

PERMIT NO. 2499-075-0028-E-01-1

ISSUANCE DATE:



GEORGIA

DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION

Air Quality Permit

In accordance with the provisions of the Georgia Air Quality Act, O.C.G.A. Section 12-9-1, et seq and the Rules, Chapter 391-3-1, adopted pursuant to and in effect under that Act, Permit No. 2499-075-0028-E-01-0 issued on July 8, 2022, to:

Facility Name: Spectrum Energy Georgia, LLC
Facility Address: 801 Cook Street
Adel, Georgia 31620 (Cook County)
Mailing Address: 801 Cook Street
Adel, Georgia 31620
Facility AIRS Number: 04-13-075-00028

for the following: Construction and operation of a wood pellet manufacturing facility (in two phases),

is hereby amended as follows: updating the Phase 1 equipment list in Table 1 of the narrative and all associated Phase 1 testing, monitoring, recordkeeping, and reporting requirements in the Permit.

Reason for Amendment: Application No. 29318, dated May 30, 2024, and December 30, 2024.

This Permit is further subject to and conditioned upon the terms, conditions, limitations, standards, or schedules contained in or specified on the attached **29** page(s).

This Permit Amendment is hereby made a part of Permit No. 2499-075-0028-E-01-0 and compliance herewith is hereby ordered. Except as amended hereby, the above referenced Permit remains in full force and effect.



Jeffrey W. Cown, Director
Environmental Protection Division

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2. Allowable Emissions

MODIFIED CONDITIONS:

- 2.2 The Permittee shall not cause, let, suffer, permit, or allow emissions from the entire facility which contain any single hazardous air pollutant (HAP) in an amount equal to or exceeding 10 tons or any combination of such listed HAP in an amount equal to or exceeding 25 tons during any twelve consecutive months.
[Avoidance of case-by-case MACT per 40 CFR 63 Subpart B]
- 2.3 The Permittee shall operate the wet electrostatic precipitators, regenerative thermal oxidizer, and biofilter at all times while the associated emission units are operating in both Phases I and II.
[PSD Avoidance for PM/PM₁₀/PM_{2.5} and VOC and Georgia Air Toxics Guideline]
- 2.4 The Permittee shall operate all baghouses and cyclones at all times while the associated emission units are operating in both Phases I and II.
[PSD Avoidance for PM/PM₁₀/PM_{2.5}]
- 2.5 The Permittee shall not fire any fuel other than wood in the energy system (ID No. ES) and dryer burners .
[391-3-1-.03(2)(c); 391-3-1-.02(2)(g)2.(subsumed); and Georgia Air Toxics Guideline]
- 2.6 The Permittee shall not fire any fuel other than natural gas in the regenerative thermal oxidizer burner (ID No. RTO) in both Phases I and II.
[391-3-1-.03(2)(c); 391-3-1-.02(2)(g)2.(subsumed); and Georgia Air Toxics Guideline]
- 2.10 The Permittee shall not cause, let, suffer, permit or allow emissions from the entire facility, which contain hexavalent chromium in an amount equal to or exceeding 24.3 lbs/year.
[Georgia Air Toxics Guideline]
- 2.11 Upon the initial startup of Phase II, Conditions 5.2 through 5.8, 5.17, 6.3 through 6.8, 7.5b.vi., 7.5c.ii. – 7.5c.vi., 7.6, and 7.8 through 7.15 shall become null and void. The Permittee shall shut down and decommission all Phase I emission units that are not originally part of the Phase II emission units.
[Georgia Air Toxics Guidelines]

NEW CONDITION:

- 2.12 The Permittee shall not cause, let, suffer, permit, or allow any emissions from any fuel burning equipment in both Phases I and II which:
- a. Contain fly ash and/or other particulate matter in amounts equal to or exceeding 0.5 pound PM per million Btu (lb PM/MMBtu).
[391-3-1-.02(2)(d)2.(i)]

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- b. Exhibit visible emissions, the opacity of which is equal to or greater than 20 percent except for one six-minute period per hour of not more than 27 percent opacity.
[391-3-1-.02(2)(d)3.]

4. Process & Control Equipment

MODIFIED CONDITIONS:

- 4.2 The Permittee shall maintain the combustion zone temperature of the regenerative thermal oxidizer (ID No. RTO) at 1,500 degrees Fahrenheit (1,500°F) until the performance test required by Condition 6.3 is completed.

After completion of the performance test, the Permittee shall operate the RTO with the combustion zone temperature at or above the minimum temperature set point established in accordance with Condition 6.8b.

[391-3-1-.02(6)(b)1.(i)]

5. Monitoring

MODIFIED CONDITIONS:

Phase I

- 5.2 The Permittee shall install, calibrate, maintain, and operate a system to continuously monitor and record the indicated parameters on the following equipment. Each system shall meet the applicable performance specifications(s) of the Division's monitoring requirements.

[391-3-1-.02(6)(b)1.]

- a. The Permittee shall install, calibrate, maintain, and operate a continuous emission monitoring system (CEMS) for the measurement of VOC emission concentrations of the exhaust from the biofilter (ID No. BIO, via Stack S2). **The VOC CEMS shall be operated in accordance with the requirements for U.S. EPA's Performance Specification 8.**
- b. The Permittee shall install, calibrate, maintain, and operate a temperature indicator for the measurement of the combustion zone temperature of the regenerative thermal oxidizer (ID No. RTO). The temperature monitoring device shall have an accuracy of $\pm 2\%$ ($^{\circ}\text{F}$). Data shall be recorded continuously when the associated energy system and dryers (ID Nos. ES and DRY1 – DRY3) are in operation. This data shall be used to calculate hourly averages of combustion zone temperature in RTO. The hourly averages shall be used to calculate the 3-hour rolling average.

The VOC destruction removal efficiency (DRE) of the RTO shall be considered to be zero (0) any time that the three-hour rolling average combustion zone temperature falls below the minimum set point established in accordance with Condition 6.8b., or any time RTO exhaust bypass takes place.

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5.3 The Permittee shall install, calibrate, maintain, and operate monitoring devices for the measurement of the indicated parameters on the following equipment. Data shall be recorded at the frequency specified below. Where such performance specification(s) exist, each system shall meet the applicable performance specification(s) of the Division's monitoring requirements.

[391-3-1-.02(6)(b)1.]

- a. A device for the measurement of total secondary voltage (kilovolts) of each field of the wet electrostatic precipitator (ID No. WESP). Such device shall have a required accuracy of approximately 2%. Data shall be recorded hourly when the associated energy system and dryers (ID Nos. ES and DRY1 – DRY3) are in operation.
- b. A device for the measurement of total secondary current (milliamps) of each field of the wet electrostatic precipitator (ID No. WESP). Such device shall have a required accuracy of approximately 2%. Data shall be recorded hourly when the associated energy system and dryers (ID Nos. ES and DRY1 – DRY3) are in operation.
- c. A device for the measurement of pressure drop across the baghouses (Group ID No. BGH) and quad cyclones (ID Nos. QUAD1 and QUAD2). Data shall be recorded weekly.

5.4 The Permittee shall, using the hourly secondary voltages and secondary currents, obtained in accordance with Conditions 5.3a. and b., and the following equation, determine and record the total secondary power for each field of the wet electrostatic precipitator (ID No. WESP).

[391-3-1-.02(6)(b)1.]

$$P_t = \sum_{i=1}^n (V_i * I_i)$$

Where: P_t = Total ESP power (watts)
V_i = Secondary volts (kV), ESP field i
I_i = Secondary current (ma), ESP field I
n = Total number of fields

5.5 The Permittee shall, for each day or portion of a day that the regenerative thermal oxidizer (ID No. RTO, via Stack S1) and biofilter (ID No. BIO, via Stack S2) are operated, conduct a check of visible emissions from each control device. The Permittee shall retain a record in a daily visible emissions (VE) log suitable for inspection or submittal, upon request. Should the Permittee be unable to conduct the required VE check when atmospheric conditions or sun position prevent a daily reading, no VE check is required and the Permittee shall indicate such in the VE log. Any operational day when atmospheric conditions or sun position prevent a daily reading shall be reported semiannually as monitor downtime/excursion. The check shall be conducted using the following procedure:

[391-3-1-.02(6)(b)1.]

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- a. Determine, in accordance with the procedures specified in paragraph c. of this Condition, if visible emissions are present at the discharge point to the atmosphere from each of the sources and record the results in the daily (VE) log. For sources that exhibit visible emissions, the Permittee shall comply with paragraph b. of this Condition.
 - b. For each source that emits any visible emissions, the Permittee shall determine the cause of the visible emissions and correct the problem in the most expedient manner possible. The Permittee shall note the cause of the visible emissions, the pressure drop, any other pertinent operating parameters, and the corrective action taken in the maintenance log.
 - c. The person performing the determination shall stand at a distance of at least three stack heights, with a clear view of the plume against a contrasting background with the sun in the 140-degree sector at his/her back. Consistent with this requirement, the determination shall be made from a position such that the line of vision is approximately perpendicular to the plume direction. Only one plume shall be in the line of sight at any time when multiple stacks are in proximity to each other.
- 5.6 The Permittee shall implement a Preventative Maintenance Program (PMP) for the baghouses (Group ID No. BGH). At a minimum, the following operation and maintenance checks shall be made on at least a weekly basis, and a record of the findings and corrective actions taken shall be kept in a maintenance log:
[391-3-1-.02(6)(b)1.]
- a. For baghouses equipped with compressed air cleaning systems, check the system for proper operation. This may include checking for low pressure, leaks, proper lubrication, and proper operation of timer and valves.
 - b. For baghouses equipped with reverse air cleaning systems, check the system for proper operation. This may include checking damper, bypass, and isolation valves for proper operation.
 - c. For baghouses equipped with shaker cleaning systems, check the system for proper operation. This may include checking shaker mechanism for loose or worn bearings, drive components, mounting, proper operation of outlet/isolation valves, and proper lubrication.
 - d. Check dust collector hoppers and conveying systems for proper operation.
- 5.7 The Permittee shall perform the following applicable operation and maintenance checks on the pellet cooler quad cyclones (ID Nos. QUAD1 and QUAD2) and retain a record suitable for inspection or submittal for each week or portion of each seek of operation in both phases. A checklist or other similar log may be used for this purpose:
[391-3-1-.02(6)(b)1.]
- a. Check exterior of the units for holes in the body or evidence of malfunction in interior of the cyclone.

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- b. Check hopper for bridging and plugging.
- c. Check particulate transfer device for proper operation to ensure dust removal. Any adverse condition discovered by this inspection shall be corrected in the most expedient manner possible. The Permittee shall record the incident as an excursion and note the corrective action taken.

NEW CONDITION:

Phase I

5.17 The Permittee shall develop and implement a Preventative Maintenance Program (PMP) for the regenerative thermal oxidizer (ID No. RTO) in order to assure that the provisions of Condition 1.1 are met. The program shall be subject to review and, if necessary, to assure compliance, modification by the Division. At a minimum, the following operation and maintenance checks shall be made on at least an annual basis, and a record of the findings and corrective actions taken shall be kept in a maintenance log:
[391-3-1-.02(6)(b)1.]

- a. Clean burner.
- b. Tighten burner valve linkage.
- c. Visually inspect the combustion zone thermocouple, have thermocouple calibrated for proper operation.
- d. Visually inspect the inlet and outlet pressure sensors, have sensors calibrated for proper operation.
- e. Visually inspect crossflow for plugging on burner side. If crossflow is dirty, remove and clean with hose and water.
- f. Visually inspect chamber for cracks.
- g. Visually inspect process fan rotor for warpage, cracking, abnormal noise, and free spin.

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6. Performance Testing

MODIFIED CONDITIONS:

Phase I

6.3 The Permittee shall conduct the following initial performance tests within 120 days of the initial startup of the associated emission units and control devices in **Phase I**. The tests shall be conducted at the maximum operating capacities of all the associated emission units and control devices.

[391-3-1-.02(6)(b)1.(i)]

a. Nitrogen Oxides (NO_x)

- i. The energy system (ID No. ES) and dryers (ID Nos. DRY1—DRY3)

Test at the regenerative thermal oxidizer (ID No. RTO) outlet (Stack ID No. S1). The test results shall be recorded in pounds of NO_x per million Btu of total heat input into ES (lbs NO_x/MMBtu).

b. Carbon Monoxide (CO)

- i. The energy system (ID No. ES) and dryers (ID Nos. DRY1—DRY3)

Test at the regenerative thermal oxidizer (ID No. RTO) outlet (Stack ID No. S1). The test results shall be recorded in pounds of CO per million Btu of total heat input into ES (lbs CO/MMBtu).

- ii. The finished pellet silos (ID Nos. SILO1 – SILO6)

Choose one of the silos that just received fresh pellets and test its stack. The test results shall be recorded in pounds CO per ton wood loaded into the silo.

c. Volatile Organic Compounds (VOC)

- i. The energy system (ID No. ES), dryers (ID Nos. DRY1 – DRY3), dry wood bins (ID Nos. DWB1 and DWB2), and dry hammermills (ID Nos. DHM1 – DHM8)

Test at the regenerative thermal oxidizer (ID No. RTO) outlet (Stack ID No. S1). The test results shall be recorded in pounds VOC per ton wood processed by Dryers DRY1 – DRY3 (lbs VOC/ton wood), combined.

- ii. The pellet mills (ID Nos. PM1 – PM8) and the pellet coolers (ID Nos. COOL1 and COOL2)

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Test at the biofilter (ID No. BIO) outlet (Stack ID No. S2). The test results shall be recorded in pounds VOC per ton wood processed by Pellet Coolers COOL1 and COOL2 (lbs VOC/ton wood), combined.

- iii. The finished pellet silos (ID Nos. SILO1 – SILO6)

Choose one of the silos that just received fresh pellets and test its stack. The test results shall be recorded in pounds VOC per ton wood loaded into the silo.

- d. Total Particulate Matter (filterable and condensable PM)

- i. The energy system (ID No. ES), dryers (ID Nos. DRY1 – DRY3), dry wood bins (ID Nos. DWB1 and DWB2), and dry hammermills (ID Nos. DHM1 – DHM8)

Test at the regenerative thermal oxidizer (ID No. RTO) outlet (Stack ID No. S1). The test results shall be recorded in pounds Total PM per ton wood processed by Dryers DRY1 – DRY3 (lbs Total PM/ton wood), combined.

- ii. The pellet mills (ID Nos. PM1 – PM8) and pellet coolers (ID Nos. COOL1 and COOL2)

Test at the biofilter (ID No. BIO) outlet (Stack ID No. S2). The results shall be recorded in pounds Total PM per ton wood processed by the Pellet Coolers COOL1 and COOL2 (lbs Total PM/ton wood), combined.

- e. Hazardous Air Pollutants (Acetaldehyde, Acrolein, Formaldehyde, Hydrogen chloride, Methanol, Phenol, Propionaldehyde; and Other HAPs)

- i. The energy system (ID No. ES), dryers (ID Nos. DRY1 – DRY3), dry wood bins (ID Nos. DWB1 – DWB2), and dry hammermills (ID Nos. DHM1 – DHM8)

Test at the regenerative thermal oxidizer (ID No. RTO) outlet (Stack ID No. S1). The test results shall be recorded in pounds VOC per ton wood processed by Dryers DRY1 – DRY3 (lbs HAP/ton wood), combined.

- ii. The pellet mills (ID Nos. PM1 – PM8), and pellet coolers (ID Nos. COOL1 and COOL2)

Test at the biofilter (ID No. BIO) outlet (Stack ID No. S2). The test results shall be recorded in pounds HAP per ton wood processed by Pellet Coolers COOL1 and COOL2 (lbs HAP/ton wood), combined.

- iii. The finished pellet silos (ID Nos. SILO1 – SILO6)

Choose one of the silos that just received fresh pellets and test its stack. The test results shall be recorded in pounds HAP per ton wood loaded into the silo.

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f. Arsenic (As) and Hexavalent Chromium (Cr VI)

i. The energy system (ID No. ES)

Test at the regenerative thermal oxidizer (RTO) outlet (Stack ID No. S1). The test results shall be recorded in pounds As or Cr VI per ton wood processed by Dryers DRY1 – DRY3, combined.

6.4 The Permittee shall repeat the performance tests specified in Condition 6.3 (except for 6.3b.ii., 6.3c.ii., and 6.3f.i.) every 36 months, but not more than 37 months after the previous performance test.

[391-3-1-.02(6)(b)1.(i)]

6.5 For the performance testing required in Conditions 6.3 and 6.4:

[391-3-1-.02(6)(b)1.(i)]

a. The Permittee shall conduct the NO_x and CO testing for the same emission units and control devices simultaneously.

b. The Permittee shall conduct the VOC and HAP testing for the same emission units and control devices simultaneously.

c. The Permittee shall monitor and record the process weight input rate for the dryers (ID Nos. DRY1 – DRY3), pellet coolers (ID Nos. COOL1 and COOL2), and tested pellet storage silo (ID Nos. SILO1 – SILO6). The Permittee shall also monitor the moisture content of the product exiting Dryers DRY1 – DRY3 during the RTO VOC test and ensure that it is representative of the product's moisture content during normal operating conditions and shall submit such data along with the test results.

d. The Permittee shall monitor and record the minimum total secondary power of each field of the wet electrostatic precipitator (ID No. WESP) during the Total PM testing.

e. The Permittee shall monitor and record the RTO combustion zone temperature, in °F.

f. The Permittee shall monitor and record the pressure drop across the baghouses (Group ID No. BGH).

g. The Permittee shall monitor and record the pressure drop across the quad cyclones (ID Nos. QUAD1 and QUAD2).

6.6 The Permittee shall use the results of the most recent performance testing specified in Conditions 6.3 and 6.4 and the records recorded in accordance with Condition 6.5c. to document the following emission factors (E.F.).

[391-3-1-.02(6)(b)1.(i)]

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- a. NO_x E.F. for Stack S1, in lbs NO_x/MMBtu.
 - b. CO E.F. for Stack S1, in lbs CO/MMBtu.
 - c. CO E.F. for Silos SILO1 – SILO6, in lbs CO/ton wood.
 - d. VOC E.F. for the RTO outlet (via Stack S1), in lbs VOC/ton wood.
 - e. VOC E.F. for the biofilter outlet (via Stack S2), in lbs VOC/ton wood.
 - f. VOC E.F. for the finished pellet storage silos (ID Nos. SILO1 – SILO6) in lbs VOC/ton wood.
 - g. Total PM E.F. for Stack S1, in lbs Total PM/ton wood.
 - h. Total PM E.F. for Stack S2, in lbs Total PM/ton wood.
 - i. HAP (Acetaldehyde, Acrolein, Formaldehyde, Hydrogen chloride, Methanol, Phenol, Propionaldehyde; and Other HAPs) E.F. for Stack S1, in lbs HAP/ton wood.
 - j. HAP (Acetaldehyde, Acrolein, Formaldehyde, Hydrogen chloride, Methanol, Phenol, Propionaldehyde; and Other HAPs) E.F. for Stack S2, in lbs HAP/ton wood.
 - k. HAP (Acetaldehyde, Acrolein, Formaldehyde, Hydrogen chloride, Methanol, Phenol, Propionaldehyde; and Other HAPs) E.F. for the finished pellet storage silos (ID Nos. SILO1 – SILO6), in lbs HAP/ton wood.
 - l. Arsenic and hexavalent chromium E.F. for Stack S1, in lbs As or Cr VI per ton wood.
- 6.7 If any outlet/stack HAP emission rates recorded in accordance with Conditions 6.6i. through 6.6k. exceed the corresponding emission factors currently included in Table 7.12 (the proposed emission factors in Application No. 29318), then the Permittee shall submit a permit application within 180 days after testing, demonstrating that either the emission factors derived are not representative of normal emissions or the facility will continue to comply with the GA Air Toxics Guideline with the higher tested results.
[391-3-1-.02(6)(b)1(i)]
- 6.8 The Permittee shall establish the following monitoring parameter set points using the records obtained in accordance with Conditions 6.5d. through g., during the most recent performance tests.
[391-3-1-.02(6)(b)1(i)]
- a. The minimum total secondary power for the WESP in watts (W).
 - b. The minimum RTO combustion zone temperature, in °F.

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- c. The minimum pressure drop across the baghouses (Group ID No. BGH)
- d. The minimum pressure drop across the quad cyclones (ID Nos. QUAD1 – QUAD2).

Phase II

6.13 If any outlet/stack HAP emission rates recorded in accordance with Conditions 6.12m., o., and p. exceed the corresponding emission factors currently included in Table 7.22 (the proposed emission factors in Application No. 28143), then the Permittee shall submit a permit application within 180 days after testing, demonstrating that either the emission factors derived are not representative of normal emissions or the facility will continue to comply with the GA Air Toxics Guideline with the higher tested results.
[391-3-1-.02(6)(b)1(i)]

7. Notification, Reporting and Record Keeping Requirements

MODIFIED CONDITIONS:

7.5 For the purpose of reporting excess emissions, exceedances or excursions in the report required in Condition 7.4, the following excess emissions, exceedances, and excursions shall be reported:
[391-3-1-.02(6)(b)1.]

- a. Excess emissions: (means for the purpose of this Condition and Condition 7.4, any condition that is detected by monitoring or record keeping which is specifically defined, or stated to be, excess emissions by an applicable requirement)

None required to be reported in accordance with Condition 7.4.

- b. Exceedances: (means for the purpose of this Condition any condition that is detected by monitoring or record keeping that provides data in terms of an emission limitation or standard and that indicates that emissions (or opacity) do not meet the applicable emission limitation or standard consistent with the averaging period specified for averaging the results of the monitoring)
 - i. Any consecutive twelve-month total of any NO_x, CO, VOC, or Total PM emissions from the entire facility, determined and recorded in accordance with Conditions 7.15a. through d. or 7.25a. through d., in excess of 249 tons.
 - ii. Any consecutive twelve-month total of any individual Hazardous Air Pollutant (HAP) emissions from the entire facility, determined and recorded in accordance with Condition 7.15e. or 7.25e., equal to or in excess of 10 tons.
 - iii. Any consecutive twelve-month total of any combined HAP emissions from the entire facility, determined and recorded in accordance with Condition 7.15f. or 7.25f., equal to or in excess of 25 tons.

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- iv. Any consecutive twelve-month total of arsenic emissions from the entire facility, determined and recorded in accordance with Conditions 7.15g. or 7.25g., equal to or in excess of 0.0567 pounds.
 - v. Any consecutive twelve-month total of hexavalent chromium emissions from the entire facility, determined and recorded in accordance with Conditions 7.15h. or 7.5h., equal to or in excess of 24.3 pounds.
 - vi. Any 30-day rolling average VOC emission rate of the biofilter (ID No. BIO) in **Phase I** exceeds the VOC emission factor listed in Condition 7.10.
 - vii. Any 30-day rolling average VOC emission rate of the biofilter (ID No. BIO) in **Phase II** exceeds the VOC emission factor listed in Condition 7.20.
 - viii. Any period in which any fuel other than wood is burned in the energy system or any dryer burners.
 - ix. Any period in which any fuel other than natural gas is burned in the RTO burners.
- c. Excursions: (means for the purpose of this Condition, any departure from an indicator range or value established for monitoring consistent with any averaging period specified in for averaging the results of the monitoring)
- i. Any adverse condition regarding fugitive dust emissions as required per Conditions 3.1 and 3.2.

Phase I

- ii. Any two consecutive days during which visible emissions are observed per Condition 5.5.
- iii. Any two consecutive days during which fugitive visible emissions are observed per Condition 5.8.
- iv. Any failure to perform the daily VE check per Condition 5.5 and/or Condition 5.8.
- v. Any three-hour average total secondary power for the wet electrostatic precipitator (ID No. WESP) measured and recorded per Conditions 5.3a., 5.3b., and 5.4 that is less than 80 percent of the value established in accordance with Condition 6.8a. Prior to any performance testing, the Permittee shall follow the manufacturer recommended total secondary power range for the WESP.
- vi. Any weekly pressure drop readings recorded in accordance with Condition 5.3c. that fall below the associated minimum pressure drop established in accordance with Conditions 6.8c. and 6.8d. Prior to any performance testing, the Permittee shall follow

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the manufacturer recommended pressure drop range for Baghouses BGH and the quad cyclones (ID Nos. QUAD1 and QUAD2).

Phase II

- vii. Any two consecutive days during which visible emissions are observed per Condition 5.12.
- viii. Any two consecutive days during which fugitive visible emissions are observed per Condition 5.16
- ix. Any failure to perform the daily VE check per Condition 5.12 and/or Condition 5.16.
- x. Any three-hour average total secondary power for the wet electrostatic precipitators (ID Nos. WESP5 and WESP6) measured and recorded per Conditions 5.10a, 5.10b, and 5.11 that is less than 80 percent of the value established in accordance with Condition 6.14a. Prior to any performance testing, the Permittee shall follow the manufacturer recommended total secondary power range for WESP5 and WESP6.
- xi. Any three-hour average RTO combustion zone temperature measured and recorded per Condition 5.9b. that is below the minimum combustion zone temperature established in accordance with Condition 6.14b. The minimum three-hour average RTP combustion zone temperature before the initial performance testing is 1,500°F.
- xii. Any weekly pressure drop readings recorded in accordance with Condition 5.10c. is below the associated minimum pressure drop established in accordance with Conditions 6.14c. and 6.14d. Prior to any performance testing, the Permittee shall follow the manufacturer recommended pressure drop range for BGH1 – BGH8 and CYC.

Phase I

7.6 The Permittee shall maintain the following monthly records. The records shall be retained in a permanent form suitable and available for inspection or submittal to the Division upon request. These records shall be retained for at least five years following the day of record.

[391-3-1-.02(6)(b)1.]

- a. The amount of wood, in tons, processed through the dryers (ID No. DRY1 – DRY3), combined.
- b. The amount of wood, in tons, processed through the pellet coolers (ID Nos. COOL1 and COOL2), combined.
- c. The amount of wood, in tons, processed through the finished pellet silos (ID Nos. SILO1 – SILO6), combined.

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- d. The amount of wet wood, in tons, burned in the energy system (ID No. ES). The Permittee shall convert the ton/month wet wood burned into the total heat input rate into Energy System ES in the unit of MMBtu/month with wet wood.
- e. The amount of dry wood, in tons, burned in the energy system (ID No. ES). The Permittee shall convert the ton/month dry wood burned into the total heat input rate into Energy System ES in the unit of MMBtu/month with dry wood.
- f. The total hours per month that the three-hour rolling average RTO combustion zone temperature falls below the minimum combustion zone temperature set point established in accordance with Condition 6.8b (1,500F before any performance test is conducted).
- g. Total hours per month that the exhaust from Energy System ES, Dryer DRY1, Dryer DRY2, or Dryer DRY3 bypasses the regenerative thermal oxidizer (ID No. RTO).
- h. The total hours per month that either of Dryers DRY1, DRY2, or DRY3 is in operation.
- i. The total amount of natural gas, in million cubic feet/month, burned in the boiler (ID No. BLR).

7.7 [Deleted]

7.8 The Permittee shall calculate and record the amount of NO_x emissions from the entire facility in each calendar month, using the following equation:
[391-3-1-.02(6)(b)1.]

$$ER_{NO_x} = [(EF_{NO_x/S1} * H_B) + (EF_{NO_x/BLR}) * (H_{BLR})] / 2,000$$

Where:

- ER_{NO_x} = Monthly NO_x emission rate from the entire facility, in tons per month.
- EF_{NO_x/S1} = NO_x emission factor for Stack S1, in lbs NO_x/MMBtu, determined in the most recent performance tests per Condition 6.6a. Before the initial performance test is conducted, the Permittee is allowed to use the NO_x emission factor in Table 7.8 below.
- H_B = Monthly combined heat input into Energy Systems ES, determined and recorded in accordance with Conditions 7.6d. and e.
- EF_{NO_x/BLR} = U.S. EPA AP-42 NO_x emission factor for Boiler BLR, 100 pounds NO_x per million cubic feet of natural gas (100 lbs NO_x/MMcf NG).
- H_{BLR} = Monthly natural gas consumption by Boiler BLR, in MMcf NG/mo, determined and recorded in accordance with Condition 7.6i.
- 2,000 = Conversion factor to convert pounds into tons.

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Table 7.8: NOx Emission Factor That Should Be Used Before Any Test Results Are Available

Pollutant	Stack S1 (RTO Outlet)
	Energy System ES
NOx	0.172 lb/MMBtu

The Permittee shall use the monthly records to calculate the facility-wide NOx emissions during each calendar month. The Permittee shall notify the Division in writing if the facility-wide NOx emissions exceed 20.75 tons during any calendar month. This notification shall be postmarked by the fifteenth day of the following month and shall include an explanation of how the Permittee intends to maintain compliance with the NOx emission limitation in Condition 2.1.

- 7.9 The Permittee shall calculate and record the amount of CO emissions from the entire facility in each calendar month, using the following equation:
[391-3-1-.02(6)(b)1.]

$$ER_{CO} = [(EF_{CO/S1} * H_B) + (EF_{CO/BLR}) * (H_{BLR}) + (EF_{CO/SILO} * W_{SILO})] / 2,000$$

Where:

- ER_{CO} = Monthly CO emission rate from the entire facility, in tons per month.
- EF_{CO/S1} = CO emission factor for Stack S1, in lbs CO/MMBtu, determined in the most recent performance tests per Condition 6.6b. Before the initial performance test is conducted, the Permittee is allowed to use the CO emission factor in Table 7.9 below.
- H_B = Monthly combined heat input into Energy System ES, determined and recorded in accordance with Conditions 7.6d. and e.
- EF_{CO/BLR} = U.S. EPA AP-42 CO emission factor for Boiler BLR, 84 lbs CO/MMcf NG.
- H_{BLR} = Monthly natural gas consumption by Boiler BLR, in MMcf NG/mo, determined and recorded in accordance with Condition 7.6i.
- EF_{CO/SILO} = CO emission factor for Finished Pellet Silos SILO1 – SILO6, in lbs CO/ton wood, determined in the most recent performance tests per Condition 6.6c. Before the initial performance test is conducted, the Permittee is allowed to use the CO emission factor in Table 7.9 below.
- W_{SILO} = Monthly throughput of SILO1 – SILO6, determined and recorded in accordance with Condition 7.6c.
- 2,000 = Conversion factor to convert pounds into tons.

Table 7.9: CO Emission Factor That Should Be Used Before Any Test Results Are Available

Pollutant	Stack S1 (RTO Outlet)	No Stack ID
	Energy System ES	SILO1 – SILO6
CO	0.172 lb/MMBtu	0 lb/ton wood output

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The Permittee shall use the monthly records to calculate the facility-wide CO emissions during each calendar month. The Permittee shall notify the Division in writing if the facility-wide CO emissions exceed 20.75 tons during any calendar month. This notification shall be postmarked by the fifteenth day of the following month and shall include an explanation of how the Permittee intends to maintain compliance with the CO emission limitation in Condition 2.1.

7.10 The Permittee shall calculate and record the amount of VOC emissions from the entire facility in each calendar month, using the following equation:

[391-3-1-.02(6)(b)1.]

$$ER_{VOC} = \{(EF_{VOC/S1} * W_{DR}) * [50 * \%DT/100 + (1 - \%DT/100)] + (EF_{VOC/BLR}) * (H_{BLR}) + (EF_{VOC/S2} * W_{COOL}) + (EF_{VOC/SILO} * W_{SILO})\} / 2,000$$

$$\%DT = (T_{DT}/T_{DR}) * 100\%$$

Where:

- ER_{VOC} = Monthly VOC emission rate from the entire facility, in tons per month.
- $EF_{VOC/S1}$ = Uncontrolled VOC emission factor prior to RTO, in lbs VOC/ton wood, determined in the most recent performance tests per Condition 6.6d. Before the initial performance test is conducted, the Permittee is allowed to use the VOC emission factor in Table 7.10 below.
- W_{DR} = Monthly throughput of Dryers DRY1 – DRY3, combined, determined and recorded in accordance with Condition 7.6a.
- 50 = Multiply factor when dryer VOC emissions are not controlled by RTO.
- $\%DT$ = RTO percent down time, in percentage.
- T_{DT} = Total hours per month that (1) the three-hour rolling average RTO combustion zone temperature falls below the minimum combustion zone temperature set point, determined and recorded in accordance with Condition 7.6f.; and (2) exhaust from ES, DRY1, DRY2, or DRY3 bypasses the RTO, determined in accordance with Condition 7.6g.; **combined**, in hours per month.
- T_{DR} = Total operating hours per month that either DRY1, DRY2, or DRY3 is in operation (non-cumulative), determined in accordance with Condition 7.6h.
- $EF_{VOC/BLR}$ = U.S. EPA AP-42 VOC emission factor for Boiler BLR, 5.5 lbs VOC/MMcf NG.
- H_{BLR} = Monthly natural gas consumption by Boiler BLR, in MMcf NG/mo, determined and recorded in accordance with Condition 7.6i.
- $EF_{VOC/S2}$ = VOC emission factor for Stack S2, in lbs VOC/ton wood, determined in the most recent performance tests per Condition 6.6e. Before the initial performance test is conducted, the Permittee is allowed to use the VOC emission factor in Table 7.10 below.
- W_{COOL} = Monthly throughput of Coolers COOL1 – COOL2, combined, determined and recorded in accordance with Condition 7.6b.
- $EF_{VOC/SILO}$ = VOC emission factor for Finished Pellet Silos SILO1 – SILO6, in lbs VOC/ton wood, determined in the most recent performance tests per Condition 6.6f.

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- Before the initial performance test is conducted, the Permittee is allowed to use the VOC emission factor in Table 7.10 below.
- W_{SILO} = Monthly throughput of Silos SILO1 – SILO6, determined and recorded in accordance with Condition 7.6c.
- 2,000 = Conversion factor to convert pounds into tons.

Table 7.10: VOC Emission Factor That Should Be Used Before Any Test Results Are Available

Pollutant	Stack S1 (RTO Outlet)	Stack S2 (BIO Outlet)	No Stack ID
		ES/DRY1 – DRY3 DHM1 – DHM8 DWB1 & DWB2	PM1 – PM8 COOL1 & COOL2
VOC	0.176 lb / ton wood output	0.64 lb / ton wood output	0.0029 lb / ton wood output

The Permittee shall use the monthly records to calculate the facility-wide VOC emissions during each calendar month. The Permittee shall notify the Division in writing if the facility-wide VOC emissions exceed 20.75 tons during any calendar month. This notification shall be postmarked by the fifteenth day of the following month and shall include an explanation of how the Permittee intends to maintain compliance with the VOC emission limitation in Condition 2.1.

- 7.11 The Permittee shall calculate and record the amount of Total PM emissions from the entire facility in each calendar month, using the following equation:
[391-3-1-.02(6)(b)1.]

$$ER_{PM} = [(EF_{PM/S1} * W_{DR}) + (EF_{PM/BLR}) * (H_{BLR}) + (EF_{PM/S2} * W_{COOL}) / 2,000$$

Where:

- ER_{PM} = Monthly Total PM emission rate from the entire facility, in tons per month.
- $EF_{PM/S1}$ = Total PM emission factor for Stack S1, in lbs Total PM/ton wood, determined in the most recent performance tests per Condition 6.6g. Before the initial performance test is conducted, the Permittee is allowed to use the PM emission factor in Table 7.11 below.
- W_{DR} = Monthly throughput of Dryers DRY1 – DRY3, combined, determined and recorded in accordance with Condition 7.6a.
- $EF_{PM/BLR}$ = U.S. EPA AP-42 PM emission factor for Boiler BLR, 7.6 lbs PM/MMcf NG.
- H_{BLR} = Monthly natural gas consumption by Boiler BLR, in MMcf NG/mo, determined and recorded in accordance with Condition 7.6i.
- $EF_{PM/S2}$ = Total PM emission factor for Stack S2, in lbs Total PM/ton, determined in the most recent performance tests per Condition 6.6h. Before the initial performance test is conducted, the Permittee is allowed to use the PM emission factor in Table 7.11 below.
- W_{COOL} = Monthly throughput of Coolers COOL1 and COOL2, combined, determined and recorded in accordance with Condition 7.6b.
- 2,000 = Conversion factor to convert pounds to tons.

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Table 7.11: Total PM Emission Factor That Should Be Used Before Any Test Results Are Available

Pollutant	Stack S1 (RTO Outlet)	Stack S2 (BIO Outlet)
		ES/DRY1 – DRY3 DWB1 & DWB2 DHM1 – DHM8
Total PM	0.226lb / ton wood output	0.119lbs / ton wood output

The Permittee shall use the monthly records to calculate the facility-wide Total PM emissions during each calendar month. The Permittee shall notify the Division in writing if the facility-wide Total PM emissions exceed 20.75 tons during any calendar month. This notification shall be postmarked by the fifteenth day of the following month and shall include an explanation of how the Permittee intends to maintain compliance with the Total PM emission limitation in Condition 2.1.

- 7.12 The Permittee shall calculate and record the amount of HAP emissions from the entire facility in each calendar month, using the following equation:
[391-3-1-.02(6)(b)1.]

$$ER_{HAP} = \{ (EF_{HAP/S1} * W_{DR}) * [50 * \%DT/100 + (1 - \%DT/100)] + (EF_{HAP/BLR}) * (H_{BLR}) + (EF_{HAP/S2} * W_{COOL}) + (EF_{HAP/SILO} * W_{SILO}) \} / 2,000$$

$$\%DT = (T_{DT}/T_{DR}) * 100\%$$

Where:

- ER_{HAP} = Monthly HAP emission rate from the entire facility, in tons per month.
- EF_{HAP/S1} = Uncontrolled HAP emission factor prior to RTO, in lbs HAP/ton wood, determined in the most recent performance tests per Condition 6.6i. Before the initial performance test is conducted, the Permittee is allowed to use the HAP emission factor in Table 7.12 below.
- W_{DR} = Monthly throughput of Dryers DRY1 – DRY3, combined, determined and recorded in accordance with Condition 7.6a.
- 50 = Multiply factor when dryer HAP emissions are not controlled by RTO.
- %DT = RTO percent down time, in percentage. Since RTO does not control HCl, %DT for HCl is always 0%.
- T_{DT} = Total hours per month that (1) the three-hour rolling average RTO combustion zone temperature falls below the minimum combustion zone temperature set point, determined and recorded in accordance with Condition 7.6f.; and (2) exhaust from ES, DRY1, DRY2, or DRY3 bypasses the RTO, determined in accordance with Condition 7.6g.; **combined**, in hours per month.
- T_{DR} = Total operating hours per month that either DRY1, DRY2, or DRY3 is in operation (non-cumulative), determined in accordance with Condition 7.6h.
- EF_{HAP/BLR} = U.S. EPA AP-42 HAP emission factor for Boiler BLR, 1.8 lbs hexane/MMcf NG (single HAP) and 1.89 lbs combined HAP/MMcf NG.

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- H_{BLR} = Monthly natural gas consumption by Boiler BLR, in MMcf NG/mo, determined and recorded in accordance with Condition 7.6i.
- $EF_{HAP/S2}$ = HAP emission factor for Stack S2, in lbs HAP/ton wood, determined in the most recent performance tests per Condition 6.6j. Before the initial performance test is conducted, the Permittee is allowed to use the HAP emission factor in Table 7.12 below.
- W_{COOL} = Monthly throughput of Coolers COOL1 and COOL2, combined, determined and recorded in accordance with Condition 7.6b.
- $EF_{HAP/SILO}$ = HAP emission factor for Finished Pellet Silos SILO1 – SILO6, in lbs HAP/ton wood, determined in the most recent performance tests per Condition 6.6k. Before the initial performance test is conducted, the Permittee is allowed to use the HAP emission factor in Table 7.12 below.
- W_{SILO} = Monthly throughput of Silos SILO1 – SILO6, determined and recorded in accordance with Condition 7.6c.
- 2,000 = Conversion factor to convert pounds to tons.

Table 7.12: HAP Emission Factor That Should Be Used Before Any Test Results Are Available

Pollutant	Stack S1 (RTO Outlet)	Stack S2 (BIO Outlet)	No Stack ID
	ES/DRY1 – DRY3 DWB1 & DWB2 DHM1 & DHM8	PM1 – PM8 COOL1 & COOL2	SILO1 – SILO6
Acetaldehyde (lb/ton wood output)	0.00229	0.00105	0.000049
Acrolein (lb/ton wood output)	0.000349	0.0054	0
Formaldehyde (lb/ton wood output)	0.00290	0.0021	0.000049
Hydrogen Chloride (lb/ton wood output)	0.00090 <u>0.00295</u>	0	0
Methanol (lb/ton wood output)	0.00233	0.00105	0.00024
Phenol (lb/ton wood output)	0.000459	0.002	0
Propionaldehyde (lb/ton wood output)	0.000142	0.00044	0
Other HAPs (lb/ton wood output)	0.0038	0	0
Combined HAP (After-control, lb/ton wood output)	0.0132	0.0120	0.000338

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The Permittee shall use the monthly records to calculate the facility-wide HAP emissions during each calendar month. The Permittee shall notify the Division in writing if the facility-wide single HAP emissions exceed 0.83 ton or combined HAP emissions exceed 2.08 tons during any calendar month. This notification shall be postmarked by the fifteenth day of the following month and shall include an explanation of how the Permittee intends to maintain compliance with the emission limitation in Condition 2.2.

7.13 The Permittee shall calculate and record the amount of arsenic (As) emissions from the entire facility in each calendar month, using the following equation:
[391-3-1-.02(6)(b)1.]

$$ER_{As} = (EF_{As/S1} * H_B) + (EF_{As/BLR}) * (H_{BLR})$$

Where:

- ER_{As} = Monthly As emission rate from the entire facility, in pounds per month.
- EF_{As/S1} = As emission factor for Stack S1, in lbs As/MMBtu, determined in the most recent performance tests per Condition 6.6l. Before the initial performance test is conducted, the Permittee is allowed to use the As emission factor in Table 7.13 below.
- H_B = Monthly combined heat input into Energy Systems ES, determined and recorded in accordance with Conditions 7.6d. and e.
- EF_{As/BLR} = U.S. EPA AP-42 As emission factor for Boiler BLR, 0.0002 lb As/MMcf NG.
- H_{BLR} = Monthly natural gas consumption by Boiler BLR, in MMcf NG/mo, determined and recorded in accordance with Condition 7.6i.

Table 7.13: As Emission Factor That Should Be Used Before Any Test Results Are Available

Pollutant	Stack S1 (RTO Outlet)
	Energy System ES
As	0 lb / MMBtu

The Permittee shall use the monthly records to calculate the facility-wide As emissions during each calendar month. The Permittee shall notify the Division in writing if the facility-wide As emissions exceed 0.00472 pounds during any calendar month. This notification shall be postmarked by the fifteenth day of the following month and shall include an explanation of how the Permittee intends to maintain compliance with the As emission limitation in Condition 2.9.

7.14 The Permittee shall calculate and record the amount of hexavalent chromium (Cr VI) emissions from the entire facility in each calendar month, using the following equation:
[391-3-1-.02(6)(b)1.]

$$ER_{Cr} = (EF_{Cr/S1} * H_B) + (EF_{Cr/BLR}) * (H_{BLR})$$

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Where:

- ER_{Cr} = Monthly Cr VI emission rate from the entire facility, in pounds per month.
- EF_{Cr/S1} = As emission factor for Stack S1, in lbs Cr VI/MMBtu, determined in the most recent performance tests per Condition 6.6l. Before the initial performance test is conducted, the Permittee is allowed to use the Cr VI emission factor in Table 7.13 below.
- H_B = Monthly combined heat input into Energy Systems ES, determined and recorded in accordance with Conditions 7.6d. and e.
- EF_{Cr/BLR} = U.S. EPA AP-42 Cr VI emission factor for Boiler BLR, 0.0014 lb Cr VI/MMcf NG.
- H_{BLR} = Monthly natural gas consumption by Boiler BLR, in MMcf NG/mo, determined and recorded in accordance with Condition 7.6i.

Table 7.14: Cr VI Emission Factor That Should Be Used Before Any Test Results Are Available

Pollutant	Stack S1 (RTO Outlet)
	Energy System ES
Cr VI	0 lb / MMBtu

The Permittee shall use the monthly records to calculate the facility-wide Cr VI emissions during each calendar month. The Permittee shall notify the Division in writing if the facility-wide Cr VI emissions exceed 2.02 pounds during any calendar month. This notification shall be postmarked by the fifteenth day of the following month and shall include an explanation of how the Permittee intends to maintain compliance with the Cr VI emission limitation in Condition 2.10.

Phase II

7.16 Upon the initial startup of Phase II, the Permittee shall maintain the following monthly records. The records shall be retained in a permanent form suitable and available for inspection or submittal to the Division upon request. These records shall be retained for at least five years following the day of record.

[391-3-1-.02(6)(b)(1)]

- a. The amount of wood, in tons, processed through the dryers (ID No. DRY5 and DRY6), combined.
- b. The amount of wood, in tons, processed through the pellet coolers (ID Nos. COOL1 – COOL4), combined.

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- c. The amount of wood, in tons, processed through the finished pellet silos (ID Nos. SILO1 – SILO16), combined.
- d. The amount of wet wood, in tons, burned in the burners (ID Nos. BUR5 and BUR6), combined. The Permittee shall convert the ton/month wet wood burned into the total heat input rate into BUR5 and BUR6, combined, in the unit of MMBtu/month with wet wood.
- e. The amount of dry wood, in tons, burned in the burners (ID Nos. BUR5 and BUR6), combined. The Permittee shall convert the ton/month dry wood burned into the total heat input rate into BUR5 and BUR6, combined, in the unit of MMBtu/month with dry wood.
- g. The total amount of natural gas, in million cubic feet/month, burned in the boiler (ID No. BLR).

7.18 Upon the initial startup of Phase II, the Permittee shall calculate and record the amount of NO_x emissions from the entire facility in each calendar month, using the following equation:
[391-3-1-.02(6)(b)1.]

$$ER_{NO_x} = [(EF_{NO_x/S1} * H_B) + (EF_{NO_x/BLR}) * (H_{BLR})] / 2,000$$

Where:

- ER_{NO_x} = Monthly NO_x emission rate from the entire facility, in tons per month.
- EF_{NO_x/S1} = NO_x emission factor for Stack S1, in lbs NO_x/MMBtu, determined in the most recent performance tests per Condition 6.12a. Before the initial performance test is conducted, the Permittee is allowed to use the NO_x emission factor in Table 7.18 below.
- H_B = Monthly combined heat input into BUR5 and BUR6, combined, determined and recorded in accordance with Conditions 7.16d. and e.
- EF_{NO_x/BLR} = U.S. EPA AP-42 NO_x emission factor for Boiler BLR, 100 pounds NO_x per million cubic feet of natural gas (100 lbs NO_x/MMcf NG).
- H_{BLR} = Monthly natural gas consumption by Boiler BLR, in MMcf NG/mo, determined and recorded in accordance with Condition 7.16g.
- 2,000 = Conversion Factor to Convert Pound into Ton.

Table 7.18: NO_x Emission Factor That Should Be Used Before Any Test Results Are Available

Pollutant	Stack S1 (BIO Outlet)
	BUR5 and BUR6
NO _x	0.194 lb/MMBtu

The Permittee shall use the monthly records to calculate the facility-wide NO_x emissions during each calendar month. The Permittee shall notify the Division in writing if the facility-wide NO_x emissions exceed 20.75 tons during any calendar month. This notification shall be postmarked by the fifteenth day of the following month and shall include an explanation of how

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the Permittee intends to maintain compliance with the **NO_x** emission limitation in Condition 2.1.

7.19 Upon the initial startup of Phase II, the Permittee shall calculate and record the amount of CO emissions from the entire facility in each calendar month, using the following equation:
[391-3-1-.02(6)(b)1.]

$$ER_{CO} = [(EF_{CO/S1} * H_B) + (EF_{CO/BLR}) * (H_{BLR}) + (EF_{CO/SILO} * W_{SILO})] / 2,000$$

Where:

- ER_{CO} = Monthly CO emission rate from the entire facility, in tons per month.
- EF_{CO/S1} = CO emission factor for Stack S1, in lbs CO/MMBtu, determined in the most recent performance tests per Condition 6.12b. Before the initial performance test is conducted, the Permittee is allowed to use the CO emission factor in Table 7.19 below.
- H_B = Monthly combined heat input into BUR5 and BUR6, combined, determined and recorded in accordance with Conditions 7.16d. and e.
- EF_{CO/BLR} = U.S. EPA AP-42 CO emission factor for Boiler BLR, 84 lbs CO/MMcf NG).
- H_{BLR} = Monthly natural gas consumption by Boiler BLR, in MMcf NG/mo, determined and recorded in accordance with Condition 7.16g.
- EF_{CO/SILO} = CO emission factor for Finished Pellet Silos SILO1 – SILO16, in lbs CO/ton wood, determined in the most recent performance tests per Condition 6.12c. Before the initial performance test is conducted, the Permittee is allowed to use the CO emission factor in Table 7.19 below.
- W_{SILO} = Monthly throughput of SILO1 – SILO16, determined and recorded in accordance with Condition 7.16c.
- 2,000 = Conversion Factor to Convert Pound into Ton.

Table 7.19: CO Emission Factor That Should Be Used Before Any Test Results Are Available

Pollutant	Stack S1 (BIO Outlet)	No Stack ID
	BUR5 and BUR6	SILO1 – SILO16
CO	0.194 lb/MMBtu	0 lb/ton wood output

The Permittee shall use the monthly records to calculate the facility-wide CO emissions during each calendar month. The Permittee shall notify the Division in writing if the facility-wide CO emissions exceed 20.75 tons during any calendar month. This notification shall be postmarked by the fifteenth day of the following month and shall include an explanation of how the Permittee intends to maintain compliance with the CO emission limitation in Condition 2.1.

7.20 Upon the initial startup of Phase II, the Permittee shall calculate and record the amount of VOC emissions from the entire facility in each calendar month, using the following equation:
[391-3-1-.02(6)(b)1.]

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$$ER_{VOC} = \{ EF_{VOC/DR} * W_{DR} * [\%DT/100 + (1 - DRE/100) * (1 - \%DT/100)] + (EF_{VOC/BLR}) * (H_{BLR}) + EF_{VOC/S2} * W_{COOL} + EF_{VOC/SILO} * W_{SILO} \} / 2,000$$

$$\%DT = (T_{DT} / T_{DR}) * 100\%$$

Where:

- ER_{VOC} = Monthly VOC emission rate from the entire facility, in tons per month.
- $EF_{VOC/DR}$ = Uncontrolled VOC emission factor prior to RTO, in lbs VOC/ton wood, determined in the most recent performance tests per Condition 6.12d. Before the initial performance test is conducted, the Permittee is allowed to use the VOC emission factor in Table 7.20 below.
- W_{DR} = Monthly throughput of Dryers DRY5 and DRY6, combined, determined and recorded in accordance with Condition 7.16a.
- $\%DT$ = RTO percent down time, in percentage.
- T_{DT} = Total hours per month that (1) the three-hour rolling average RTO combustion zone temperature falls below the minimum combustion zone temperature set point, determined and recorded in accordance with Condition 7.17d.; and (2) exhausts from BUR5, BUR6, DRY5, or DRY6 bypasses RTO, determined in accordance with Condition 7.17e.; **combined**, in hours per month.
- T_{DR} = Total operating hours per month that either DRY5 or DRY6 is in operation (non-cumulative), determined in accordance with Condition 7.17f.
- DRE = RTO control efficiency, in percentage, determined in accordance with Condition 6.12e. Before the initial performance test is conducted, the Permittee is allowed to use the VOC DRE in Table 7.20 below.
- $EF_{VOC/BLR}$ = U.S. EPA AP-42 VOC emission factor for Boiler BLR, 5.5 lbs VOC/MMcf NG).
- H_{BLR} = Monthly natural gas consumption by Boiler BLR, in MMcf NG/mo, determined and recorded in accordance with Condition 7.16g.
- $EF_{VOC/S2}$ = VOC emission factor for Stack S2, in lbs VOC/ton wood, determined in the most recent performance tests per Condition 6.12f. Before the initial performance test is conducted, the Permittee is allowed to use the VOC emission factor in Table 7.20 below.
- W_{COOL} = Monthly throughput of COOL1 – COOL4, combined, determined and recorded in accordance with Condition 7.16b.
- $EF_{VOC/SILO}$ = VOC emission factor for Finished Pellet Silos SILO1 – SILO16, in lbs VOC/ton wood, determined in the most recent performance tests per Condition 6.12g. Before the initial performance test is conducted, the Permittee is allowed to use the VOC emission factor in Table 7.20 below.
- W_{SILO} = Monthly throughput of SILO1 – SILO16, determined and recorded in accordance with Condition 7.16c.
- 2,000 = Conversion Factor to Convert Pound into Ton.

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Table 7.20: VOC Emission Factor That Should Be Used Before Any Test Results Are Available

Pollutant	Stack S1 (RTO Outlet)		Stack S2 (BIO Outlet)		No Stack ID	
	DRY5 & DRY6		DWS1 & DWS2 / DHM1 – DHM6 / PM1 – PM32 / COOL1 – COOL4		SILO1 – SILO16	
	Factor Name	Factor and Unit	Factor Name	Factor and Unit	Factor Name	Factor and Unit
VOC	EF _{VOC/DR}	6 lb/ton wood output	EF _{VOC/S2}	0.233 lb / ton wood output	EF _{VOC/SILO}	0.0029 lb/ton wood output
	DRE	98%				

The Permittee shall use the monthly records to calculate the facility-wide VOC emissions during each calendar month. The Permittee shall notify the Division in writing if the facility-wide VOC emissions exceed 20.75 tons during any calendar month. This notification shall be postmarked by the fifteenth day of the following month and shall include an explanation of how the Permittee intends to maintain compliance with the VOC emission limitation in Condition 2.1.

7.21 Upon the initial startup of Phase II, the Permittee shall calculate and record the amount of Total PM emissions from the entire facility in each calendar month, using the following equation:
[391-3-1-.02(6)(b)1.]

$$ER_{PM} = [(EF_{PM/S1} * W_{DR}) + (EF_{PM/BLR}) * (H_{BLR}) + (EF_{PM/S2} * W_{COOL}) + (EF_{PM/S4} * T_{SST1}) + (EF_{PM/S5} * T_{SST2}) + (EF_{PM/S6} * T_{CYC})] / 2,000$$

Where:

- ER_{PM} = Monthly Total PM emission rate from the entire facility, in tons per month.
- EF_{PM/S1} = Total PM emission factor for Stack S1, in lbs Total PM/ton wood, determined in the most recent performance tests per Condition 6.12h. Before the initial performance test is conducted, the Permittee is allowed to use the PM emission factor in Table 7.21 below.
- W_{DR} = Monthly throughput of Dryers DRY5 and DRY6, combined, determined and recorded in accordance with Condition 7.16a.
- EF_{PM/BLR} = U.S. EPA AP-42 PM emission factor for Boiler BLR, 7.6 lbs PM/MMcf NG).
- H_{BLR} = Monthly natural gas consumption by Boiler BLR, in MMcf NG/mo, determined and recorded in accordance with Condition 7.16g.
- EF_{PM/S2} = Total PM emission factor for Stack S2, in lbs Total PM/ton wood, determined in the most recent performance tests per Condition 6.12i. Before the initial performance test is conducted, the Permittee is allowed to use the PM emission factor in Table 7.21 below..
- W_{COOL} = Monthly throughput of COOL1 – COOL4, combined, determined and recorded in accordance with Condition 7.16b.

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- EF_{PM/S4} = Total PM emission factor for Stack S4, in lbs Total PM/hr, determined in the most recent performance tests per Condition 6.12j. Before the initial performance test is conducted, the Permittee is allowed to use the PM emission factor in Table 7.21 below..
- T_{SST1} = Monthly operating hours of SST1, determined and recorded in accordance with Condition 7.17a.
- EF_{PM/S5} = Total PM emission factor for Stack S5, in lbs Total PM/hr, determined in the most recent performance tests per Condition 6.12k. Before the initial performance test is conducted, the Permittee is allowed to use the PM emission factor in Table 7.21 below..
- T_{SST2} = Monthly operating hours of SST2, determined and recorded in accordance with Condition 7.17b.
- EF_{PM/S6} = Total PM emission factor for Stack S6, , in lbs Total PM/hr, determined in the most recent performance tests per Condition 6.12l. Before the initial performance test is conducted, the Permittee is allowed to use the PM emission factor in Table 7.21 below..
- T_{CYC} = Monthly operating hours of the fuel dust silo, determined and recorded in accordance with Condition 7.17c.
- 2,000 = Conversion Factor to Convert Pound into Ton.

Table 7.21: Total PM Emission Factor That Should Be Used Before Any Test Results Are Available

	Stack S1 (RTO Outlet)	Stack S2 (BIO Outlet)	Stack S4	Stack S5	Stack S6
Pollutant	DRY5 & DRY6	DWS1 & DWS2 / DHM1 – DHM6 / PM1 – PM32 / COOL1 – COOL4	SST1	SST2	Fuel Dust Silo
Total PM	0.164 lb / ton wood output	0.160 lb / ton wood output	2.91 lbs/hr	2.91 lbs/hr	1.09 lbs/hr

The Permittee shall use the monthly records to calculate the facility-wide Total PM emissions during each calendar month. The Permittee shall notify the Division in writing if the facility-wide Total PM emissions exceed 20.75 tons during any calendar month. This notification shall be postmarked by the fifteenth day of the following month and shall include an explanation of how the Permittee intends to maintain compliance with the Total PM emission limitation in Condition 2.1.

7.22 Upon the initial startup of Phase II, the Permittee shall calculate and record the amount of HAP emissions from the entire facility in each calendar month, using the following equation:
[391-3-1-.02(6)(b)1.]

$$ER_{HAP} = \{ EF_{HAP/DR} * W_{DR} * [\%DT/100 + (1 - DRE/100) * (1 - \%DT/100)] + (EF_{PM/BLR}) * (H_{BLR}) + EF_{HAP/S2} * W_{COOL} + EF_{HAP/SILO} * W_{SILO} \} / 2,000$$

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$$\%DT = (T_{DT} / T_{DR}) * 100\%$$

Where:

- ER_{HAP} = Monthly HAP emission rate from the entire facility, in tons per month.
- $EF_{HAP/DR}$ = Uncontrolled HAP emission factor prior to RTO, in lbs HAP/ton wood, determined in the most recent performance tests per Condition 6.12m. Before the initial performance test is conducted, the Permittee is allowed to use the PM emission factor in Table 7.22 below.
- W_{DR} = Monthly throughput of Dryers DRY5 and DRY6, combined, determined and recorded in accordance with Condition 7.16a.
- $\%DT$ = RTO percent down time, in percentage.
- T_{DT} = Total hours per month that (1) the three-hour rolling average RTO combustion zone temperature falls below the minimum combustion zone temperature set point, determined and recorded in accordance with Condition 7.17d.; and (2) exhausts from BUR5, BUR6, DRY5, or DRY6 bypasses RTO, determined in accordance with Condition 7.17e.; **combined**, in hours per month.
- T_{DR} = Total operating hours per month that either DRY5 or DRY6 is in operation (non-cumulative), determined in accordance with Condition 7.17f.
- DRE = RTO control efficiency, in percentage, determined in accordance with Condition 6.12n. Before the initial performance test is conducted, the Permittee is allowed to use the VOC DRE in Table 7.22 below.
- $EF_{HAP/BLR}$ = U.S. EPA AP-42 PM emission factor for Boiler BLR, 1.8 lbs hexane/MMcf NG (single HAP) and 1.89 lbs combined HAP/MMcf NG.
- H_{BLR} = Monthly natural gas consumption by Boiler BLR, in MMcf NG/mo, determined and recorded in accordance with Condition 7.16g.
- $EF_{HAP/S2}$ = HAP emission factor for Stack S2, in lbs HAP/ton wood, determined in the most recent performance tests per Condition 6.12o. Before the initial performance test is conducted, the Permittee is allowed to use the PM emission factor in Table 7.22 below..
- W_{COOL} = Monthly throughput of COOL1 – COOL4, combined, determined and recorded in accordance with Condition 7.16b.
- $EF_{HAP/SILO}$ = HAP emission factor for the SILO1 – SILO16, in lbs HAP/ton wood, determined in the most recent performance tests per Condition 6.12p. Before the initial performance test is conducted, the Permittee is allowed to use the PM emission factor in Table 7.22 below.
- W_{SILO} = Monthly throughput of SILO1 – SILO16, determined and recorded in accordance with Condition 7.16c.
- 2,000 = Conversion Factor to Convert Pound into Ton.

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Table 7.22: HAP Emission Factor That Should Be Used Before Any Test Results Are Available

Pollutant	Stack S1 (RTO Outlet)		Stack S2 (BIO Outlet)		No Stack ID	
	DRY5 & DRY6		DWS1 & DWS2 / DHM1 – DHM6 / PM1 – PM32 / COOL1 – COOL4		SILO1 – SILO16	
	Factor Name	Factor and Unit	Factor Name	Factor and Unit	Factor Name	Factor and Unit
Acetaldehyde (lb/ton wood output)	EF _{HAP/DR}	0.110	EF _{HAP/S2}	0.000392	EF _{HAP/SILO}	0.0000485
	DRE	98%				
Acrolein (lb/ton wood output)	EF _{HAP/DR}	0.00641	EF _{HAP/S2}	0.000856	EF _{HAP/SILO}	0
	DRE	98%				
Formaldehyde (lb/ton wood output)	EF _{HAP/DR}	0.140	EF _{HAP/S2}	0.000707	EF _{HAP/SILO}	0.0000485
	DRE	98%				
Hydrogen chloride (lb/ton wood output)	EF _{HAP/DR}	0.012	EF _{HAP/S2}	0	EF _{HAP/SILO}	0
	DRE	70%				
Methanol (lb/ton wood output)	EF _{HAP/DR}	0.110	EF _{HAP/S2}	0.000537	EF _{HAP/SILO}	0.000243
	DRE	98%				
Phenol (lb/ton wood output)	EF _{HAP/DR}	0.00847	EF _{HAP/S2}	0.000624	EF _{HAP/SILO}	0
	DRE	98%				
Propionaldehyde (lb/ton wood output)	EF _{HAP/DR}	0.00206	EF _{HAP/S2}	0.000255	EF _{HAP/SILO}	0
	DRE	98%				
Other HAPs (lb/ton wood output)	EF _{HAP/DR}	0.190	EF _{HAP/S2}	0	EF _{HAP/SILO}	0
	DRE	98%				
Combined HAP (lb/ton wood output)	EF _{HAP/DR}	0.579				
	After-Control*	0.0149	EF _{HAP/S2}	0.00337	EF _{HAP/SILO}	0.000340

* For combined HAP from Stack S1, the term “EF_{HAP/DR} * (1 - DRE)” is equal to 0.0149 lb/ton wood.

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The Permittee shall use the monthly records to calculate the facility-wide HAP emissions during each calendar month. The Permittee shall notify the Division in writing if the facility-wide single HAP emissions exceed 0.83 ton or combined HAP emissions exceed 2.08 tons during any calendar month. This notification shall be postmarked by the fifteenth day of the following month and shall include an explanation of how the Permittee intends to maintain compliance with the emission limitation in Condition 2.2.

7.23 Upon the initial startup of Phase II, the Permittee shall calculate and record the amount of arsenic (As) emissions from the entire facility in each calendar month, using the following equation:

[391-3-1-.02(6)(b)1.]

$$ER_{As} = (EF_{As/S1} * W_{DR}) + (EF_{As/BLR}) * (H_{BLR})$$

Where:

- ER_{As} = Monthly As emission rate from the entire facility, in pounds per month.
- EF_{As/S1} = As emission factor for Stack S1, in lbs As/MMBtu, determined in the most recent performance tests per Condition 6.12q. Before the initial performance test is conducted, the Permittee is allowed to use the As emission factor in Table 7.23 below.
- W_{DR} = Monthly throughput of Dryers DRY5 and DRY6, combined, determined and recorded in accordance with Condition 7.16a.
- EF_{As/BLR} = U.S. EPA AP-42 As emission factor for Boiler BLR, 0.0002 lb As/MMcf NG.
- H_{BLR} = Monthly natural gas consumption by Boiler BLR, in MMcf NG/mo, determined and recorded in accordance with Condition 7.16g.

Table 7.23: As Emission Factor That Should Be Used Before Any Test Results Are Available

Pollutant	Stack S1 (BIO Outlet)
	BUR5 and BUR6
As	0 lb / ton wood output

The Permittee shall use the monthly records to calculate the facility-wide As emissions during each calendar month. The Permittee shall notify the Division in writing if the facility-wide As emissions exceed 0.00472 pounds during any calendar month. This notification shall be postmarked by the fifteenth day of the following month and shall include an explanation of how the Permittee intends to maintain compliance with the As emission limitation in Condition 2.9.

7.24 Upon the initial startup of Phase II, the Permittee shall calculate and record the amount of hexavalent chromium (Cr VI) emissions from the entire facility in each calendar month, using the following equation:

[391-3-1-.02(6)(b)1.]

$$ER_{Cr} = (EF_{Cr/S1} * W_{DR}) + (EF_{Cr/BLR}) * (H_{BLR})$$

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Where:

- ER_{Cr} = Monthly Cr VI emission rate from the entire facility, in pounds per month.
- EF_{Cr/S1} = Cr VI emission factor for Stack S1, in lbs Cr VI/ton wood, determined in the most recent performance tests per Condition 6.12q. Before the initial performance test is conducted, the Permittee is allowed to use the As emission factor in Table 7.24 below.
- W_{DR} = Monthly throughput of Dryers DRY5 and DRY6, combined, determined and recorded in accordance with Condition 7.16a.
- EF_{Cr/BLR} = U.S. EPA AP-42 As emission factor for Boiler BLR, 0.0014 lb Cr/MMcf NG.
- H_{BLR} = Monthly natural gas consumption by Boiler BLR, in MMcf NG/mo, determined and recorded in accordance with Condition 7.16g.

Table 7.24: Cr VI Emission Factor That Should Be Used Before Any Test Results Are Available

Pollutant	Stack S1 (BIO Outlet)
	BUR5 and BUR6
Cr VI	0 lb / ton wood output

The Permittee shall use the monthly records to calculate the facility-wide Cr VI emissions during each calendar month. The Permittee shall notify the Division in writing if the facility-wide Cr VI emissions exceed 2.02 pounds during any calendar month. This notification shall be postmarked by the fifteenth day of the following month and shall include an explanation of how the Permittee intends to maintain compliance with the Cr VI emission limitation in Condition 2.10.