

V. EMISSION UNIT LEVEL TERMS AND CONDITIONS

Pages 2 through 16
have been redacted.

A. NO_x Limits: Natural Gas Only Boilers 1, 5 & 8a

1. Restrictions:

- a. ~~The permittee shall continue to meet the conditions of the current Title V Operating Permit #0047 not otherwise affected by the revisions in this permit. [§2102.04.b.5; §2105.06.d]~~
- b. ~~Natural gas combustion from each Boiler Nos. 1 and 5 shall not exceed the maximum potential usage of 70,476 scf in anyone hour period and 617.37 mmsef in any consecutive twelve month period, based on a natural gas heat content of 1,050 Btu/scf. [§2103.12.h.1]~~
- c. NO_x emissions from the following sources shall not exceed the limitations in Table V-A-1 below: [25 Pa code §129.97(g)(1); §2102.04.b.5; §2105.06.d]

TABLE V-A-1: NO_x Emission Limitations

Process	Maximum Heat Input Capacity MMBtu/hr	Emission Limit** lbs/MMBtu	Hourly Emission Limit (lb/hr)	Annual Emission Limit** (tons/year)*
Boiler 1	74	0.10	7.4	32.4**
Boiler 5	74	0.10	7.4	32.4**

*A year is defined as any consecutive 12-month period.

**Based on the PADEP presumptive RACT limit in 25 PA. Code, Chapter 129.97(g)(1)(i).

- d. The permittee shall not operate Boiler No. 8a unless a NO_x Continuous Emission Monitoring (CEM) system is present at all times and properly operated and maintained according to 40 CFR 60, Subpart Db [§2105.06.d; §2103.12.a.2.B; 25 Pa Code §123.51; 25 Pa Code §129.99]
- e. NO_x emissions from Boiler 8a shall not exceed the limitations in Table V-A-2 below: [25 Pa code §129.99; §2102.04.b.5; §2105.06.d]

TABLE V-A-2: NO_x Emission Limitations

Process	Maximum Heat Input Capacity MMBtu/hr	Emission Limit** lbs/MMBtu	Hourly Emission Limit (lb/hr)	Annual Emission Limit (tons/year)*
Boiler 8a, (Rental Package Boiler)	87	0.055	4.79	20.98

*A year is defined as any consecutive 12-month period.

** Based on a 30-day rolling average.

2. Testing Requirements:

- a. The permittee shall perform nitrogen oxides emissions testing while combusting natural gas on Boiler Nos. 1 & 5 once every five years to demonstrate compliance with the emission limitations

- in condition V.A.1.c. Such testing shall be conducted in accordance with applicable U.S. EPA test methods 7 through 7E or other test methods approved by the Department, §2108.02 and Site Level Condition IV.14. [§2103.12.h.1; §2108.02; §2105.06.d; 25 Pa Code §129.99; 25 Pa Code §129.100]
- b. The permittee shall perform Relative Accuracy Test Audits (RATA) of the Boiler No. 8a NO_x CEMS as specified in 25 PA Code §§139.101 - 139.111 to determine compliance with the Boiler 8a emission limitations in condition V.A.1.e. [§2108.03; §2105.06.d; 25 Pa Code §129.99; 25 Pa Code §129.100]
- c. Compliance with the NO_x emission limit in condition V.A.1.e shall be on a continuous basis through the use of a 30-day performance test. During periods when performance tests are not requested, nitrogen oxides emissions data collected pursuant to §60.48b(g)(1) or §60.48b(g)(2) are used to calculate a 30-day rolling average emission rate on a daily basis and used to prepare excess emission reports, but will not be used to determine compliance with the nitrogen oxides emission standards. A new 30-day rolling average emission rate is calculated each operating day as the average of all of the hourly NO_x emission data for the preceding 30 steam generating operating days. [§60.46b(e)(4); §2108.03; §2105.06.d; 25 Pa Code §129.99; 25 Pa Code §129.100]
- d. ~~The Department reserves the right to require additional emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Article XXI §2108.02. [§2103.12.h.1]~~

3. Monitoring Requirements

- a. ~~The permittee shall monitor and inspect the boilers weekly to insure the physical integrity of the boilers and associated equipment and to make sure the boilers are being operated and maintained properly. Steam load and natural gas usage shall be monitored and recorded to fulfill the recording requirements of V.A.4.a below. [§2105.06; §2103.12.i]~~
- b. The permittee shall provide Department approved instrumentation to monitor the oxygen content, CO and NO_x of the boilers exhaust on a monthly basis during operation. The oxygen content of the flue gas shall be monitored to within 3% of the measured value and be recorded to the nearest 0.1%, to ensure that the subject boilers are being operated and maintained properly. The instrumentation shall be maintained in good working condition at all times and be easily accessible. [§2103.12.i; §2105.06; 25 Pa Code §129.100]

4. Record Keeping Requirements:

- a. The permittee shall keep and maintain the following data for the Boilers Nos. 1, 5, and 8a: [§2105.06; §2103.12.j; §2103.12.h.1; 25 Pa Code §129.100]:
- 1) Type and amount of fuel combusted (MMscf of natural gas/day and monthly total natural gas combusted);
 - 2) Steam load (lbs/hr, lbs/day; average daily steam load for each month);
 - 3) Cold starts (date, time and duration of each occurrence);
 - 4) Total operating hours, (hours/day, monthly and 12-month); and
 - 5) Records of operation, maintenance, inspection, calibration and/or replacement of combustion equipment (e.g. burner replacement, flame pattern adjustments, and air-to-fuel ratios).

- ~~b. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. [§2105.06; §2103.12.j; §2103.12.h.1]~~
- c. All records required under this section shall be maintained by the permittee for a period of five years following the date of such record. These records shall be made available to the Department upon request for inspection and/or copying. [§2105.06; §2103.12.j.2; §2103.12.h.1; 25 Pa Code §129.100(i)]

5. Reporting Requirements:

- a. The permittee shall submit semi-annual reports to the Department in accordance with General Condition III.15. The reports shall contain all required information for the time period of the report: [§2105.06; §2103.12.k.1; 25 Pa Code §129.100]
 - 1) Type and amount of fuel combusted (Monthly and 12-month);
 - 2) Steam load (average daily steam load for each month);
 - 3) Cold starts (date, time and duration of each occurrence);
 - 4) Total operating hours.
- ~~b. The permittee shall report instances of non-compliance as required to be recorded by V.A.4.b. [§2103.12.k]~~
- ~~e. Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8, if appropriate. [§2103.12.k]~~

6. ~~Work Practice Standard:~~

~~None except as provided elsewhere.~~

7. ~~Additional Requirements:~~

~~None except as provided elsewhere.~~

B. NO_x Limits: Natural Gas Boiler Nos. 3, 6 & 7 (No.2 Fuel Oil for Emergencies).

1. Restrictions:

- a. ~~The permittee shall continue to meet the conditions of the current Title V Operating Permit #0047 not otherwise affected by the revisions in this RACT permit. [§2102.04.b.5; §2105.06.d]~~
- b. The annual capacity factor for Boiler No. 3 shall not exceed 50% during any consecutive twelve-month period. The annual average heat input to the natural gas burner in Boiler No.3 shall not exceed 64 MMBtu/hr or 560,640 MMBtu/yr, based on a natural gas heat content of 1,050 BTU/ft³. Bellefield shall determine compliance with this condition by maintaining records of natural gas use for the burner. (2105.06.d; §2103.12.h.1; 25 Pa Code §129.99)
- e. ~~Natural gas combustion from Boiler Nos 3 and 7 shall not exceed the maximum potential usage in condition V.B.1.g, Table V B 1 based on a natural gas heat content of 1,050 Btu/scf. [§2103.12.h.1]~~
- d. Boiler No. 7 annual capacity factor shall not exceed 39% during any consecutive twelve-month period when firing natural gas. [§2105.06.d; 25 Pa Code §129.99]
- e. Boiler No.7 shall be equipped with low NO_x burners that meet the emission limitation in condition V.B.1.f below. [§2105.06.d; 25 Pa Code §129.99]
- f. The permittee shall not operate Boiler No. 7 unless a NO_x Continuous Emission Monitoring (CEM) system is present at all times and properly operated and maintained according to 40 CFR 60, Subpart Db [§2105.06.d; §2103.12.a.2.B; 25 Pa Code §123.51; 25 Pa Code §129.99]
- g. NO_x Emissions from the following sources when firing Natural Gas shall not exceed the limitations in Table V-B-1 below: [25 Pa Code §129.99; §2102.04.b.5; §2105.06.d; §2103.12.h.1; §60.44b(a)(1)]

TABLE V-B-1: NO_x Emission Limitations Firing Natural Gas

Process	Maximum Heat Input Capacity MMBtu/hr	Natural Gas**** Usage	Emission Limit lbs/MMBtu	Hourly Emission Limit (lb/hr)	Annual Emission Limit (tons/year)*
Boiler 3	128	121,905 Scf/hr 533.94 MMcf/yr	0.20**	25.60	56.06
Boiler 7	188	179,048 Scf/hr 609 MMscf/yr	0.14***	26.32	44.74

*A year is defined as any consecutive 12-month period.

**Based on a 2012 stack test

***Based on a 30-day rolling average

****Based on NG heating content of 1050 Btu/scf

- h. ~~Natural gas combustion from Boiler No. 6 shall not exceed the maximum potential usage of 170,467 scf in any one-hour period and 1,494 mmscf in any consecutive twelve-month period, based on a natural gas heat content of 1,050 Btu/scf. [§2103.12.h.1]~~

- i. NO_x emissions from Boiler 6 shall not exceed the limitations in Table V-B-2 below: [25 Pa Code §129.97(g)(1); §2102.04.b.5; §2105.06.d]

TABLE V-B-2: NO_x Emission Limitations Firing Natural Gas

Process	Maximum Heat Input Capacity MMBtu/hr	Emission Limit lbs/MMBtu**	Hourly Emission Limit (lb/hr)	Annual Emission Limit** (tons/year)*
Boiler 6	179	0.10	17.90	78.40**

*A year is defined as any consecutive 12-month period.

**Based on the PADEP presumptive RACT limit in 25 PA. Code, Chapter 129.97(g)(1)(i).

- j. The maximum allowable fuel oil usage, which is based on the annual capacity factor of 4.91% for Boilers Nos. 3, 6 & 7 during any consecutive twelve-month period shall not exceed the limits shown in Table V-B-3 below, when firing No. 2 fuel oil. [25 Pa Code §129.97(c); §2105.06.d]
- k. ~~All fuel oil combusted shall meet current ASTM specifications for no. 2 fuel oil and have a maximum sulfur content of 0.0015% by weight at all times [§60.42b(j)(2); §2105.06.d]~~
- l. Boilers Nos. 3, 6 & 7 annual capacity factor shall not exceed 4.91% during any consecutive twelve-month period when firing No. 2 fuel oil. [25 Pa Code §129.97(c)(7); §2105.06.d]
- m. NO_x Emissions from the following sources when firing No. 2 fuel oil for emergencies shall not exceed the limitations in Table V-B-2 below: [25 Pa Code §129.97(c); §2102.04.b.5; §2105.06.d; §2103.12.h.1]

TABLE V-B-3: NO_x Emission Limitations Firing Fuel Oil

Process	Maximum Heat Input Capacity MMBtu/hr	No. 2 Fuel Oil Usage	Emission Limit lbs/MMBtu	Hourly Emission Limit (lb/hr)	Annual Emission Limit (tons/year)*
Boiler 3	119	850 gal/hr 365,500 gal/yr	0.63	74.97	16.12
Boiler 6	179	1,280 gal/hr 550,400 gal/yr	0.28	50.12	10.78
Boiler 7	188	1,340 gal/hr 576,200 gal/yr	0.20	37.60	8.08

*A year is defined as any consecutive 12-month period.

2. Testing Requirements:

- a. The permittee shall perform nitrogen oxides emissions testing while combusting natural gas on Boiler Nos. 3 & 6 once every five years to demonstrate compliance with the emission limitations in condition V.B.1.g and V.B.1.i. Such testing shall be conducted in accordance with applicable U.S. EPA test methods 7 through 7E or other test methods approved by the Department, Article XXI §2108.02 and Site Level Condition IV.14. [25 Pa Code §129.99; 25 Pa Code §129.100; §2103.12.h.1; §2108.02; 25§2105.06.d]
- b. The permittee shall perform Relative Accuracy Test Audits (RATA) of the Boiler No. 7 NO_x CEMS as specified in 25 PA Code §§139.101 - 139.111 to determine compliance with the Boiler

No. 7 emission limitations in condition V.B.1.g. [§2108.03; §2105.06.d; 25 Pa Code §129.99; 25 Pa Code §129.100]

- c. Compliance with the NO_x emission limit in condition V.B.1.g for Boiler No. 7 shall be on a continuous basis through the use of a 30-day performance test. During periods when performance tests are not requested, nitrogen oxides emissions data collected pursuant to §60.48b(g)(1) or §60.48b(g)(2) are used to calculate a 30-day rolling average emission rate on a daily basis and used to prepare excess emission reports, but will not be used to determine compliance with the nitrogen oxides emission standards. A new 30-day rolling average emission rate is calculated each operating day as the average of all of the hourly NO_x emission data for the preceding 30 steam generating operating days. [§60.46b(e)(4); §2108.03; §2105.06.d; 25 Pa Code §129.99; 25 Pa Code §129.100]
- d. ~~The Department reserves the right to require additional emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Article XXI §2108.02. [§2103.12.h.1]~~

3. Monitoring Requirements

- a. ~~The permittee shall monitor and inspect the boilers weekly to insure the physical integrity of the boilers and associated equipment and to make sure the boilers are being operated and maintained properly. Steam load and natural gas usage shall be monitored and recorded to fulfill the recording requirements of V.B.4.a below. [§2105.06; §2103.12.i]~~
- b. The permittee shall provide Department approved instrumentation to monitor the oxygen content, CO and NO_x of the boilers exhaust on a monthly basis during operation. The oxygen content of the flue gas shall be monitored to within 3% of the measured value and be recorded to the nearest 0.1%, to ensure that the subject boilers are being operated and maintained properly. The instrumentation shall be maintained in good working condition at all times and be easily accessible. [§2103.12.i; §2105.06; 25 Pa Code §129.100]

4. Record Keeping Requirements:

- a. The permittee shall keep and maintain the following data for the Boiler Nos. 3, 6 and 7: [§2105.06; §2103.12.j; §2103.12.h.1; 25 Pa Code §129.100]
- 1) Type and amount of fuel combusted (MMscf of natural gas/day and monthly total natural gas combusted);
 - 2) Steam load (lbs/hr, lbs/day; average daily steam load for each month);
 - 3) Cold starts (date, time and duration of each occurrence);
 - 4) Total operating hours, (hours/day, monthly and 12-month);
 - 5) Records of operation, maintenance, inspection, calibration and/or replacement of combustion equipment (e.g. burner replacement, flame pattern adjustments, and air-to-fuel ratios)
- b. ~~The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance. [§2105.06; §2103.12.j; §2103.12.h.1]~~
- c. All records required under this section shall be maintained by the permittee for a period of five years following the date of such record. These records shall be made available to the Department

upon request for inspection and/or copying. [§2105.06; §2103.12.j.2; §2103.12.h.1; 25 Pa Code §129.100(i)]

5. ~~Reporting Requirements:~~

- a. ~~The permittee shall submit semi-annual reports to the Department in accordance with General Condition III.15. The reports shall contain all required information for the time period of the report. [§2105.06; §2103.12.k.1]~~
- ~~1) Type and amount of fuel combusted (Monthly and 12-month);~~
 - ~~2) Steam load (average daily steam load for each month);~~
 - ~~3) Cold starts (date, time and duration of each occurrence);~~
 - ~~4) Total operating hours.~~
- b. ~~Report instances of non-compliance as required to be recorded by V.B.4.b. [§2103.12.k]~~
- c. ~~Reporting instances of non-compliance does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8, if appropriate. [§2103.12.k]~~

6. ~~Work Practice Standard:~~

~~None except as provided elsewhere.~~

7. ~~Additional Requirements:~~

~~None except as provided elsewhere.~~

C. Emergency Generators

Process Description: Two (2) Emergency Generators A & B
Facility ID: EG 1 & EG 2
Max. Design Rate: 771 hp (5.4 MMBtu/hr) each
Fuel: Diesel
Control Device: None

1. Restrictions:

- a. ~~The permittee shall continue to meet the conditions of the current Title V Operating Permit #0047 not otherwise affected by the revisions in this RACT permit. [§2102.04.b.5; §2105.06.d]~~
- b. The permittee shall install, maintain and operate the emergency generators in accordance with the manufacturer's specifications and with good operating practices. [§2105.03; 25 PA Code §129.97 (c)]
- c. ~~The permittee shall install, maintain and operate the emergency generators in accordance with the manufacturer's specifications and with good operating practices. [§2105.03; 25 PA Code §129.97 (c)]~~
- e. ~~The generators shall combust only diesel fuel. All diesel fuel combusted shall have a maximum allowable sulfur content of 0.0015%, by weight. [§2103.12.h]~~
- d. The two (2) generators shall not be operated for more than 500 hours each in any 12 consecutive months. [129.97(c)(8); §2103.12.f].

2. Monitoring Requirements:

The permittee shall install a non-resettable hour meter to monitor the emergency generators hours of operation. [25 Pa Code §129.100]

3. Record Keeping Requirements:

- a. The permittee shall keep and maintain the total operating hours (hours/day, monthly and 12-month) that is recorded through the non-resettable hour meter as required in condition V.C.2. The permittee must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation [§§2103.12(j); 25 Pa Code §129.100]
- b. All records required under this section shall be maintained by the permittee for a period of five years (5) following the date of such record. These records shall be made available to the Department upon request for inspection and/or copying. [§2105.06; §2103.12.j.2; §2103.12.h.1; 25 Pa Code §129.100(i)]

4. Reporting Requirements:

The permittee shall report the monthly and 12-month data required to be recorded by condition V.C.3.a above in accordance with General Condition III.15: [25 Pa Code §129.100; §2103.12.k.1]

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have been redacted.