engineering assessment of the shakedown/testing data and manufacturer's suggested ranges.

 # 011 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall perform nitrogen oxide (NOx, expressed as NO2), carbon monoxide, total volatile organic compounds, ammonia, total (filterable and condensable) particulate matter, total PM10, total PM2.5, and formaldehyde stack tests upon this source within 180 days from the initial operation to verify compliance with the applicable emission limitations from the control device associated with this source.

(b) Subsequent EPA reference method testing for total volatile organic compounds, ammonia, total PM, total PM10, and total PM2.5 emissions shall be conducted every two years from the date of the previous tests. The testing frequency may be revised based upon the satisfactory demonstration of compliance with the emission limitations.

(c) The performance test shall consist of three (3) separate test runs and each run shall last at least in one (1) hour in duration.

(d) The inlet gas temperature and the pressure drop across the control devices and ammonia injection system operation parameters shall be recorded on a continuous basis during the test. The requirement for the temperature range and pressure drop across the control devices and the ammonia injection system operation parameters will be established based upon the recorded data and stack test report.

(e) All testing is to be done using reference method test procedures acceptable to the Department and in accordance with applicable federal regulations. The testing shall be performed while the combustion turbine incorporated into this source is operating at peak load.

(f) During the initial performance stack testing, the permittee shall record, at least every 15 minutes, the appropriate operational parameters and other manufacturer's suggested parameters and inlet/outlet exhaust temperatures of the control devices which will verify compliance with the emissions limitations.

(g) The Department may establish a requirement that includes operational parameter range(s) based on shakedown data, stack test data, manufacturer's suggested ranges and the initial test report.

III. MONITORING REQUIREMENTS.

 # 012 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall install, certify, maintain and operate continuous emission monitoring systems (CEMS) for nitrogen oxides and carbon monoxide emissions on the exhaust of the combustion turbine incorporated into this source in accordance with all applicable requirements specified in 25 Pa. Code Chapter 139 and the Department’s “Continuous Source Monitoring Manual.” No CEMS may however be installed unless Phase I approval has first been obtained from the Department.

(b) The permittee shall submit a Phase I application to the Department for all CEMS to be associated with the combustion turbine at least 180 days prior to the expected commencement of operation date of the unit.

(c) The permittee shall implement a carbon dioxide mass emission monitoring system in accordance with the requirements in 40 CFR § 98.43 and 40 CFR § 75.13.

 # 013 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the Best Available Technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the oxidation catalyst shall be equipped with instrumentation to continuously monitor the catalyst bed inlet and outlet temperatures as well as the

SECTION D. Source Level Plan Approval Requirements

pressure differential across the catalyst bed to verify the temperature and pressure differential parameters are within the acceptable ranges established during performance testing. Visual and audible alarms shall be utilized to indicate improper operation.

 # 014 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12, the selective catalytic reduction catalyst shall be equipped with instrumentation to continuously monitor the catalyst bed inlet and outlet temperatures as well as the pressure differential across the catalyst bed to verify the temperature and pressure differential parameters are within the acceptable ranges established during performance testing. Visual and audible alarms shall be utilized to indicate improper operation.

 # 015 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12, the postcontrol nitrogen oxides (expressed as NO2) emissions from this source shall be monitored and recorded by the feed-forward process control loop to ensure maximum control efficiency and minimum ammonia slip. Additionally, the ammonia injection rate shall be monitored and controlled to minimize ammonia slip emissions. Visual and audible alarms shall be utilized to indicate improper operation.

 # 016 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12, a monitoring system shall be in the stack to monitor and record percent oxygen levels to ensure maximum combustion efficiency.

 # 017 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12, the permittee shall monitor and record the pressure differential across the high-efficiency inlet air filters for this source on a weekly basis.

 # 018 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the Best Available Technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the operating parameters associated with the turbine and control devices being monitored shall be monitored during the initial and subsequent EPA reference method testing program for this source as required herein.

 # 019 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4340]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
How do I demonstrate continuous compliance for NOX if I do not use water or steam injection?

The permittee shall comply with all applicable monitoring requirements specified in 40 CFR §§ 60.4340.

 # 020 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4345]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
What are the requirements for the continuous emission monitoring system equipment, if I choose to use this option?

The permittee shall comply with all applicable monitoring requirements specified in 40 CFR § 60.4345.

 # 021 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4350]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
How do I use data from the continuous emission monitoring equipment to identify excess emissions?

The permittee shall comply with all applicable monitoring requirements specified in 40 CFR § 60.4350.

 # 022 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4355]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
How do I establish and document a proper parameter monitoring plan?

The permittee shall comply with all applicable monitoring requirements specified in 40 CFR § 60.4355.

SECTION D. Source Level Plan Approval Requirements

 # 023 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4360]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
How do I determine the total sulfur content of the turbine's combustion fuel?

The permittee shall comply with all applicable SO2 monitoring requirements specified in 40 CFR § 60.4360.

 # 024 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4365]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
How can I be exempted from monitoring the total sulfur content of the fuel?

The permittee shall comply with all applicable SO2 monitoring requirements specified in 40 CFR § 60.4365.

 # 025 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4370]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
How often must I determine the sulfur content of the fuel?

The permittee shall comply with all applicable SO2 monitoring requirements specified in 40 CFR § 60.4370.

IV. RECORDKEEPING REQUIREMENTS.

 # 026 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall keep records of the following information:

(1) The supporting calculations on a monthly basis used to verify compliance with the nitrogen oxide, carbon monoxide, volatile organic compound, particulate matter, sulfur oxide, ammonia, CO2e, H2SO4, and formaldehyde emission limitations for this source for any 12 consecutive month period.

(2) The test reports and supporting calculations used to verify compliance with the nitrogen oxide, carbon monoxide, volatile organic compound, particulate matter, ammonia, and formaldehyde emission limitations.

(3) The pressure drop across and the inlet gas temperature of the control devices on a continuous basis via a data acquisition system and shall compute the hourly averages.

(4) The amount of fuel fired in this source to demonstrate compliance with applicable emission limitations.

(5) The number of hours that this source operated in startup and shutdown on a monthly basis.

(6) The date and time of the inspections, the identification of the inspector, what was inspected, the location of any observed fugitive emissions, identification of any corrective action taken to eliminate the observed fugitive emissions and the success, or failure, of the corrective action to eliminate the fugitive emissions.

(7) Ambient temperature on a 30-minute basis.

(b) All records generated pursuant to this condition shall be retained for a minimum of five (5) years and shall be made available to the Department upon request.

 # 027 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall keep records of the manufacturers' recommended maintenance practices and activities for their monitoring instrumentation which is used to meet the monitoring requirements for this source, as well as maintenance records including calibrations performed and any corrective actions taken.

(b) All records generated pursuant to this condition shall be retained for a minimum of five (5) years and shall be made available to the Department upon request.

SECTION D. Source Level Plan Approval Requirements

V. REPORTING REQUIREMENTS.

 # 028 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall submit semi-annual reports to the Department which included the following information:

(1) The supporting calculations on a monthly basis used to verify compliance with the nitrogen oxide, carbon monoxide, volatile organic compound, particulate matter, sulfur oxide, ammonia, CO2e, H2SO4, and formaldehyde emission limitations for this source for any 12 consecutive month period.

(2) The pressure drop across and the inlet gas temperature of the control devices on a continuous basis via a data acquisition system and shall compute the hourly averages.

(3) The amount of fuel fired in this source to demonstrate compliance with applicable emission limitations.

(4) The number of hours that this source operated in startup and shutdown on a monthly basis.

(5) The date and time of the inspections, the identification of the inspector, what was inspected, the location of any observed fugitive emissions, identification of any corrective action taken to eliminate the observed fugitive emissions and the success, or failure, of the corrective action to eliminate the fugitive emissions.

(6) Ambient temperature on a 30-minute basis.

(b) The semi-annual report shall be submitted to the Department no later than March 1 (for January 1 through December 31 of the previous year) and September 1 (For July 1 of the previous year through June 30 of the concurrent year).

 # 029 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4375]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
What reports must I submit?

The permittee shall comply with the applicable reporting requirements specified in 40 CFR §§ 60.4375.

 # 030 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4380]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
How are excess emissions and monitor downtime defined for NOX ?

The permittee shall comply with the applicable reporting requirements specified in 40 CFR § 60.4380.

VI. WORK PRACTICE REQUIREMENTS.

 # 031 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall follow the manufacturer's recommended procedures of startup and shutdown of this source.

 # 032 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12, high efficiency inlet air filters shall be used in the air inlet section of the combustion turbine incorporated into this source.

 # 033 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology provisions in 25 Pa. Code §§ 127.1 and 127.12, the combustion turbine incorporated into this source shall be equipped with dry-low-NOx (DLN) combustors.

 # 034 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the ammonia injection rate for the turbine incorporated into this source shall not exceed the following limits:

SECTION D. Source Level Plan Approval Requirements

(1) 23.3 pounds per hour at 50% operation
(2) 33.9 pounds per hour at 100% operation

 # 035 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4333]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
What are my general requirements for complying with this subpart?

[Additional authority for this permit condition is also derived from the requirements specified in 40 CFR § 60.4333(a)]

Pursuant to the Best Available Technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall operate and maintain the combustion turbine, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction.

VII. ADDITIONAL REQUIREMENTS.

 # 036 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

This source consists of one natural gas fired Siemens Model SGT-400 generator turbine rated at 142.4 MMBtu/hr controlled with selective catalytic reduction and an oxidation catalyst.

 # 037 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4300]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
What is the purpose of this subpart?

This source is subject to Subpart KKKK of the federal Standards of Performance for New Stationary Source, 40 CFR §§ 60.4300 through 60.4420. The permittee shall comply with all applicable requirements specified in 40 CFR §§ 60.4300 through 60.4420.

SECTION D. Source Level Plan Approval Requirements

Source ID: P104 Source Name: SIEMENS MODEL SGT-400 GENERATOR TURBINE

Source Capacity/Throughput: 142.400 MMBTU/HR

I. RESTRICTIONS.

Emission Restriction(s).

 # 001 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Compliance with this streamlined condition assures compliance with the requirements of 25 Pa. Code § 123.41]

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee may not permit the emission of visible air contaminants from the exhaust of the control device associated with this source into the outdoor atmosphere in such a manner that the opacity of the emission is equal to or greater than 10% at any time.

 # 002 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall not permit the following air contaminant emissions from the exhaust of the control device associated with this source in excess of the limitations listed below:

(1) Nitrogen oxides (NOx, expressed as NO2) – 4.49 tons in any 12 consecutive month period

(2) Carbon monoxide (CO) – 2.43 tons in any 12 consecutive month period

(3) Sulfur oxides (SOx, expressed as SO2) – 2.37 tons in any 12 consecutive month period

(4) Total (filterable plus condensable) particulate matter – 8.88 tons in any 12 consecutive month period

(5) Total PM10 – 8.88 tons in any 12 consecutive month period

(6) Total PM2.5 – 8.88 tons in any 12 consecutive month period

(7) Total combined volatile organic compounds (expressed as propane) – 2.99 tons in any 12 consecutive month period

(8) Formaldehyde – 0.45 tons in any 12 consecutive month period

(9) Ammonia – 4.16 tons in any 12 consecutive month period

(10) Greenhouse gases (expressed as carbon dioxide equivalent, CO2e) – 73,330 tons in any 12 consecutive month period

(11) H2SO4 – 2.06 tons in any 12 consecutive month period

(b) The above emissions limits do not include emissions from startups and shutdowns.

 # 003 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Compliance with this streamlined condition will assure compliance with the NOx emission limitation of 25 ppm pursuant to

SECTION D. Source Level Plan Approval Requirements

40 CFR Part 60 Subpart KKKK § 60.4320(a)]

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall not permit the following air contaminant emissions from the exhaust of the control device associated with this source in excess of the limitations listed below:

(1) Nitrogen oxides (NOx, expressed as NO2) – 2.0 parts per million volume on a dry gas basis, corrected to 15 percent oxygen (3-hour block average)

(2) Carbon monoxide (CO) – 1.75 parts per million volume on a dry gas basis, corrected to 15 percent oxygen (3-hour block average)

(3) Total combined volatile organic compounds (expressed as propane) – 1.30 parts per million volume on a dry gas basis, corrected to 15 percent oxygen

(4) Formaldehyde – 0.0007 pounds per MMBtu

(5) Total (filterable and condensable) particulate matter – 0.016 pounds per MMBtu

(6) Total PM10 – 0.016 pounds per MMBtu

(7) Total PM2.5 – 0.016 pounds per MMBtu

(8) Ammonia (NH3) slip – 5.0 parts per million volume on a dry gas basis, corrected to 15 percent oxygen

(9) Greenhouse gases (expressed as carbon dioxide equivalent, CO2e) – 117.7 pounds per MMBtu

(10) H2SO4 - 0.0033 pounds per MMBtu

(11) Sulfur oxides (SOx, expressed as SO2) - 0.0038 pounds per MMBtu

(b) The above emissions limits shall apply at all times except for periods of startup and shutdown.

(c) The above emission limitations do not apply when the ambient temperature is below 20°F.

 # 004 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Compliance with this streamlined condition will assure compliance with the requirements of 25 Pa. Code § 123.13]

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall not permit the following air contaminant emissions from the exhaust of the control device associated with this source in excess of the limitations listed below:

(1) Nitrogen oxides (NOx, expressed as NO2) – 1.03 pounds per hour

(2) Carbon monoxide (CO) – 0.56 pounds per hour

(3) Total combined volatile organic compounds (expressed as propane) -0.68 pounds per hour

(4) Formaldehyde – 0.10 pounds per hour

(5) Total (filterable and condensable) particulate matter – 2.03 pounds per hour

(6) Total PM10 – 2.03 pounds per hour

SECTION D. Source Level Plan Approval Requirements

(7) Total PM2.5 – 2.03 pounds per hour

(8) Ammonia (NH3) slip – 0.95 pounds per hour

(9) H2SO4 – 0.47 pounds per hour

(10) Greenhouse gases (expressed as carbon dioxide equivalent, CO2e) – 16,760 pounds per hour

(11) Sulfur oxides (expressed as sulfur dioxide, SO2) - 0.54 pounds per hour

(b) The above emissions limits shall apply at all times except for periods of startup and shutdown.

 # 005 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Compliance with this streamlined condition will assure compliance with the requirements of 25 Pa. Code § 123.21]

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall not permit the emission of sulfur oxides (SOx, expressed as SO2) from the exhaust of the control device associated with this source in excess of 0.54 pounds per hour.

 # 006 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

Pursuant to best available technology requirements of 25 Pa. Code Sections 127.1 and 127.12, the turbine incorporated into this source shall comply with the following limitations:

(1) The total combined nitrogen oxides (NOx, expressed as NO2) emissions, resulting from all of the startups and shutdowns combined, from the combustion turbines incorporated into Sources P103, P104, and P105 shall not exceed 0.06 tons in any 12 consecutive month period.

(2) The total combined carbon monoxide emissions, resulting from all of the startups and shutdowns combined, from the combustion turbines incorporated into Sources P103, P104, and P105 shall not exceed 2.34 tons in any 12 consecutive month period.

(3) The total combined volatile organic compounds (expressed as propane) emissions, resulting from all of the startups and shutdowns combined, from the combustion turbines incorporated into Sources P103, P104, and P105 shall not exceed 2.97 tons in any 12 consecutive month period.

Fuel Restriction(s).

 # 007 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Additional authority for this condition is derived from 40 CFR §§ 60.4330 and 60.4360]

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall only use natural gas as fuel for this source which has a maximum sulfur content equal to or less than 1.25 grains per 100 standard cubic foot.

Operation Hours Restriction(s).

 # 008 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12:

SECTION D. Source Level Plan Approval Requirements

(1) the total combined hours of startups for the combustion turbines incorporated into Sources P103, P104, and P105 shall not exceed 24 hours in any 12 consecutive month period.

(2) the total combined hours of shutdowns for the combustion turbines incorporated into Sources P103, P104, and P105 shall not exceed 6 hours in any 12 consecutive month period.

 # 009 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12:

(a) The durations of startups and shutdowns shall be minimized to the extent practicable.

(b) Startup and shutdown shall be accomplished as follows:

(1) Startup is identified as the period between the commencement of ignition and when the combustion turbine reaches 40 percent operating level, or the following emission limits are all met simultaneously: Nitrogen oxides (expressed as NO2) emissions are 2.0 parts per million volume on a dry gas basis or less and carbon monoxide emissions are 1.75 parts per million volume on a dry gas basis or less, all corrected to 15 percent oxygen. Each startup shall not exceed 20 minutes in duration.

(2) Shutdown is identified as the period between the time that the combustion turbine drops below 40 percent operating level and the fuel is cut to the unit. Steadystate operation below 40 percent operating level when compliance with the following limits are all met simultaneously: Nitrogen oxides (expressed as NO2) emissions are 2.0 parts per million volume on a dry gas basis or less and carbon monoxide emissions are 1.75 parts per million volume on a dry gas basis or less all corrected to 15 percent oxygen, does not constitute shutdown. Each shutdown shall not exceed 5 minutes in duration.

(c) The permittee shall record the time, date and duration of each startup and shutdown as well as the reason for each startup and shutdown.

II. TESTING REQUIREMENTS.

 # 010 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) At least 90 days prior to the performance of any testing required herein, the permittee shall submit one hardcopy and one electronic copy to the Northcentral Regional Office Air Quality Program Manager and one hardcopy and one electronic copy shall be sent to the Department's Source Testing Division in Harrisburg for review in accordance with the provisions of 25 Pa. Code Chapter 139. The protocol shall describe the test methods and procedure to be used in the performance of testing, and shall include dimensioned sketches of the exhaust system showing the locations of all proposed sampling ports. The protocol shall also describe how the peak load and heat input will be determined during each test run, and also identify all other process data which will be monitored and recorded during testing including oxidation catalyst and selective catalytic reduction temperatures in addition to the appropriate operational parameters with description of basis for selecting the operational parameters and any target value.

(b) The Department shall be given at least 15 days advance notice of the scheduled dates for the performance of any testing required herein. The Department is under no obligation to accept the results of any testing performed without receipt of proper notification.

(c) Within 60 days of the completion of any stack testing required herein, one hardcopy and one electronic copy shall be sent to the Northcentral Regional Office Air Quality Program Manager and one hardcopy and one electronic copy shall be sent to the Department's Source Testing Division in Harrisburg in accordance with the provision of 25 Pa. Code Chapter 139. This test report shall contain the results of the testing, a description of the test methods and procedures actually used in the performance of the tests, copies of all process data collected during the testing, copies of all raw test data and copies of all calculations generated during data analysis. The results of the testing shall be expressed in units which allow for a direct comparison and determination of compliance, with the air contaminant emissions limitations contained herein. Additionally,

SECTION D. Source Level Plan Approval Requirements

the permittee shall propose the ranges for oxidation catalyst and selective catalytic reduction temperatures that demonstrates compliance with the limitations described above. Any proposed operational parameter range(s) shall be based on an engineering assessment of the shakedown/testing data and manufacturer's suggested ranges.

 # 011 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall perform nitrogen oxide (NOx, expressed as NO2), carbon monoxide, total volatile organic compounds, ammonia, total (filterable and condensable) particulate matter, total PM10, total PM2.5, and formaldehyde stack tests upon this source within 180 days from the initial operation to verify compliance with the applicable emission limitations from the control device associated with this source.

(b) Subsequent EPA reference method testing for total volatile organic compounds, ammonia, total PM, total PM10, and total PM2.5 emissions shall be conducted every two years from the date of the previous tests. The testing frequency may be revised based upon the satisfactory demonstration of compliance with the emission limitations.

(c) The performance test shall consist of three (3) separate test runs and each run shall last at least in one (1) hour in duration.

(d) The inlet gas temperature and the pressure drop across the control devices and ammonia injection system operation parameters shall be recorded on a continuous basis during the test. The requirement for the temperature range and pressure drop across the control devices and the ammonia injection system operation parameters will be established based upon the recorded data and stack test report.

(e) All testing is to be done using reference method test procedures acceptable to the Department and in accordance with applicable federal regulations. The testing shall be performed while the combustion turbine incorporated into this source is operating at peak load.

(f) During the initial performance stack testing, the permittee shall record, at least every 15 minutes, the appropriate operational parameters and other manufacturer's suggested parameters and inlet/outlet exhaust temperatures of the control devices which will verify compliance with the emissions limitations.

(g) The Department may establish a requirement that includes operational parameter range(s) based on shakedown data, stack test data, manufacturer's suggested ranges and the initial test report.

III. MONITORING REQUIREMENTS.

 # 012 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall install, certify, maintain and operate continuous emission monitoring systems (CEMS) for nitrogen oxides and carbon monoxide emissions on the exhaust of the combustion turbine incorporated into this source in accordance with all applicable requirements specified in 25 Pa. Code Chapter 139 and the Department’s “Continuous Source Monitoring Manual.” No CEMS may however be installed unless Phase I approval has first been obtained from the Department.

(b) The permittee shall submit a Phase I application to the Department for all CEMS to be associated with the combustion turbine at least 180 days prior to the expected commencement of operation date of the unit.

(c) The permittee shall implement a carbon dioxide mass emission monitoring system in accordance with the requirements in 40 CFR § 98.43 and 40 CFR § 75.13.

 # 013 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the Best Available Technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the oxidation catalyst shall be equipped with instrumentation to continuously monitor the catalyst bed inlet and outlet temperatures as well as the

SECTION D. Source Level Plan Approval Requirements

pressure differential across the catalyst bed to verify the temperature and pressure differential parameters are within the acceptable ranges established during performance testing. Visual and audible alarms shall be utilized to indicate improper operation.

 # 014 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12, the selective catalytic reduction catalyst shall be equipped with instrumentation to continuously monitor the catalyst bed inlet and outlet temperatures as well as the pressure differential across the catalyst bed to verify the temperature and pressure differential parameters are within the acceptable ranges established during performance testing. Visual and audible alarms shall be utilized to indicate improper operation.

 # 015 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12, the postcontrol nitrogen oxides (expressed as NO2) emissions from this source shall be monitored and recorded by the feed-forward process control loop to ensure maximum control efficiency and minimum ammonia slip. Additionally, the ammonia injection rate shall be monitored and controlled to minimize ammonia slip emissions. Visual and audible alarms shall be utilized to indicate improper operation.

 # 016 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12, a monitoring system shall be in the stack to monitor and record percent oxygen levels to ensure maximum combustion efficiency.

 # 017 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12, the permittee shall monitor and record the pressure differential across the high-efficiency inlet air filters for this source on a weekly basis.

 # 018 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the Best Available Technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the operating parameters associated with the turbine and control devices being monitored shall be monitored during the initial and subsequent EPA reference method testing program for this source as required herein.

 # 019 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4340]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
How do I demonstrate continuous compliance for NOX if I do not use water or steam injection?

The permittee shall comply with all applicable monitoring requirements specified in 40 CFR §§ 60.4340.

 # 020 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4345]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
What are the requirements for the continuous emission monitoring system equipment, if I choose to use this option?

The permittee shall comply with all applicable monitoring requirements specified in 40 CFR § 60.4345.

 # 021 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4350]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
How do I use data from the continuous emission monitoring equipment to identify excess emissions?

The permittee shall comply with all applicable monitoring requirements specified in 40 CFR § 60.4350.

 # 022 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4355]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
How do I establish and document a proper parameter monitoring plan?

The permittee shall comply with all applicable monitoring requirements specified in 40 CFR § 60.4355.

SECTION D. Source Level Plan Approval Requirements

 # 023 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4360]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
How do I determine the total sulfur content of the turbine's combustion fuel?

The permittee shall comply with all applicable SO2 monitoring requirements specified in 40 CFR § 60.4360.

 # 024 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4365]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
How can I be exempted from monitoring the total sulfur content of the fuel?

The permittee shall comply with all applicable SO2 monitoring requirements specified in 40 CFR § 60.4365.

 # 025 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4370]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
How often must I determine the sulfur content of the fuel?

The permittee shall comply with all applicable SO2 monitoring requirements specified in 40 CFR § 60.4370.

IV. RECORDKEEPING REQUIREMENTS.

 # 026 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall keep records of the following information:

(1) The supporting calculations on a monthly basis used to verify compliance with the nitrogen oxide, carbon monoxide, volatile organic compound, particulate matter, sulfur oxide, ammonia, CO2e, H2SO4, and formaldehyde emission limitations for this source for any 12 consecutive month period.

(2) The test reports and supporting calculations used to verify compliance with the nitrogen oxide, carbon monoxide, volatile organic compound, particulate matter, ammonia, and formaldehyde emission limitations.

(3) The pressure drop across and the inlet gas temperature of the control devices on a continuous basis via a data acquisition system and shall compute the hourly averages.

(4) The amount of fuel fired in this source to demonstrate compliance with applicable emission limitations.

(5) The number of hours that this source operated in startup and shutdown on a monthly basis.

(6) The date and time of the inspections, the identification of the inspector, what was inspected, the location of any observed fugitive emissions, identification of any corrective action taken to eliminate the observed fugitive emissions and the success, or failure, of the corrective action to eliminate the fugitive emissions.

(7) Ambient temperature on a 30-minute basis.

(b) All records generated pursuant to this condition shall be retained for a minimum of five (5) years and shall be made available to the Department upon request.

 # 027 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall keep records of the manufacturers' recommended maintenance practices and activities for their monitoring instrumentation which is used to meet the monitoring requirements for this source, as well as maintenance records including calibrations performed and any corrective actions taken.

(b) All records generated pursuant to this condition shall be retained for a minimum of five (5) years and shall be made available to the Department upon request.

SECTION D. Source Level Plan Approval Requirements

V. REPORTING REQUIREMENTS.

 # 028 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall submit semi-annual reports to the Department which included the following information:

(1) The supporting calculations on a monthly basis used to verify compliance with the nitrogen oxide, carbon monoxide, volatile organic compound, particulate matter, sulfur oxide, ammonia, CO2e, H2SO4, and formaldehyde emission limitations for this source for any 12 consecutive month period.

(2) The pressure drop across and the inlet gas temperature of the control devices on a continuous basis via a data acquisition system and shall compute the hourly averages.

(3) The amount of fuel fired in this source to demonstrate compliance with applicable emission limitations.

(4) The number of hours that this source operated in startup and shutdown on a monthly basis.

(5) The date and time of the inspections, the identification of the inspector, what was inspected, the location of any observed fugitive emissions, identification of any corrective action taken to eliminate the observed fugitive emissions and the success, or failure, of the corrective action to eliminate the fugitive emissions.

(6) Ambient temperature on a 30-minute basis.

(b) The semi-annual report shall be submitted to the Department no later than March 1 (for January 1 through December 31 of the previous year) and September 1 (For July 1 of the previous year through June 30 of the concurrent year).

 # 029 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4375]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
What reports must I submit?

The permittee shall comply with the applicable reporting requirements specified in 40 CFR §§ 60.4375.

 # 030 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4380]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
How are excess emissions and monitor downtime defined for NOX ?

The permittee shall comply with the applicable reporting requirements specified in 40 CFR § 60.4380.

VI. WORK PRACTICE REQUIREMENTS.

 # 031 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall follow the manufacturer's recommended procedures of startup and shutdown of this source.

 # 032 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12, high efficiency inlet air filters shall be used in the air inlet section of the combustion turbine incorporated into this source.

 # 033 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology provisions in 25 Pa. Code §§ 127.1 and 127.12, the combustion turbine incorporated into this source shall be equipped with dry-low-NOx (DLN) combustors.

 # 034 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the ammonia injection rate for the turbine incorporated into this source shall not exceed the following limits:

SECTION D. Source Level Plan Approval Requirements

(1) 23.3 pounds per hour at 50% operation
(2) 33.9 pounds per hour at 100% operation

 # 035 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4333]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
What are my general requirements for complying with this subpart?

[Additional authority for this permit condition is also derived from the requirements specified in 40 CFR § 60.4333(a)]

Pursuant to the Best Available Technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall operate and maintain the combustion turbine, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction.

VII. ADDITIONAL REQUIREMENTS.

 # 036 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

This source consists of one natural gas fired Siemens Model SGT-400 generator turbine rated at 142.4 MMBtu/hr controlled with selective catalytic reduction and an oxidation catalyst.

 # 037 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4300]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
What is the purpose of this subpart?

This source is subject to Subpart KKKK of the federal Standards of Performance for New Stationary Source, 40 CFR §§ 60.4300 through 60.4420. The permittee shall comply with all applicable requirements specified in 40 CFR §§ 60.4300 through 60.4420.

SECTION D. Source Level Plan Approval Requirements

Source ID: P105 Source Name: SIEMENS MODEL SGT-400 GENERATOR TURBINE

Source Capacity/Throughput: 142.400 MMBTU/HR

I. RESTRICTIONS.

Emission Restriction(s).

 # 001 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Compliance with this streamlined condition assures compliance with the requirements of 25 Pa. Code § 123.41]

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee may not permit the emission of visible air contaminants from the exhaust of the control device associated with this source into the outdoor atmosphere in such a manner that the opacity of the emission is equal to or greater than 10% at any time.

 # 002 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall not permit the following air contaminant emissions from the exhaust of the control device associated with this source in excess of the limitations listed below:

(1) Nitrogen oxides (NOx, expressed as NO2) – 4.49 tons in any 12 consecutive month period

(2) Carbon monoxide (CO) – 2.43 tons in any 12 consecutive month period

(3) Sulfur oxides (SOx, expressed as SO2) – 2.37 tons in any 12 consecutive month period

(4) Total (filterable plus condensable) particulate matter – 8.88 tons in any 12 consecutive month period

(5) Total PM10 – 8.88 tons in any 12 consecutive month period

(6) Total PM2.5 – 8.88 tons in any 12 consecutive month period

(7) Total combined volatile organic compounds (expressed as propane) – 2.99 tons in any 12 consecutive month period

(8) Formaldehyde – 0.45 tons in any 12 consecutive month period

(9) Ammonia – 4.16 tons in any 12 consecutive month period

(10) Greenhouse gases (expressed as carbon dioxide equivalent, CO2e) – 73,330 tons in any 12 consecutive month period

(11) H2SO4 – 2.06 tons in any 12 consecutive month period

(b) The above emissions limits do not include emissions from startups and shutdowns.

 # 003 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Compliance with this streamlined condition will assure compliance with the NOx emission limitation of 25 ppm pursuant to

SECTION D. Source Level Plan Approval Requirements

40 CFR Part 60 Subpart KKKK § 60.4320(a)]

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall not permit the following air contaminant emissions from the exhaust of the control device associated with this source in excess of the limitations listed below:

(1) Nitrogen oxides (NOx, expressed as NO2) – 2.0 parts per million volume on a dry gas basis, corrected to 15 percent oxygen (3-hour block average)

(2) Carbon monoxide (CO) – 1.75 parts per million volume on a dry gas basis, corrected to 15 percent oxygen (3-hour block average)

(3) Total combined volatile organic compounds (expressed as propane) – 1.30 parts per million volume on a dry gas basis, corrected to 15 percent oxygen

(4) Formaldehyde – 0.0007 pounds per MMBtu

(5) Total (filterable and condensable) particulate matter – 0.016 pounds per MMBtu

(6) Total PM10 – 0.016 pounds per MMBtu

(7) Total PM2.5 – 0.016 pounds per MMBtu

(8) Ammonia (NH3) slip – 5.0 parts per million volume on a dry gas basis, corrected to 15 percent oxygen

(9) Greenhouse gases (expressed as carbon dioxide equivalent, CO2e) – 117.7 pounds per MMBtu

(10) H2SO4 - 0.0033 pounds per MMBtu

(11) Sulfur oxides (SOx, expressed as SO2) - 0.0038 pounds per MMBtu

(b) The above emissions limits shall apply at all times except for periods of startup and shutdown.

(c) The above emission limitations do not apply when the ambient temperature is below 20°F.

 # 004 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Compliance with this streamlined condition will assure compliance with the requirements of 25 Pa. Code § 123.13]

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall not permit the following air contaminant emissions from the exhaust of the control device associated with this source in excess of the limitations listed below:

(1) Nitrogen oxides (NOx, expressed as NO2) – 1.03 pounds per hour

(2) Carbon monoxide (CO) – 0.56 pounds per hour

(3) Total combined volatile organic compounds (expressed as propane) -0.68 pounds per hour

(4) Formaldehyde – 0.10 pounds per hour

(5) Total (filterable and condensable) particulate matter – 2.03 pounds per hour

(6) Total PM10 – 2.03 pounds per hour

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(7) Total PM2.5 – 2.03 pounds per hour

(8) Ammonia (NH3) slip – 0.95 pounds per hour

(9) H2SO4 – 0.47 pounds per hour

(10) Greenhouse gases (expressed as carbon dioxide equivalent, CO2e) – 16,760 pounds per hour

(11) Sulfur oxides (expressed as sulfur dioxide, SO2) - 0.54 pounds per hour

(b) The above emissions limits shall apply at all times except for periods of startup and shutdown.

 # 005 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Compliance with this streamlined condition will assure compliance with the requirements of 25 Pa. Code § 123.21]

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall not permit the emission of sulfur oxides (SOx, expressed as SO2) from the exhaust of the control device associated with this source in excess of 0.54 pounds per hour.

 # 006 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

Pursuant to best available technology requirements of 25 Pa. Code Sections 127.1 and 127.12, the turbine incorporated into this source shall comply with the following limitations:

(1) The total combined nitrogen oxides (NOx, expressed as NO2) emissions, resulting from all of the startups and shutdowns combined, from the combustion turbines incorporated into Sources P103, P104, and P105 shall not exceed 0.06 tons in any 12 consecutive month period.

(2) The total combined carbon monoxide emissions, resulting from all of the startups and shutdowns combined, from the combustion turbines incorporated into Sources P103, P104, and P105 shall not exceed 2.34 tons in any 12 consecutive month period.

(3) The total combined volatile organic compounds (expressed as propane) emissions, resulting from all of the startups and shutdowns combined, from the combustion turbines incorporated into Sources P103, P104, and P105 shall not exceed 2.97 tons in any 12 consecutive month period.

Fuel Restriction(s).

 # 007 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Additional authority for this condition is derived from 40 CFR §§ 60.4330 and 60.4360]

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall only use natural gas as fuel for this source which has a maximum sulfur content equal to or less than 1.25 grains per 100 standard cubic foot.

Operation Hours Restriction(s).

 # 008 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12:

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(1) the total combined hours of startups for the combustion turbines incorporated into Sources P103, P104, and P105 shall not exceed 24 hours in any 12 consecutive month period.

(2) the total combined hours of shutdowns for the combustion turbines incorporated into Sources P103, P104, and P105 shall not exceed 6 hours in any 12 consecutive month period.

 # 009 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12:

(a) The durations of startups and shutdowns shall be minimized to the extent practicable.

(b) Startup and shutdown shall be accomplished as follows:

(1) Startup is identified as the period between the commencement of ignition and when the combustion turbine reaches 40 percent operating level, or the following emission limits are all met simultaneously: Nitrogen oxides (expressed as NO2) emissions are 2.0 parts per million volume on a dry gas basis or less and carbon monoxide emissions are 1.75 parts per million volume on a dry gas basis or less, all corrected to 15 percent oxygen. Each startup shall not exceed 20 minutes in duration.

(2) Shutdown is identified as the period between the time that the combustion turbine drops below 40 percent operating level and the fuel is cut to the unit. Steadystate operation below 40 percent operating level when compliance with the following limits are all met simultaneously: Nitrogen oxides (expressed as NO2) emissions are 2.0 parts per million volume on a dry gas basis or less and carbon monoxide emissions are 1.75 parts per million volume on a dry gas basis or less all corrected to 15 percent oxygen, does not constitute shutdown. Each shutdown shall not exceed 5 minutes in duration.

(c) The permittee shall record the time, date and duration of each startup and shutdown as well as the reason for each startup and shutdown.

II. TESTING REQUIREMENTS.

 # 010 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) At least 90 days prior to the performance of any testing required herein, the permittee shall submit one hardcopy and one electronic copy to the Northcentral Regional Office Air Quality Program Manager and one hardcopy and one electronic copy shall be sent to the Department's Source Testing Division in Harrisburg for review in accordance with the provisions of 25 Pa. Code Chapter 139. The protocol shall describe the test methods and procedure to be used in the performance of testing, and shall include dimensioned sketches of the exhaust system showing the locations of all proposed sampling ports. The protocol shall also describe how the peak load and heat input will be determined during each test run, and also identify all other process data which will be monitored and recorded during testing including oxidation catalyst and selective catalytic reduction temperatures in addition to the appropriate operational parameters with description of basis for selecting the operational parameters and any target value.

(b) The Department shall be given at least 15 days advance notice of the scheduled dates for the performance of any testing required herein. The Department is under no obligation to accept the results of any testing performed without receipt of proper notification.

(c) Within 60 days of the completion of any stack testing required herein, one hardcopy and one electronic copy shall be sent to the Northcentral Regional Office Air Quality Program Manager and one hardcopy and one electronic copy shall be sent to the Department's Source Testing Division in Harrisburg in accordance with the provision of 25 Pa. Code Chapter 139. This test report shall contain the results of the testing, a description of the test methods and procedures actually used in the performance of the tests, copies of all process data collected during the testing, copies of all raw test data and copies of all calculations generated during data analysis. The results of the testing shall be expressed in units which allow for a direct comparison and determination of compliance, with the air contaminant emissions limitations contained herein. Additionally,

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the permittee shall propose the ranges for oxidation catalyst and selective catalytic reduction temperatures that demonstrates compliance with the limitations described above. Any proposed operational parameter range(s) shall be based on an engineering assessment of the shakedown/testing data and manufacturer's suggested ranges.

 # 011 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall perform nitrogen oxide (NOx, expressed as NO2), carbon monoxide, total volatile organic compounds, ammonia, total (filterable and condensable) particulate matter, total PM10, total PM2.5, and formaldehyde stack tests upon this source within 180 days from the initial operation to verify compliance with the applicable emission limitations from the control device associated with this source.

(b) Subsequent EPA reference method testing for total volatile organic compounds, ammonia, total PM, total PM10, and total PM2.5 emissions shall be conducted every two years from the date of the previous tests. The testing frequency may be revised based upon the satisfactory demonstration of compliance with the emission limitations.

(c) The performance test shall consist of three (3) separate test runs and each run shall last at least in one (1) hour in duration.

(d) The inlet gas temperature and the pressure drop across the control devices and ammonia injection system operation parameters shall be recorded on a continuous basis during the test. The requirement for the temperature range and pressure drop across the control devices and the ammonia injection system operation parameters will be established based upon the recorded data and stack test report.

(e) All testing is to be done using reference method test procedures acceptable to the Department and in accordance with applicable federal regulations. The testing shall be performed while the combustion turbine incorporated into this source is operating at peak load.

(f) During the initial performance stack testing, the permittee shall record, at least every 15 minutes, the appropriate operational parameters and other manufacturer's suggested parameters and inlet/outlet exhaust temperatures of the control devices which will verify compliance with the emissions limitations.

(g) The Department may establish a requirement that includes operational parameter range(s) based on shakedown data, stack test data, manufacturer's suggested ranges and the initial test report.

III. MONITORING REQUIREMENTS.

 # 012 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall install, certify, maintain and operate continuous emission monitoring systems (CEMS) for nitrogen oxides and carbon monoxide emissions on the exhaust of the combustion turbine incorporated into this source in accordance with all applicable requirements specified in 25 Pa. Code Chapter 139 and the Department’s “Continuous Source Monitoring Manual.” No CEMS may however be installed unless Phase I approval has first been obtained from the Department.

(b) The permittee shall submit a Phase I application to the Department for all CEMS to be associated with the combustion turbine at least 180 days prior to the expected commencement of operation date of the unit.

(c) The permittee shall implement a carbon dioxide mass emission monitoring system in accordance with the requirements in 40 CFR § 98.43 and 40 CFR § 75.13.

 # 013 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the Best Available Technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the oxidation catalyst shall be equipped with instrumentation to continuously monitor the catalyst bed inlet and outlet temperatures as well as the

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pressure differential across the catalyst bed to verify the temperature and pressure differential parameters are within the acceptable ranges established during performance testing. Visual and audible alarms shall be utilized to indicate improper operation.

 # 014 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12, the selective catalytic reduction catalyst shall be equipped with instrumentation to continuously monitor the catalyst bed inlet and outlet temperatures as well as the pressure differential across the catalyst bed to verify the temperature and pressure differential parameters are within the acceptable ranges established during performance testing. Visual and audible alarms shall be utilized to indicate improper operation.

 # 015 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12, the postcontrol nitrogen oxides (expressed as NO2) emissions from this source shall be monitored and recorded by the feed-forward process control loop to ensure maximum control efficiency and minimum ammonia slip. Additionally, the ammonia injection rate shall be monitored and controlled to minimize ammonia slip emissions. Visual and audible alarms shall be utilized to indicate improper operation.

 # 016 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12, a monitoring system shall be in the stack to monitor and record percent oxygen levels to ensure maximum combustion efficiency.

 # 017 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12, the permittee shall monitor and record the pressure differential across the high-efficiency inlet air filters for this source on a weekly basis.

 # 018 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the Best Available Technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the operating parameters associated with the turbine and control devices being monitored shall be monitored during the initial and subsequent EPA reference method testing program for this source as required herein.

 # 019 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4340]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
How do I demonstrate continuous compliance for NOX if I do not use water or steam injection?

The permittee shall comply with all applicable monitoring requirements specified in 40 CFR §§ 60.4340.

 # 020 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4345]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
What are the requirements for the continuous emission monitoring system equipment, if I choose to use this option?

The permittee shall comply with all applicable monitoring requirements specified in 40 CFR § 60.4345.

 # 021 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4350]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
How do I use data from the continuous emission monitoring equipment to identify excess emissions?

The permittee shall comply with all applicable monitoring requirements specified in 40 CFR § 60.4350.

 # 022 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4355]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
How do I establish and document a proper parameter monitoring plan?

The permittee shall comply with all applicable monitoring requirements specified in 40 CFR § 60.4355.

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 # 023 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4360]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
How do I determine the total sulfur content of the turbine's combustion fuel?

The permittee shall comply with all applicable SO2 monitoring requirements specified in 40 CFR § 60.4360.

 # 024 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4365]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
How can I be exempted from monitoring the total sulfur content of the fuel?

The permittee shall comply with all applicable SO2 monitoring requirements specified in 40 CFR § 60.4365.

 # 025 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4370]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
How often must I determine the sulfur content of the fuel?

The permittee shall comply with all applicable SO2 monitoring requirements specified in 40 CFR § 60.4370.

IV. RECORDKEEPING REQUIREMENTS.

 # 026 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall keep records of the following information:

(1) The supporting calculations on a monthly basis used to verify compliance with the nitrogen oxide, carbon monoxide, volatile organic compound, particulate matter, sulfur oxide, ammonia, CO2e, H2SO4, and formaldehyde emission limitations for this source for any 12 consecutive month period.

(2) The test reports and supporting calculations used to verify compliance with the nitrogen oxide, carbon monoxide, volatile organic compound, particulate matter, ammonia, and formaldehyde emission limitations.

(3) The pressure drop across and the inlet gas temperature of the control devices on a continuous basis via a data acquisition system and shall compute the hourly averages.

(4) The amount of fuel fired in this source to demonstrate compliance with applicable emission limitations.

(5) The number of hours that this source operated in startup and shutdown on a monthly basis.

(6) The date and time of the inspections, the identification of the inspector, what was inspected, the location of any observed fugitive emissions, identification of any corrective action taken to eliminate the observed fugitive emissions and the success, or failure, of the corrective action to eliminate the fugitive emissions.

(7) Ambient temperature on a 30-minute basis.

(b) All records generated pursuant to this condition shall be retained for a minimum of five (5) years and shall be made available to the Department upon request.

 # 027 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall keep records of the manufacturers' recommended maintenance practices and activities for their monitoring instrumentation which is used to meet the monitoring requirements for this source, as well as maintenance records including calibrations performed and any corrective actions taken.

(b) All records generated pursuant to this condition shall be retained for a minimum of five (5) years and shall be made available to the Department upon request.

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V. REPORTING REQUIREMENTS.

 # 028 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall submit semi-annual reports to the Department which included the following information:

(1) The supporting calculations on a monthly basis used to verify compliance with the nitrogen oxide, carbon monoxide, volatile organic compound, particulate matter, sulfur oxide, ammonia, CO2e, H2SO4, and formaldehyde emission limitations for this source for any 12 consecutive month period.

(2) The pressure drop across and the inlet gas temperature of the control devices on a continuous basis via a data acquisition system and shall compute the hourly averages.

(3) The amount of fuel fired in this source to demonstrate compliance with applicable emission limitations.

(4) The number of hours that this source operated in startup and shutdown on a monthly basis.

(5) The date and time of the inspections, the identification of the inspector, what was inspected, the location of any observed fugitive emissions, identification of any corrective action taken to eliminate the observed fugitive emissions and the success, or failure, of the corrective action to eliminate the fugitive emissions.

(6) Ambient temperature on a 30-minute basis.

(b) The semi-annual report shall be submitted to the Department no later than March 1 (for January 1 through December 31 of the previous year) and September 1 (For July 1 of the previous year through June 30 of the concurrent year).

 # 029 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4375]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
What reports must I submit?

The permittee shall comply with the applicable reporting requirements specified in 40 CFR §§ 60.4375.

 # 030 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4380]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
How are excess emissions and monitor downtime defined for NOX ?

The permittee shall comply with the applicable reporting requirements specified in 40 CFR § 60.4380.

VI. WORK PRACTICE REQUIREMENTS.

 # 031 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall follow the manufacturer's recommended procedures of startup and shutdown of this source.

 # 032 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code § 127.1 and 127.12, high efficiency inlet air filters shall be used in the air inlet section of the combustion turbine incorporated into this source.

 # 033 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the best available technology provisions in 25 Pa. Code §§ 127.1 and 127.12, the combustion turbine incorporated into this source shall be equipped with dry-low-NOx (DLN) combustors.

 # 034 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the ammonia injection rate for the turbine incorporated into this source shall not exceed the following limits:

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(1) 23.3 pounds per hour at 50% operation
(2) 33.9 pounds per hour at 100% operation

 # 035 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4333]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
What are my general requirements for complying with this subpart?

[Additional authority for this permit condition is also derived from the requirements specified in 40 CFR § 60.4333(a)]

Pursuant to the Best Available Technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall operate and maintain the combustion turbine, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction.

VII. ADDITIONAL REQUIREMENTS.

 # 036 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

This source consists of one natural gas fired Siemens Model SGT-400 generator turbine rated at 142.4 MMBtu/hr controlled with selective catalytic reduction and an oxidation catalyst.

 # 037 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4300]
Subpart KKKK - Standards of Performance for Stationary Combustion Turbines
What is the purpose of this subpart?

This source is subject to Subpart KKKK of the federal Standards of Performance for New Stationary Source, 40 CFR §§ 60.4300 through 60.4420. The permittee shall comply with all applicable requirements specified in 40 CFR §§ 60.4300 through 60.4420.

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Source ID: P301 Source Name: REGENERATION HEATER

Source Capacity/Throughput:

I. RESTRICTIONS.

Emission Restriction(s).

 # 001 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Compliance with this streamlined permit condition will assure compliance with the provisions of 25 Pa. Code Sections 123.11 and 123.22]

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall not permit the following air contaminant emissions from the exhaust of this source in excess of the limitations listed below:

(1) Nitrogen oxides (NOx, expressed as NO2) – 0.04 pounds per MMBtu

(2) Carbon monoxide (CO) – 0.041 pounds per MMBtu

(3) Total combined volatile organic compounds – 0.019 pounds per MMBtu

(4) Total (filterable and condensable) particulate matter – 0.013 pounds per MMBtu

(5) Total PM10 – 0.013 pounds per MMBtu

(6) Total PM2.5 – 0.013 pounds per MMBtu

(7) Sulfur oxides (expressed as sulfur dioxide, SO2) – 0.0038 pounds per MMBtu

(8) Greenhouse gases (expressed as carbon dioxide equivalent, CO2e) – 118 pounds per MMBtu

 # 002 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall not permit the following air contaminant emissions from the exhaust of this source in excess of the limitations listed below:

(1) Nitrogen oxides (NOx, expressed as NO2) – 1.46 pounds per hour

(2) Carbon monoxide (CO) – 1.50 pounds per hour

(3) Total combined volatile organic compounds – 0.70 pounds per hour

(4) Total (filterable and condensable) particulate matter – 0.48 pounds per hour

(5) Total PM10 – 0.48 pounds per hour

(6) Total PM2.5 – 0.48 pounds per hour

(7) Sulfur oxides (expressed as sulfur dioxide, SO2) – 0.14 pounds per hour

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(8) Greenhouse gases (expressed as carbon dioxide equivalent, CO2e) – 4315 pounds per hour

 # 003 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall not permit the following air contaminant emissions from the exhaust of this source in excess of the limitations listed below:

(1) Nitrogen oxides (NOx, expressed as NO2) – 6.41 tons in any 12 consecutive month period

(2) Carbon monoxide (CO) – 6.57 tons in any 12 consecutive month period

(3) Total combined volatile organic compounds – 3.05 tons in any 12 consecutive month period

(4) Total (filterable and condensable) particulate matter – 2.08 tons in any 12 consecutive month period

(5) Total PM10 – 2.08 tons in any 12 consecutive month period

(6) Total PM2.5 – 2.08 tons in any 12 consecutive month period

(7) Sulfur oxides (expressed as sulfur dioxide, SO2) – 0.61 tons in any 12 consecutive month period

(8) Greenhouse gases (expressed as carbon dioxide equivalent, CO2e) – 18,899 tons in any 12 consecutive month period

Fuel Restriction(s).

 # 004 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall only use natural gas as fuel for this source which has a maximum sulfur content equal to or less than 1.25 grains per 100 standard cubic foot.

II. TESTING REQUIREMENTS.

 # 005 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) The permittee shall perform nitrogen oxide (NOx, expressed as NO2), carbon monoxide, total volatile organic compounds, total (filterable and condensable) particulate matter, total PM10, and total PM2.5 stack tests upon this source within 180 days from the initial operation to verify compliance with the applicable emission limitations from the control device associated with this source.

(b) The performance test shall consist of three (3) separate test runs and each run shall last at least in one (1) hour in duration.

(c) During the initial performance stack testing, the permittee shall record, at least every 15 minutes, the appropriate operational parameters and other manufacturer's suggested parameters which will verify compliance with the emissions limitations.

(d) The Department may establish a requirement that includes operational parameter range(s) based on shakedown data, stack test data, manufacturer's suggested ranges and the initial test report.

 # 006 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) At least 90 days prior to the performance of any testing required herein, the permittee shall submit one hardcopy and one

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electronic copy to the Northcentral Regional Office Air Quality Program Manager and one hardcopy and one electronic copy shall be sent to the Department's Source Testing Division in Harrisburg for review in accordance with the provisions of 25 Pa. Code Chapter 139. The protocol shall describe the test methods and procedure to be used in the performance of testing, and shall include dimensioned sketches of the exhaust system showing the locations of all proposed sampling ports. The protocol shall also describe how the peak load and heat input will be determined during each test run, and also identify all other process data which will be monitored and recorded during testing including oxidation catalyst and selective catalytic reduction temperatures in addition to the appropriate operational parameters with description of basis for selecting the operational parameters and any target value.

(b) The Department shall be given at least 15 days advance notice of the scheduled dates for the performance of any testing required herein. The Department is under no obligation to accept the results of any testing performed without receipt of proper notification.

(c) Within 60 days of the completion of any stack testing required herein, one hardcopy and one electronic copy shall be sent to the Northcentral Regional Office Air Quality Program Manager and one hardcopy and one electronic copy shall be sent to the Department's Source Testing Division in Harrisburg in accordance with the provision of 25 Pa. Code Chapter 139. This test report shall contain the results of the testing, a description of the test methods and procedures actually used in the performance of the tests, copies of all process data collected during the testing, copies of all raw test data and copies of all calculations generated during data analysis. The results of the testing shall be expressed in units which allow for a direct comparison and determination of compliance, with the air contaminant emissions limitations contained herein. Additionally, the permittee shall propose the ranges for oxidation catalyst and selective catalytic reduction temperatures that demonstrates compliance with the limitations described above. Any proposed operational parameter range(s) shall be based on an engineering assessment of the shakedown/testing data and manufacturer's suggested ranges.

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

 # 007 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) The permittee shall keep records of the following information:

(1) The supporting calculations on a monthly basis used to verify compliance with the nitrogen oxide, carbon monoxide, volatile organic compound, particulate matter, sulfur oxide, hazardous air pollutant, and CO2e emission limitations for this source for any 12 consecutive month period.

(2) The test reports and supporting calculations used to verify compliance with the nitrogen oxide, carbon monoxide, volatile organic compound, particulate matter emission limitations.

(3) The amount of fuel fired in this source to demonstrate compliance with applicable emission limitations.

(b) All records generated pursuant to this condition shall be retained for a minimum of five (5) years and shall be made available to the Department upon request.

V. REPORTING REQUIREMENTS.

 # 008 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) The permittee shall submit semi-annual reports to the Department which included the following information:

(1) The supporting calculations on a monthly basis used to verify compliance with the nitrogen oxide, carbon monoxide,

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volatile organic compound, particulate matter, sulfur oxide, hazardous air pollutant, and CO2e emission limitations for this source for any 12 consecutive month period.

(2) The test reports and supporting calculations used to verify compliance with the nitrogen oxide, carbon monoxide, volatile organic compound, particulate matter emission limitations.

(3) The amount of fuel fired in this source to demonstrate compliance with applicable emission limitations.

(b) The semi-annual report shall be submitted to the Department no later than March 1 (for January 1 through December 31 of the previous year) and September 1 (For July 1 of the previous year through June 30 of the concurrent year).

VI. WORK PRACTICE REQUIREMENTS.

 # 009 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

Pursuant to the Best Available Technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall operate and maintain this source in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction and in accordance with the manufacturer's recommendations.

VII. ADDITIONAL REQUIREMENTS.

 # 010 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

This source consists of one natural gas fired regeneration heater rated at 36.6 MMBtu/hr equipped with a low NOx burner system.

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Source ID: P302 Source Name: ACID GAS REMOVAL SYSTEM (AMINE SYSTEM)

Source Capacity/Throughput:

I. RESTRICTIONS.

Emission Restriction(s).

 # 001 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall not permit the following air contaminant emissions from only the combustor associated with the thermal oxidizer incorporated into this source in excess of the limitations listed below:

(1) Nitrogen oxides (NOx, expressed as NO2) – 0.146 pounds per MMBtu

(2) Carbon monoxide (CO) – 0.088 pounds per MMBtu

(3) Total combined volatile organic compounds – 0.00012 pounds per MMBtu

(4) Total (filterable and condensable) particulate matter – 0.013 pounds per MMBtu

(5) Total PM10 – 0.013 pounds per MMBtu

(6) Total PM2.5 – 0.013 pounds per MMBtu

(7) Sulfur oxides (expressed as sulfur dioxide, SO2) – 0.298 pounds per MMBtu

(8) Greenhouse gases (expressed as carbon dioxide equivalent, CO2e) – 120 pounds per MMBtu

 # 002 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall not permit the following air contaminant emissions from only the combustor associated with the thermal oxidizer incorporated into this source in excess of the limitations listed below:

(1) Nitrogen oxides (NOx, expressed as NO2) – 6.25 pounds per hour

(2) Carbon monoxide (CO) – 3.77 pounds per hour

(3) Total combined volatile organic compounds – 0.005 pounds per hour

(4) Total (filterable and condensable) particulate matter – 0.56 pounds per hour

(5) Total PM10 – 0.56 pounds per hour

(6) Total PM2.5 – 0.56 pounds per hour

(7) Sulfur oxides (expressed as sulfur dioxide, SO2) – 12.75 pounds per hour

(8) Greenhouse gases (expressed as carbon dioxide equivalent, CO2e) – 5119 pounds per hour

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 # 003 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall not permit the following air contaminant emissions from only the combustor associated with the thermal oxidizer incorporated into this source in excess of the limitations listed below:

(1) Nitrogen oxides (NOx, expressed as NO2) – 27.37 tons in any 12 consecutive month period

(2) Carbon monoxide (CO) – 16.50 tons in any 12 consecutive month period

(3) Total combined volatile organic compounds – 0.021 tons in any 12 consecutive month period

(4) Total (filterable and condensable) particulate matter – 2.44 tons in any 12 consecutive month period

(5) Total PM10 – 2.44 tons in any 12 consecutive month period

(6) Total PM2.5 – 2.44 tons in any 12 consecutive month period

(7) Sulfur oxides (expressed as sulfur dioxide, SO2) – 55.86 tons in any 12 consecutive month period

(8) Greenhouse gases (expressed as carbon dioxide equivalent, CO2e) – 22,421 tons in any 12 consecutive month period

 # 004 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall not permit the following air contaminant emissions from the thermal oxidizer incorporated into this source in excess of the limitations listed below:

(1) Total combined volatile organic compounds – 1.55 tons in any 12 consecutive month period

(2) Total hazardous air pollutants – 0.55 tons in any 12 consecutive month period

(b) The above air contaminant emission limitations include combustor emissions, acid gas emissions, flash gas emissions, fuel gas emissions, and uncontrolled bypass emissions.

 # 005 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall not permit the following uncontrolled air contaminant emissions resulting from bypassing gas from the thermal oxidizer incorporated into this source in excess of the limitations listed below:

(1) Total combined volatile organic compounds – 0.71 tons in any 12 consecutive month period

(2) Total hazardous air pollutants – 0.32 tons in any 12 consecutive month period

(3) greenhouse gases (expressed as carbon dioxide equivalent, CO2e) - 9386 tons in any 12 consecutive month period

(b) The above air contaminant emission limitations represent the emissions occurring from gases bypassing the thermal oxidizer during periods of maintenance or trips.

 # 006 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall not permit the following air contaminant emissions from the thermal oxidizer incorporated into this source in excess of the limitations listed below:

SECTION D. Source Level Plan Approval Requirements

(1) Total combined volatile organic compounds – 0.18 pounds per hour

(2) Total hazardous air pollutants – 0.056 pounds per hour

(b) The above air contaminant emission limitations reflect only those emissions from acid gas emissions, flash gas emissions, and fuel gas emissions.

 # 007 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall not permit the following air contaminant emissions from the thermal oxidizer incorporated into this source in excess of the limitations listed below:

(1) greenhouse gases (expressed as carbon dioxide equivalent, CO2e) - 266,454 tons in any 12 consecutive month period

(b) The above air contaminant emission limitations represent the emissions occurring from the combustor, uncontrolled bypass emissions, and flash gas emissions from the amine system.

Fuel Restriction(s).

 # 008 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall only use natural gas as fuel for this source which has a maximum sulfur content equal to or less than 1.25 grains per 100 standard cubic foot.

Operation Hours Restriction(s).

 # 009 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall not bypass gas from the thermal oxidizer incorporated into this source in excess of 175,200,000 standard cubic feet in any 12 consecutive month period.

 # 010 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall:

(1) not bypass gas from the thermal oxidizer incorporated into this source in excess of 350 hours in any 12 consecutive month period.

(2) only bypass gas from the thermal oxidizer during times of maintenance outages or trips.

II. TESTING REQUIREMENTS.

 # 011 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) The permittee shall perform nitrogen oxide (NOx, expressed as NO2), carbon monoxide, total volatile organic compounds, total (filterable and condensable) particulate matter, total PM10, and total PM2.5 stack tests upon this source within 180 days from the initial operation to verify compliance with the applicable emission limitations from the control device associated with this source.

(b) The performance test shall consist of three (3) separate test runs and each run shall last at least in one (1) hour in duration.

(c) During the initial performance stack testing, the permittee shall record, at least every 15 minutes, the appropriate operational parameters and other manufacturer's suggested parameters which will verify compliance with the emissions limitations.

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(d) The Department may establish a requirement that includes operational parameter range(s) based on shakedown data, stack test data, manufacturer's suggested ranges and the initial test report.

 # 012 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) At least 90 days prior to the performance of any testing required herein, the permittee shall submit one hardcopy and one electronic copy to the Northcentral Regional Office Air Quality Program Manager and one hardcopy and one electronic copy shall be sent to the Department's Source Testing Division in Harrisburg for review in accordance with the provisions of 25 Pa. Code Chapter 139. The protocol shall describe the test methods and procedure to be used in the performance of testing, and shall include dimensioned sketches of the exhaust system showing the locations of all proposed sampling ports. The protocol shall also describe how the peak load and heat input will be determined during each test run, and also identify all other process data which will be monitored and recorded during testing including oxidation catalyst and selective catalytic reduction temperatures in addition to the appropriate operational parameters with description of basis for selecting the operational parameters and any target value.

(b) The Department shall be given at least 15 days advance notice of the scheduled dates for the performance of any testing required herein. The Department is under no obligation to accept the results of any testing performed without receipt of proper notification.

(c) Within 60 days of the completion of any stack testing required herein, one hardcopy and one electronic copy shall be sent to the Northcentral Regional Office Air Quality Program Manager and one hardcopy and one electronic copy shall be sent to the Department's Source Testing Division in Harrisburg in accordance with the provision of 25 Pa. Code Chapter 139. This test report shall contain the results of the testing, a description of the test methods and procedures actually used in the performance of the tests, copies of all process data collected during the testing, copies of all raw test data and copies of all calculations generated during data analysis. The results of the testing shall be expressed in units which allow for a direct comparison and determination of compliance, with the air contaminant emissions limitations contained herein. Additionally, the permittee shall propose the ranges for oxidation catalyst and selective catalytic reduction temperatures that demonstrates compliance with the limitations described above. Any proposed operational parameter range(s) shall be based on an engineering assessment of the shakedown/testing data and manufacturer's suggested ranges.

 # 013 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

The permittee may propose to perform, and the Department may consider allowing, stack testing at operating temperatures less than 1500° F. The permittee shall receive Department approval prior to performing such testing. Based on the results of that testing, the Department may consider adjusting the 1500° F value, or adding an averaging period associated with the 1500° F setpoint. The operating temperature requirement for the thermal oxidizer may be revised based on the permittee's evaluation and determination and the Department's approval.

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

 # 014 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall keep records of the following information:

(1) The supporting calculations on a monthly basis used to verify compliance with the nitrogen oxide, carbon monoxide, volatile organic compound, particulate matter, sulfur oxide, hazardous air pollutant, and CO2e emission limitations for this source for any 12 consecutive month period.

(2) The amount of fuel fired in this source to demonstrate compliance with applicable emission limitations.

SECTION D. Source Level Plan Approval Requirements

(3) The total number of hours bypass gas was vented each month to demonstrate compliance with the applicable limitation.

(4) The total amount of bypass gas (in standard cubic feet) vented each month to demonstrate compliance with the applicable limitation.

(5) The reason for each bypass.

(6) The operating temperature of the thermal oxidizer when it is in operation.

(b) All records generated pursuant to this condition shall be retained for a minimum of five (5) years and shall be made available to the Department upon request.

V. REPORTING REQUIREMENTS.

 # 015 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall submit semi-annual reports to the Department which included the following information:

(1) The supporting calculations on a monthly basis used to verify compliance with the nitrogen oxide, carbon monoxide, volatile organic compound, particulate matter, sulfur oxide, hazardous air pollutant, and CO2e emission limitations for this source for any 12 consecutive month period.

(2) The amount of fuel fired in this source to demonstrate compliance with applicable emission limitations.

(3) The total number of hours bypass gas was vented each month to demonstrate compliance with the applicable limitation.

(4) The total amount of bypass gas (in standard cubic feet) vented each month to demonstrate compliance with the applicable limitation.

(5) The reason for each bypass.

(6) The operating temperature of the thermal oxidizer.

(b) The semi-annual report shall be submitted to the Department no later than March 1 (for January 1 through December 31 of the previous year) and September 1 (For July 1 of the previous year through June 30 of the concurrent year).

VI. WORK PRACTICE REQUIREMENTS.

 # 016 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the Best Available Technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall operate and maintain this source in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction and in accordance with the manufacturer's recommendations.

 # 017 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the Best Available Technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the thermal oxidizer shall be operated at a minimum of 1500° F operating temperature at all times.

 # 018 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the Best Available Technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall operate the thermal oxidizer to control emissions from the amine acid gas removal system, except when the thermal oxidizer needs to be down for maintenance outages or trips.

SECTION D. Source Level Plan Approval Requirements

 # 019 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall monitor and record the operating temperature of thermal oxidizer. Visual and audible alarms shall be utilized to indicate improper operation.

 # 020 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

The permittee shall make every effort during temporary shakedown, testing, and normal operation to determine if the thermal oxidizer can be operated at 1500° F at all times, despite any operational fluctuations within Source P302.

VII. ADDITIONAL REQUIREMENTS.

 # 021 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

This source consists of the amine acid gas removal system that is controlled by one natural gas fired thermal oxidizer rated at 42.8 MMBtu/hr.

SECTION D. Source Level Plan Approval Requirements

Source ID: P303 Source Name: 6 MMGAL LNG STORAGE TANK AND TRUCK LOADOUT SYSTEM

Source Capacity/Throughput:

I. RESTRICTIONS.

Emission Restriction(s).

 # 001 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall not permit the following air contaminant emissions from the combustor associated with the flare incorporated into this source in excess of the limitations listed below:

(1) Nitrogen oxides (NOx, expressed as NO2) – 0.068 pounds per MMBtu

(2) Carbon monoxide (CO) – 0.280 pounds per MMBtu

(3) Total combined volatile organic compounds – 0.0035 pounds per MMBtu

(4) Total (filterable and condensable) particulate matter – 0.026 pounds per MMBtu

(5) Total PM10 – 0.026 pounds per MMBtu

(6) Total PM2.5 – 0.026 pounds per MMBtu

(7) Sulfur oxides (expressed as sulfur dioxide, SO2) – 0.0038 pounds per MMBtu

(8) Greenhouse gases (expressed as carbon dioxide equivalent, CO2e) – 138 pounds per MMBtu

 # 002 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall not permit the following air contaminant emissions from the combustor associated with the flare incorporated into this source in excess of the limitations listed below:

(1) Nitrogen oxides (NOx, expressed as NO2) – 0.18 pounds per hour

(2) Carbon monoxide (CO) – 0.73 pounds per hour

(3) Total combined volatile organic compounds – 0.01 pounds per hour

(4) Total (filterable and condensable) particulate matter – 0.07 pounds per hour

(5) Total PM10 – 0.07 pounds per hour

(6) Total PM2.5 – 0.07 pounds per hour

(7) Sulfur oxides (expressed as sulfur dioxide, SO2) – 0.01 pounds per hour

(8) Greenhouse gases (expressed as carbon dioxide equivalent, CO2e) – 400 pounds per hour

SECTION D. Source Level Plan Approval Requirements

 # 003 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall not permit the following air contaminant emissions from the flare incorporated into this source in excess of the limitations listed below:

(1) Nitrogen oxides (NOx, expressed as NO2) – 6.55 tons in any 12 consecutive month period

(2) Carbon monoxide (CO) – 26.99 tons in any 12 consecutive month period

(3) Total combined volatile organic compounds – 2.53 tons in any 12 consecutive month period

(4) Total (filterable and condensable) particulate matter – 2.51 tons in any 12 consecutive month period

(5) Total PM10 – 2.51 tons in any 12 consecutive month period

(6) Total PM2.5 – 2.51 tons in any 12 consecutive month period

(7) Sulfur oxides (expressed as sulfur dioxide, SO2) – 0.75 tons in any 12 consecutive month period

(8) Greenhouse gases (expressed as carbon dioxide equivalent, CO2e) – 14,815 tons in any 12 consecutive month period

(9) Total hazardous air pollutants – 0.28 tons in any 12 consecutive month period

(b) The above air contaminant emission limitations include the emissions from the pilot and the emissions from maintenance and safety situations.

Fuel Restriction(s).

 # 004 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall only use natural gas as fuel for this source which has a maximum sulfur content equal to or less than 1.25 grains per 100 standard cubic foot.

Operation Hours Restriction(s).

 # 005 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the quantity of gas sent to the flare during maintenance events (or other events) shall shall not exceed 167,000,000 standard cubic feet in any 12 consecutive month period.

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

III. MONITORING REQUIREMENTS.

 # 006 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall monitor the presence of the pilot flame using thermocouples. Visual and audible alarms shall be utilized to indicate the absence of an adequate pilot flame.

SECTION D. Source Level Plan Approval Requirements

IV. RECORDKEEPING REQUIREMENTS.

 # 007 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall keep records of the following information:

(1) The supporting calculations on a monthly basis used to verify compliance with the nitrogen oxide, carbon monoxide, volatile organic compound, particulate matter, sulfur oxide, hazardous air pollutant, and CO2e emission limitations for this source for any 12 consecutive month period.

(2) The amount of fuel fired in this source to demonstrate compliance with applicable emission limitations.

(3) The total quantity of gas sent to the flare.

(4) The reason for each time gas is sent to the flare.

(b) All records generated pursuant to this condition shall be retained for a minimum of five (5) years and shall be made available to the Department upon request.

V. REPORTING REQUIREMENTS.

 # 008 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall submit semi-annual reports to the Department which included the following information:

(1) The supporting calculations on a monthly basis used to verify compliance with the nitrogen oxide, carbon monoxide, volatile organic compound, particulate matter, sulfur oxide, hazardous air pollutant, and CO2e emission limitations for this source for any 12 consecutive month period.

(2) The amount of fuel fired in this source to demonstrate compliance with applicable emission limitations.

(3) The total quantity of gas sent to the flare.

(4) The reason for each time gas is sent to the flare.

(b) The semi-annual report shall be submitted to the Department no later than March 1 (for January 1 through December 31 of the previous year) and September 1 (For July 1 of the previous year through June 30 of the concurrent year).

VI. WORK PRACTICE REQUIREMENTS.

 # 009 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the Best Available Technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall operate and maintain this source in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction and in accordance with the manufacturer's recommendations.

VII. ADDITIONAL REQUIREMENTS.

 # 010 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

This source consists of one 6 MMgal LNG storage tank and truck loadout system controlled by a natural gas fired multi-point ground flare rated at 2.6 MMBt/hr. The flare is intended to be used only during plant-protection situations, maintenance activities, and initial commissioning/start-up.

SECTION D. Source Level Plan Approval Requirements

Source ID: P401 Source Name: TWO DIESEL EMERGENCY GENERATOR ENGINES

Source Capacity/Throughput:

I. RESTRICTIONS.

Emission Restriction(s).

 # 001 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Compliance with this streamlined permit condition will assure compliance with the provisions of 25 Pa. Code § 123.41]

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the visible emissions from each engine in this source shall not equal or exceed 10% for more than any 3-minute period in any 1 hour and 30% at any time.

 # 002 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Compliance with this streamlined permit condition will assure compliance with the provisions of 25 Pa. Code §§ 123.13 and 123.21, 40 CFR § 60.4205(b), 40 CFR §§ 89.112 and 89.113]

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the air contaminant emissions from the exhaust of each engine in this source shall not exceed the following limitations:

(a) Nitrogen Oxides (expressed as NO2) – 6.9 gm/bhp-hr, 67.30 lb/hr, 3.33 tons in any 12 consecutive month period

(b) Carbon Monoxide – 2.00 gm/bhp-hr, 19.50 lb/hr, 0.97 tons in any 12 consecutive month period

(c) Volatile Organic Compound (expressed as THC) – 0.90 gm/bhp-hr, 8.80 lb/hr, 0.43 tons in any 12 consecutive month period

(d) Particulate Matter (including PM-10 and PM-2.5) – 0.35 gm/bhp-hr, 3.40 lb/hr, 0.17 tons in any 12 consecutive month period

(e) Sulfur Oxides (expressed as SO2) – 0.005 gm/bhp-hr, 0.044 lb/hr, 0.01 tons in any 12 consecutive month period

(f) Greenhouse gases (expressed as CO2e) – 1285 tons in any 12 consecutive month period

 # 003 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4205]

Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

What emission standards must I meet for emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

Pursuant to the requirements of 40 CFR §§ 60.4205(b) and 60.4211(c), each engine in this source shall be EPA certified to meet the emissions standards that are specified in 40 CFR §§ 89.112 and 89.113 for the same model year and maximum engine power.

SECTION D. Source Level Plan Approval Requirements

Fuel Restriction(s).

 # 004 [25 Pa. Code §127.12b]
Plan approval terms and conditions.
[Compliance with this streamlined condition will assure compliance with the requirements of 40 CFR § 60.4207]

Pursuant to best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall only use diesel fuel that is classified as ULTRA-LOW SULFUR NON-HIGHWAY DIESEL FUEL (15 ppm Sulfur Maximum) pursuant to 40 CFR Part 80 Subpart I, to operate each engine in this source.

Operation Hours Restriction(s).

 # 005 [25 Pa. Code §127.12b]
Plan approval terms and conditions.
[Compliance with this streamlined permit condition will assure compliance with the provisions of 40 CFR § 60.4211(f)]

(a) Pursuant to best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the operation of each engine in this source shall not exceed 100 hours in any 12 consecutive month period. There is no time limit on the use of the emergency stationary engine in emergency situations.

(b) Additionally, each engine in this source shall not be used for peak shaving or to generate income by supplying power to an electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity.

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

III. MONITORING REQUIREMENTS.

 # 006 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, each engine in this source shall be equipped with a non-resettable hour meter that accurately monitors the engine's hours of operation.

IV. RECORDKEEPING REQUIREMENTS.

 # 007 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

[Additional authority for this permit condition is also derived from the provisions of 40 CFR § 60.4214(b)]

(a) The permittee shall record the following information for this source, on a monthly basis:

(1) hours that each engine operated through the non-resettable hour meter

(2) the time of day of operation of each engine and the reason each engine was in operation during that time

(b) The information used to demonstrate compliance with this recordkeeping requirement shall be kept for a minimum of five (5) years and shall be made available to the Department upon request.

 # 008 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall keep accurate and comprehensive records of the following information for this source:

(1) the supporting information and calculations used to demonstrate that the emissions of particulate matter and sulfur oxides from the exhaust of each engine comply with the requirements in 25 Pa. Code §§ 123.13 and 123.21, respectively,

SECTION D. Source Level Plan Approval Requirements

(2) monthly emissions of nitrogen oxides, carbon monoxide, volatile organic compound, sulfur oxides (SO2), total PM, total PM10 and total PM2.5, and greenhouse gases, to demonstrate compliance with the emission limitations,

(b) The information used to demonstrate compliance with this recordkeeping requirement shall be kept for a minimum of five (5) years and shall be made available to the Department upon request.

 # 009 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall keep record of the fuel certification reports for each delivery of diesel fuel for this source to verify compliance with the fuel restriction requirements for each engine.

(b) The information used to demonstrate compliance with this recordkeeping requirement shall be kept for a minimum of five (5) years and shall be made available to the Department upon request.

V. REPORTING REQUIREMENTS.

 # 010 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall submit the monthly hours of operation for each engine in this source in order to demonstrate compliance with the operational limitations on a semi-annual basis.

(b) The semi-annual reports shall be submitted to the Department no later than March 1 (for January 1 through December 31 of the previous year) and September 1 (for July 1 of the previous year through June 30 of the concurrent year).

VI. WORK PRACTICE REQUIREMENTS.

 # 011 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the Best Available Technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall operate and maintain this source in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction and in accordance with the manufacturer's recommendations.

 # 012 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4206]
Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
How long must I meet the emission standards if I am an owner or operator of a stationary CI internal combustion engine?

(a) The permittee shall operate and maintain each engine in this source to achieve the emission standards specified in 40 CFR §§§ 60.4205(b), 89.112, and 89.113 over the entire life of the engine.

(b) Any testing used to verify compliance with this work practice restriction shall be performed in accordance with 40 CFR Part 64 Subpart IIII, including 40 CFR § 60.4212, and acceptable test methods and procedures to the Department.

 # 013 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4211]
Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?

The permittee shall comply with the applicable requirements specified in 40 CFR §§ 60.4211(a) and (b).

VII. ADDITIONAL REQUIREMENTS.

 # 014 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

This source consists of two diesel engines each rated 4423 brake horsepower to power emergency generators.

SECTION D. Source Level Plan Approval Requirements

 # 015 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

Within 30 days of the selection of the specific manufacturer and model of the emergency engines, the permittee shall submit specifications for the selected engines to the Department for review and final approval. These specifications shall include the maximum brake horsepower ratings, the make and model of the engine, each engine's emissions rates, and any other information pertinent to the engine's performance. In order for the selected engines to be given final approval by the Department, their specifications must be determined by the Department to be equivalent, or better, to those contained in the application and supplemental materials submitted for plan approval.

 # 016 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4200]

Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

Am I subject to this subpart?

[Compliance with this permit condition will assure compliance with the requirements of 40 CFR Part 63 Subpart ZZZZ]

Each engine in this source is subject to the requirements in 40 CFR Part 60 Subpart IIII. The permittee shall comply with all applicable provisions specified 40 CFR §§ 60.4200 through 60.4219, including appendices.

SECTION D. Source Level Plan Approval Requirements

Source ID: P402 Source Name: TWO DIESEL FIRE PUMP ENGINES

Source Capacity/Throughput:

I. RESTRICTIONS.

Emission Restriction(s).

 # 001 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Compliance with this streamlined permit condition will assure compliance with the provisions of 25 Pa. Code § 123.41]

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the visible emissions from each engine in this source shall not equal or exceed 10% for more than any 3-minute period in any 1 hour and 30% at any time.

 # 002 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Compliance with this streamlined permit condition will assure compliance with the provisions of 25 Pa. Code §§ 123.13 and 123.21, and 40 CFR § 60.4205(c)]

Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the air contaminant emissions from the exhaust of each engine in this source shall not exceed the following limitations:

(a) Nitrogen Oxides (expressed as NO2) – 2.75 gm/bhp-hr, 4.24 lb/hr, 0.21 tons in any 12 consecutive month period

(b) Carbon Monoxide – 2.00 gm/bhp-hr, 3.09 lb/hr, 0.15 tons in any 12 consecutive month period

(c) Volatile Organic Compound (expressed as THC) – 0.25 gm/bhp-hr, 0.39 lb/hr, 0.019 tons in any 12 consecutive month period

(d) Particulate Matter (including PM-10 and PM-2.5) – 0.15 gm/bhp-hr, 0.23 lb/hr, 0.012 tons in any 12 consecutive month period

(e) Sulfur Oxides (expressed as SO2) – 0.007 gm/bhp-hr, 0.01 lb/hr, 0.01 tons in any 12 consecutive month period

(f) Greenhouse gases (expressed as CO2e) – 118 tons in any 12 consecutive month period

 # 003 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4205]

Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

What emission standards must I meet for emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

Pursuant to the requirements of 40 CFR §§ 60.4205(c) and 60.4211(c), each engine in this source shall be EPA certified to meet the emissions standards in Table 4 of Subpart IIII.

SECTION D. Source Level Plan Approval Requirements

Fuel Restriction(s).

 # 004 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Compliance with this streamlined condition will assure compliance with the requirements of 40 CFR § 60.4207]

Pursuant to best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall only use diesel fuel that is classified as ULTRA-LOW SULFUR NON-HIGHWAY DIESEL FUEL (15 ppm Sulfur Maximum) pursuant to 40 CFR Part 80 Subpart I, to operate each engine in this source.

Operation Hours Restriction(s).

 # 005 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Compliance with this streamlined permit condition will assure compliance with the provisions of 40 CFR § 60.4211(f)]

(a) Pursuant to best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the operation of each engine in this source shall not exceed 100 hours in any 12 consecutive month period. There is no time limit on the use of the emergency stationary engine in emergency situations.

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

III. MONITORING REQUIREMENTS.

 # 006 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

Pursuant to best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, each engine in this source shall be equipped with a non-resettable hour meter that accurately monitors the engine's hours of operation.

IV. RECORDKEEPING REQUIREMENTS.

 # 007 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

[Additional authority for this permit condition is also derived from the provisions of 40 CFR § 60.4214(b)]

(a) The permittee shall record the following information for this source, on a monthly basis:

(1) hours that each engine operated through the non-resettable hour meter

(2) the time of day of operation of each engine and the reason each engine was in operation during that time

(b) The information used to demonstrate compliance with this recordkeeping requirement shall be kept for a minimum of five (5) years and shall be made available to the Department upon request.

 # 008 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) The permittee shall keep accurate and comprehensive records of the following information for this source:

(1) the supporting information and calculations used to demonstrate that the emissions of particulate matter and sulfur oxides from the exhaust of each engine comply with the requirements in 25 Pa. Code §§ 123.13 and 123.21, respectively,

(2) monthly emissions of nitrogen oxides, carbon monoxide, volatile organic compound, sulfur oxides (SO2), total PM, total PM10 and total PM2.5, and greenhouse gases, to demonstrate compliance with the emission limitations,

SECTION D. Source Level Plan Approval Requirements

(b) The information used to demonstrate compliance with this recordkeeping requirement shall be kept for a minimum of five (5) years and shall be made available to the Department upon request.

 # 009 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall keep record of the fuel certification reports for each delivery of diesel fuel for this source to verify compliance with the fuel restriction requirements for each engine.

(b) The information used to demonstrate compliance with this recordkeeping requirement shall be kept for a minimum of five (5) years and shall be made available to the Department upon request.

V. REPORTING REQUIREMENTS.

 # 010 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

(a) The permittee shall submit the monthly hours of operation for each engine in this source in order to demonstrate compliance with the operational limitations on a semi-annual basis.

(b) The semi-annual reports shall be submitted to the Department no later than March 1 (for January 1 through December 31 of the previous year) and September 1 (for July 1 of the previous year through June 30 of the concurrent year).

VI. WORK PRACTICE REQUIREMENTS.

 # 011 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Pursuant to the Best Available Technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall operate and maintain this source in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction and in accordance with the manufacturer's recommendations.

 # 012 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4206]
Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
How long must I meet the emission standards if I am an owner or operator of a stationary CI internal combustion engine?

(a) The permittee shall operate and maintain each engine in this source to achieve the emission standards specified in 40 CFR § 60.4205(c) over the entire life of the engine.

(b) Any testing used to verify compliance with this work practice restriction shall be performed in accordance with 40 CFR Part 64 Subpart IIII, including 40 CFR § 60.4212, and acceptable test methods and procedures to the Department.

 # 013 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4211]
Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?

The permittee shall comply with the applicable requirements specified in 40 CFR §§ 60.4211(a) and (b).

VII. ADDITIONAL REQUIREMENTS.

 # 014 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

This source consists of two diesel engines each rated 700 brake horsepower to power fire water pumps.

 # 015 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Within 30 days of the selection of the specific manufacturer and model of the emergency engines, the permittee shall

SECTION D. Source Level Plan Approval Requirements

submit specifications for the selected engines to the Department for review and final approval. These specifications shall include the maximum brake horsepower ratings, the make and model of the engine, each engine's emissions rates, and any other information pertinent to the engine's performance. In order for the selected engines to be given final approval by the Department, their specifications must be determined by the Department to be equivalent, or better, to those contained in the application and supplemental materials submitted for plan approval.

 # 016 [40 CFR Part 60 Standards of Performance for New Stationary Sources §40 CFR 60.4200]

Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

Am I subject to this subpart?

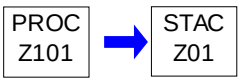
[Compliance with this permit condition will assure compliance with the requirements of 40 CFR Part 63 Subpart ZZZZ]

Each engine in this source is subject to the requirements in 40 CFR Part 60 Subpart IIII. The permittee shall comply with all applicable provisions specified 40 CFR §§ 60.4200 through 60.4219, including appendices.

SECTION D. Source Level Plan Approval Requirements

Source ID: Z101 Source Name: FACILITY FUGITIVES

Source Capacity/Throughput:



I. RESTRICTIONS.

Emission Restriction(s).

 # 001 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall not permit the following fugitive air contaminant emissions in excess of the limitations listed below:

(1) Total combined volatile organic compounds – 2.18 tons in any 12 consecutive month period

(b) The above air contaminant emission limitation includes natural gas equipment leaks, LNG equipment leaks, refrigerated vapor equipment leaks, and refrigerated liquid equipment leaks.

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

 # 002 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) The permittee shall keep records of the following information:

(1) The supporting calculations on a monthly basis used to verify compliance with the volatile organic compound emission limitation for this source for any 12 consecutive month period.

(b) All records generated pursuant to this condition shall be retained for a minimum of five (5) years and shall be made available to the Department upon request.

V. REPORTING REQUIREMENTS.

 # 003 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) The permittee shall submit semi-annual reports to the Department which included the following information:

(1) The supporting calculations on a monthly basis used to verify compliance with the volatile organic compound emission limitation for this source for any 12 consecutive month period.

(b) The semi-annual report shall be submitted to the Department no later than March 1 (for January 1 through December 31 of the previous year) and September 1 (For July 1 of the previous year through June 30 of the concurrent year).

SECTION D. Source Level Plan Approval Requirements

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

VII. ADDITIONAL REQUIREMENTS.

 # 004 [25 Pa. Code §127.12b]

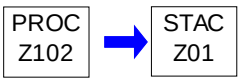
Plan approval terms and conditions.

This source includes sources of fugitive VOC emissions such as natural gas equipment leaks, LNG equipment leaks, refrigerated vapor equipment leaks, and refrigerated liquid equipment leaks.

SECTION D. Source Level Plan Approval Requirements

Source ID: Z102 Source Name: FACILITY ROADS

Source Capacity/Throughput:



I. RESTRICTIONS.

Emission Restriction(s).

 # 001 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) Pursuant to the best available technology requirements of 25 Pa. Code §§ 127.1 and 127.12, the permittee shall not permit the following fugitive air contaminant emissions from the facility roads incorporated into this source in excess of the limitations listed below:

(1) Total PM10 – 0.09 tons in any 12 consecutive month period

(2) Total PM2.5 – 0.02 tons in any 12 consecutive month period

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

 # 002 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) The permittee shall keep records of the following information:

(1) The supporting calculations on a monthly basis used to verify compliance with the particulate matter emission limitations for this source for any 12 consecutive month period.

(b) All records generated pursuant to this condition shall be retained for a minimum of five (5) years and shall be made available to the Department upon request.

V. REPORTING REQUIREMENTS.

 # 003 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

(a) The permittee shall submit semi-annual reports to the Department which included the following information:

(1) The supporting calculations on a monthly basis used to verify compliance with the particulate matter emission limitations for this source for any 12 consecutive month period.

(b) The semi-annual report shall be submitted to the Department no later than March 1 (for January 1 through December 31 of the previous year) and September 1 (For July 1 of the previous year through June 30 of the concurrent year).

SECTION D. Source Level Plan Approval Requirements

VI. WORK PRACTICE REQUIREMENTS.

No additional work practice requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

VII. ADDITIONAL REQUIREMENTS.

 # 004 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

This source includes the paved facility roads and driving areas.

SECTION E. Alternative Operation Requirements.

No Alternative Operations exist for this Plan Approval facility.

SECTION F. Emission Restriction Summary.

No emission restrictions listed in this section of the permit.

SECTION G. Miscellaneous.

The following air contaminant sources are considered to the Department to be insignificant with regards to air contaminant emissions and determined to be exempt from permitting requirements. However, this determination does not exempt the sources from compliance with all applicable State and Federal regulations, including all applicable regulations specified in 25 Pa. Code Chapters 121-145:

(a) Two ultra-low sulfur diesel storage tanks, each rated 1000 gallons.

(b) Two ultra-low sulfur diesel storage tanks, each rated 829 gallons.

(c) One ultra-low sulfur diesel storage tank, rated 5000 gallons.

(d) Lube oil emissions

****** End of Report ******

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
Department of Environmental Protection
July 24, 2019

SUBJECT: Final Issuance Memo
Bradford County Real Estate Partners LLC
BCRP/Natural Gas Processing Plant
Wyalusing Township, Bradford County
Plan Approval Application 08-00058A

TO: Muhammad Q. Zaman MQZ
Environmental Program Manager
Air Quality Program

THROUGH: David M. Shimmel, P.E.
Chief, New Source Review Section
Air Quality Program

FROM: Clinton J. Krug CJK
New Source Review Section
Air Quality Program

On May 17, 2019, a proposed plan approval was submitted to Bradford County Real Estate Partners LLC, (BCRP) for their LNG facility located in Wyalusing Township, Bradford County. The *Pennsylvania Bulletin* notice specifying the Department's intent to issue the plan approval was published on May 25, 2019. There were no comments received from the public. Requests from the company were received on June 24, 2019 with further clarifications received on July 2 and July 11, 2019. I will address the requests in the order they were presented.

Request 1
BCRP indicated that the facility-wide emission limitations in the plan approval do not reflect the facility-wide emissions calculations provided in the application. Specifically, the emissions from the emergency engines do not match. This discrepancy occurred because BCRP utilized emission factors for the engines different than those used by the Department. After discussion between BCRP and the Department, emission factors satisfactory to both parties have been agreed upon to satisfy best available technology (BAT) requirements and comply with applicable federal regulations. The draft plan approval limited the NOx+NMHC emissions from the **emergency generators** to 4.77 gm/bhp-hr (which was taken directly from 40 CFR Part 98 Table 1). BCRP indicated that the emission limit from Table 2 for engine family certifications in that subpart is the applicable federal standard (i.e., 7.8 gm/bhp-hr NOx+NMHC) due to the certification process. The Department reported to BCRP that the 7.8 gm/bhp-hr limit did not satisfy BAT, which prompted the applicant to revisit the proposed limit. BCRP returned with **6.9 gm/bhp-hr for NOx and 0.9 gm/bhp-hr for VOC (as THC)**. Despite the fact that the sum of the two emission limits proposed equal 7.8 gm/bhp-hr, separating the NOx from the VOC is more aligned with BAT compliance. I could not find any permits for an identical engine in similar

operation with a lower NOx emission limit. To provide perspective on the proposed emission limit, the Department's GP-9 establishes a NOx limit of 6.9 gm/bhp-hr for a non-emergency engine of similar rating. I recommend that the proposed emission limit of 6.9 gm/bhp-hr be established as BAT based on available comparative data and the minimal quantity of NOx emissions the proposed engines will contribute to the overall facility-wide emissions. I could not find any permits for an identical engine in similar operation with a lower VOC emission limit. To provide perspective on the proposed emission limit, the Department's GP-9 establishes a VOC (as THC) limit of 1.0 gm/bhp-hr. I recommend that the proposed emission limit of 0.9 gm/bhp-hr be established as BAT based on available comparative data and the minimal quantity of VOC emissions the proposed engines will contribute to the overall facility-wide emissions. The draft plan approval limited the CO emissions from the emergency generators to 1.31 gm/bhp-hr and the PM emissions were limited to 0.05 gm/bhp-hr, which were both taken directly from a manufacturer's data sheet provided with the application. However, BCRP reports that a final vendor for the emergency engines has not been chosen and the data sheet in the application was for informational purposes and did not reflect the actual engine they may choose. BCRP proposed the **CO limit be 2.0 gm/bhp-hr and the PM limit of 0.35 gm/bhp-hr**. I could not find any permits for an identical engine in similar operation with a lower CO or PM emission limit. To provide perspective on the proposed emission limit, the Department's GP-9 establishes a CO limit of 2.0 gm/bhp-hr and a PM limit of 0.4 gm/bhp-hr. I recommend that the proposed emission limits of 2.0 gm/bhp-hr and 0.35 gm/bhp-hr be established as BAT based on available comparative data and the minimal quantity of CO and PM emissions the proposed engines will contribute to the overall facility-wide emissions.

The draft plan approval limited the NOx+NMHC emissions from the **fire pump engines** to 3.0 gm/bhp-hr (which was taken directly from 40 CFR Part 60 Subpart IIII). BCRP proposed to break out the NOx from the NMHC with separate emission limits. BCRP proposed **2.75 gm/bhp-hr for NOx and 0.25 gm/bhp-hr for VOC (as THC)**. I could not find any permits for an identical engine in similar operation with a lower NOx emission limit. To provide perspective on the proposed emission limit, the Department's GP-9 establishes a NOx limit of 6.9 gm/bhp-hr. I recommend that the proposed emission limit of 2.75 gm/bhp-hr be established as BAT based on available comparative data and the minimal quantity of NOx emissions the proposed engines will contribute to the overall facility-wide emissions. I could not find any permits for an identical engine in similar operation with a lower VOC emission limit. To provide perspective on the proposed emission limit, the Department's GP-9 establishes a VOC (as THC) limit of 1.0 gm/bhp-hr. I recommend that the proposed emission limit of 0.25 gm/bhp-hr be established as BAT based on available comparative data and the minimal quantity of VOC emissions the proposed engines will contribute to the overall facility-wide emissions. The draft plan approval limited the CO emissions from the fire pump engines to 1.43 gm/bhp-hr, which was taken directly from a manufacturer's data sheet provided with the application. However, BCRP reports that a final vendor for the emergency engines has not been chosen and the data sheet in the application was for informational purposes and did not reflect the actual engine they may choose. BCRP proposed the **CO limit be 2.0 gm/bhp-hr**. I could not find any permits for an identical engine in similar operation with a lower CO emission limit. To provide perspective on the proposed emission limit, the Department's GP-9 establishes a CO limit of 2.0 gm/bhp-hr. I recommend that the proposed emission limit of 2.0 gm/bhp-hr be established as BAT based on

available comparative data and the minimal quantity of CO emissions the proposed engines will contribute to the overall facility-wide emissions.

I also recommend adding the language:

> "Within 30 days of the selection of the specific manufacturer and model of the emergency engines, the permittee shall submit specifications for the selected engines to the Department for review and final approval. These specifications shall include the maximum brake horsepower ratings, the make and model of the engine, each engine's emissions rates, and any other information pertinent to the engine's performance. In order for the selected engines to be given final approval by the Department, their specifications must be determined by the Department to be equivalent, or better, to those contained in the application and supplemental materials submitted for plan approval."

Please see the correspondence dated July 2 and July 11, 2019 for further information. The applicable lb/hr and tpy limits have also been revised based on the new gm/bhp-hr emission limits, maximum rated horsepower, and 100 hr/yr non-emergency operational restriction. The revisions have been incorporated into the plan approval.

Request 2
BCRP requested revising the language "visible emissions" to be "The opacity of visible emissions" in the monitoring requirement in the Site Level Section. The language in that condition is taken directly from 25 Pa. Code §123.43; therefore, the language has not been revised.

Request 3
BCRP requested grouping the conditions for the compressor turbines (Sources P101 and P102) since the conditions for Source P102 mirror those for P101. This request also applies to Sources 031 and 032 as well as P103-P105. While the Department appreciates the benefits gained by consolidating like sources by grouping identical requirements, the sources and their associated individual requirements will remain separate as they were in the draft plan approval. This delineation aids with accurate compliance tracking, recordkeeping, and reporting, especially with emissions reports. Therefore, this request has not been incorporated into the plan approval.

Request 4
BCRP requested clarification regarding the language requiring the use of a "feed-forward process control loop" for minimizing emissions from the turbines. The feed-forward process loop is a system to help ensure minimization of emissions and has been required of various companies. However, an alternative to this system is to establish ammonia injection rate limitations and appropriate monitoring to also minimize emissions and ensure compliance with emission limitations. After further discussion, BCRP proposed ammonia injection rate limitations for all

of the turbines. For each of the compressor turbines (**Sources P101 and P102),** BCRP proposes **135 lb/hr at 50% operation** and **201 lb/hr at 100% operation**.

For each of the generator turbines (**Sources P103-P105),** BCRP proposes **23.3 lb/hr at 50% operation** and **33.9 lb/hr at 100% operation**.

The above injection rates ensure compliance with their respective emission limitations (see the correspondence dated July 2 and July 11, 2019 for further information). BCRP will be required to monitor the ammonia injection rates and operational capacity to demonstrate compliance with these limits. This system of monitoring has been required of other facilities within the Northcentral Region, most notably NRG Rema/Shawville TVOP 17-00001. The NRG permit requires monitoring ammonia injection and limits ammonia slip emissions. The BCRP plan approval will incorporate similar monitoring but also include ammonia injection limits and ammonia slip emission limits. Additionally, the plan approval will require initial compliance testing for ammonia slip, among other contaminants, for the boilers and all of the turbines. The turbines will have subsequent testing every 2 years for ammonia slip, in addition to other contaminants. The above ammonia injection rate limitations have been incorporated into the plan approval.

Additionally, BCRP requested adding language that allows BCRP to exceed an ammonia injection rate limitation when the NOx emission limits are being exceeded. BCRP requests language to allow them to exceed the ammonia injection rate limitations for as long as necessary to achieve and maintain compliance with NOx permit requirements. The Department cannot incorporate such language allowing the permittee to operate in violation of a plan approval requirement. A scenario such as the one hypothesized by BCRP would most likely be categorized as a malfunction or failure. Section C – Site Level Plan Approval Requirements of the plan approval contains the procedures the permittee is to follow if a malfunction or failure occurs. This request has not been incorporated into the plan approval.

Request 5
The draft plan approval identified the boilers incorporated into Sources 031 and 032 as 58.2 MMBtu/hr Cleaver Brooks boilers. BCRP requested adding "or equivalent" to the description of the source in order to allow alternative boilers from BCRP's potential suppliers while still complying with the plan approval and BAT requirements. Allowing flexibility such as this has been done in the past as long as the source ultimately selected by the applicant complies with the plan approval and satisfies BAT. I recommend adding the language:

> "or alternate boiler determined by the Department to have an equivalent, or lower, air contaminant emission potential"

I also recommend adding the language:

> "Within 30 days of the selection of the specific manufacturer and model of the boilers, the permittee shall submit specifications for the selected boilers to the Department for review and final approval. These

specifications shall include the maximum rated heat input of the boiler, the make and model of the unit, and any other information pertinent to the boiler's performance. In order for the selected boilers to be given final approval by the Department, their specifications must be determined by the Department to be equivalent, or better, to those contained in the application and supplemental materials submitted for plan approval."

This request has been incorporated into the plan approval.

Request 6

The draft plan approval incorporated total PM, PM10, and PM2.5 emission limits of 0.0128 lb/MMBtu, for each of the compressor turbines (Sources P101 and P102) and total PM, PM10, and PM2.5 emission limits of 0.0143 lb/MMBtu, for each of the generator turbines (Sources P103-P105). BCRP reported that those emission limits did not reflect the worst-case emission rates of all of the operating scenarios provided in the application. These limits were misidentified as worst-case emissions in the operating scenarios document in the application. The worst-case emission rates that should have been incorporated into the plan approval are **0.016 lb/MMBtu** for the compressor turbines (**Sources P101 and P102**) and **0.016 lb/MMBtu** for the generator turbines (**Sources P103-P105**). These figures were provided in the operating scenarios tabulation provided in the application; however, they were mistakenly absent from the worst-case-scenario column. The draft plan approval also incorporated total PM, PM10, and PM2.5 lb/hr emission limits for all of the turbines. The lb/hr emission limits did in fact represent the worst-case lb/hr emission rates; therefore, the lb/hr emission limits incorporated in the draft plan approval do not need to be revised as a result of correcting the lb/MMBtu emission limits. This also means the 12-rolling month (tpy) emission limits in the plan approval also do not need to be revised as a result of correcting the lb/MMBtu emission limits. After reviewing the correct lb/MMBtu emission rates, it is determined that the BAT analysis for the PM emission limits does not need revised and therefore, I recommend incorporating the correct total PM, PM10, and PM2.5 lb/MMBtu emission limits while leaving the lb/hr and tpy emission limits unrevised from the draft plan approval.

Request 7

The draft plan approval limited the startup and shutdown of each turbine to a set number of hours in any 12 consecutive month period. BCRP requested grouping the hours of operation limits for similar turbines. For example, the draft plan approval limited the total hours of startup for Source P101 to not exceed 4 hours in any 12 consecutive month period. Source P102 had an identical limitation because these 2 turbines are identical and perform the same function at the site – compression of the natural gas. BCRP requested revising the language to state the total combined hours of startups for the turbines in Sources P101 and P102 combined, shall not exceed 8 hours. This type of revision provides operational flexibility among these 2 sources. Revising the language to reflect this would hypothetically allow one of the turbines to have 2 hours of startups and the other turbine to have 6 hours of startups in any 12 consecutive month period (or any variation thereof) without affecting the annual emissions resulting from the startups because the total number of startups would still not exceed 8 hours. This request also applies to the

shutdown limitations for Sources P101 and P102 as well as the startup and shutdown limitations for Sources P103-P105 since P103-P105 are identical and perform the same function at the site. As stated above, the emission limits associated with, and the total annual emissions resulting from, startups and shutdowns would not be affected by these revisions. These revisions have been incorporated into the plan approval.

Request 8

BCRP requested that the VOC emission limits for only the combustor of the thermal oxidizer incorporated into **Source P302** reflect the controlled VOC emission rates – **0.00012 lb/MMBtu, 0.005 lb/hr, and 0.021 tpy** – instead of the uncontrolled emission rates. This request has been incorporated into the plan approval.

Request 9

BCRP requested information regarding stack testing of Source P302 to clarify that the Department intends to test this source and thermal oxidizer together and not require testing of the just the combustor of the thermal oxidizer. The testing requirement in the plan approval requires testing of this source to demonstrate compliance with the emission limits of the source as it and the control device are operating as designed. The combustor of the thermal oxidizer will not be tested by itself (i.e., without operation of the source as a whole).

Request 10

BCRP requested that the 1500° F temperature requirement for the thermal oxidizer incorporated into Source P302 allow for a 1-hour averaging period, instead of requiring maintaining that temperature at all times. On July 10, 2019, BCRP indicated that they will accept a 1500° F temperature requirement if the Department incorporates the following (or similar) language:

> "The permittee may choose to conduct stack testing at operating temperatures less than 1,500° F. Based on the results of that testing, the Department may consider adjusting the 1,500° F value, or adding an averaging period associated with the 1,500° F setpoint"

The Department recognizes the need for flexibility in order to reflect site-specific operational fluctuations while still complying with all applicable requirements, including BAT. To achieve this, I recommend adding the following language (partly derived from BCRP's proposed language (Department language underlined)):

> "The permittee may propose to perform, and the Department may consider allowing, stack testing at operating temperatures less than 1500° F. The permittee shall receive Department approval prior to performing such testing. Based on the results of that testing, the Department may consider adjusting the 1500° F value, or adding an averaging period associated with the 1500° F setpoint."

"The permittee shall make every effort during temporary shakedown, testing, and normal operation to determine if the thermal oxidizer can be operated at 1500° F at all times, despite any operational fluctuations within Source P302. The operating temperature requirement for the thermal oxidizer may be revised based on the permittee's evaluation and determination and the Department's approval."

The purpose of the underlined language immediately above is to ensure that the permittee evaluates the capability of the thermal oxidizer to operate at a temperature of 1500° F at all times. This is necessary because maintaining an appropriate pre-determined temperature at all times is the preferred operating scenario for a thermal oxidizer.

Request 11
BCRP requested that 2.49 tpy VOC emission limit for the flare incorporated into Source P303 be revised to 2.53 tpy to reflect the VOC emissions from the burner of the flare. This request has been incorporated into the plan approval.

Request 12
This request mirrors Request 1 above regarding emission limits for the emergency engines. Please see above for the response to that request.

The following requests were provided on June 24, 2019, as an appendix titled *Appendix A: Errata Sheet*, in the comment document addressed above. I will address the comments in the order they were presented in that table.

Request 1
BCRP requested revising the Responsible Official's title to Head of Development. This request has been incorporated into the plan approval.

Request 2
BCRP requested adding language to the description of the flare in the Description Box on page 2 of the plan approval. This request is to indicate that while the burner associated with the flare is rated at 2.6 MMBtu/hr the actual heat capacity of the flare will vary based on the gases being combusted in the flare. This request has been incorporated into the plan approval and does not affect the facility-wide emissions.

Request 3
BCRP requested that the GE turbines be identified as Model LM6000PF+ and not just Model LM6000PF in the Inventory List on page 5 of the plan approval. This request has been incorporated into the plan approval.

Request 4
BCRP requested that the draft plan approval include the 5000-gallon ultra-low sulfur diesel tank that was identified in the application. This request has been incorporated into the plan approval.

Request 5
BCRP requested that Source P303 be identified as the "Flare" instead of the "6 MMgal LNG Storage Tank and Truck Loadout System". Source P303 is correctly identified because the 6 MM gallon LNG storage tank and truck loadout system are the sources and the flare is the control device (Control Device C303), as those terms are defined in 25 Pa. Code §121.1. This request has not been incorporated into the plan approval.

Request 6
BCRP requested revising the definition of "commencement of operation" located in Section B – General Plan Approval Requirements. Section B of the plan approval incorporates language developed by the Department's Central Office designed to be boilerplate language in all plan approvals. Therefore, the language in Section B will not be revised. This request has not been incorporated into the plan approval.

Request 7
BCRP requested that the plan approval indicate that the facility is subject to 40 CFR Part 98 Subpart W instead of Subpart D. Subpart W is the correct subpart for this facility; therefore, this typo has been corrected. This request has been incorporated into the plan approval.

Request 8
BCRP requested revising the sulfur oxides emission limit from 0.0078 lb/MMBtu to 0.0038 lb/MMBtu for Source P303. 0.0038 lb/MMBtu is the correct value; therefore, this typo has been corrected and does not affect the emissions because the correct lb/hr and tpy limits were already incorporated into the plan approval. This request has been incorporated into the plan approval.

Request 9
This request mirrors the very first Request 1 above (on pages 1 and 2 of this memo) regarding emission limits for the emergency engines. Please see the response to that request above.

Request 10
BCRP requested clarification language indicating that the 100 hour/year operational restriction for the emergency engines incorporated into Sources P401 and P402 do not apply to emergency usage. These engines are subject to 40 CFR Part 60 Subpart IIII (see the Review Memo dated May 16, 2019 for further information). 40 CFR §60.4211(f)(2) restricts the non-emergency operation of the emergency engines to not exceed 100 hours/year. 40 CFR §60.4211(f)(1)

indicates that the 100 hour/year operation restriction does not apply to emergency situations. This request has been incorporated into the plan approval.

Request 11
This request was withdrawn on July 2, 2019.

CONCLUSION

Based upon my review of the plan approval application, state and federal regulations, and facility files, I recommend that Plan Approval 08-00058A be issued to Bradford County Real Estate Partners LLC, for their LNG facility located in Wyalusing Township, Bradford County. All conditions including applicable Federal and State regulations, appropriate monitoring, record keeping, and reporting requirements regarding compliance with the plan approval conditions have been included in the Plan Approval 08-00058A.

cc: Central Office, Air Quality Permits