

**MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
AIR QUALITY DIVISION**

JANUARY 26, 2021

PERMIT TO INSTALL
209-18A

ISSUED TO
PACKAGING CORPORATION OF AMERICA
FILER CITY MILL

LOCATED AT
2246 UDELL STREET
FILER CITY, MICHIGAN 49634

IN THE COUNTY OF
MANISTEE

STATE REGISTRATION NUMBER
B3692

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environment, Great Lakes, and Energy. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: November 20, 2020	
DATE PERMIT TO INSTALL APPROVED: January 26, 2021	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

PERMIT TO INSTALL

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COMMON ACRONYMS

AQD	Air Quality Division
BACT	Best Available Control Technology
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
COMS	Continuous Opacity Monitoring System
Department/department/EGLE	Michigan Department of Environment, Great Lakes, and Energy
EU	Emission Unit
FG	Flexible Group
GACS	Gallons of Applied Coating Solids
GC	General Condition
GHGs	Greenhouse Gases
HVLP	High Volume Low Pressure*
ID	Identification
IRSL	Initial Risk Screening Level
ITSL	Initial Threshold Screening Level
LAER	Lowest Achievable Emission Rate
MACT	Maximum Achievable Control Technology
MAERS	Michigan Air Emissions Reporting System
MAP	Malfunction Abatement Plan
MSDS	Material Safety Data Sheet
NA	Not Applicable
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standard for Hazardous Air Pollutants
NSPS	New Source Performance Standards
NSR	New Source Review
PS	Performance Specification
PSD	Prevention of Significant Deterioration
PTE	Permanent Total Enclosure
PTI	Permit to Install
RACT	Reasonable Available Control Technology
ROP	Renewable Operating Permit
SC	Special Condition
SCR	Selective Catalytic Reduction
SNCR	Selective Non-Catalytic Reduction
SRN	State Registration Number
TBD	To Be Determined
TEQ	Toxicity Equivalence Quotient
USEPA/EPA	United States Environmental Protection Agency
VE	Visible Emissions

*For HVLP applicators, the pressure measured at the gun air cap shall not exceed 10 psig.

POLLUTANT / MEASUREMENT ABBREVIATIONS

acfm	Actual cubic feet per minute
BTU	British Thermal Unit
°C	Degrees Celsius
CO	Carbon Monoxide
CO ₂ e	Carbon Dioxide Equivalent
dscf	Dry standard cubic foot
dscm	Dry standard cubic meter
°F	Degrees Fahrenheit
gr	Grains
HAP	Hazardous Air Pollutant
Hg	Mercury
hr	Hour
HP	Horsepower
H ₂ S	Hydrogen Sulfide
kW	Kilowatt
lb	Pound
m	Meter
mg	Milligram
mm	Millimeter
MM	Million
MW	Megawatts
NMOC	Non-Methane Organic Compounds
NO _x	Oxides of Nitrogen
ng	Nanogram
PM	Particulate Matter
PM10	Particulate Matter equal to or less than 10 microns in diameter
PM2.5	Particulate Matter equal to or less than 2.5 microns in diameter
pph	Pounds per hour
ppm	Parts per million
ppmv	Parts per million by volume
ppmw	Parts per million by weight
psia	Pounds per square inch absolute
psig	Pounds per square inch gauge
scf	Standard cubic feet
sec	Seconds
SO ₂	Sulfur Dioxide
TAC	Toxic Air Contaminant
Temp	Temperature
THC	Total Hydrocarbons
tpy	Tons per year
µg	Microgram
µm	Micrometer or Micron
VOC	Volatile Organic Compounds
yr	Year

GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **(R 336.1201(1))**
2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy, P.O. Box 30260, Lansing, Michigan 48909-7760, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(4))**
3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to Rule 210 (R 336.1210), operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **(R 336.1201(6)(b))**
4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **(R 336.1201(8), Section 5510 of Act 451, PA 1994)**
5. The terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to Rule 219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of Rule 219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy. **(R 336.1219)**
6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**
7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal condition or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**
8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.
9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.
10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.

11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of Rule 301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with Rule 303 (R 336.1303). **(R 336.1301)**
 - a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
 - b) A visible emission limit specified by an applicable federal new source performance standard.
 - c) A visible emission limit specified as a condition of this Permit to Install.
12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in Rule 370(2). **(R 336.1370)**
13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with Rule 1001 and Rule 1003, under any of the conditions listed in Rule 1001. **(R 336.2001)**

EMISSION UNIT SPECIAL CONDITIONS

EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date / Modification Date	Flexible Group ID
EUBOILER1	Boiler No. 1 has a maximum heat input rating of 240 MMBTU/hr and is equipped with low NO _x burners. The boiler will fire natural gas and/or biogas. Non-Condensable Gas (NCG) from the Low-Volume High-Concentration (LVHC) system will be primarily routed to Boiler No. 1 for destruction, with Boiler No. 2 and Boiler No. 4A as backup.	01/01/50 12/06/80 09/02/83 10/15/2019	FGBIOGASSYSTEM
EUBOILER2	Boiler No. 2 has a maximum heat input rating of 186 MMBTU/hr and is equipped with low NO _x burners. The boiler will fire natural gas and/or biogas. NCGs from the LVHC system will be primarily routed to Boiler No. 1 for destruction, with Boiler No. 2 and Boiler No. 4A as backup.	01/01/50 12/06/80 09/02/83 12/06/84	FGBIOGASSYSTEM
EUBOILER4A	Boiler No. 4A is a natural gas and biogas-fired Babcock and Wilcox Model No. FM120-97 boiler. The boiler's maximum heat input rating is 227 MMBTU/hr and is equipped with low NO _x burners. NCGs from the LVHC system will be primarily routed to Boiler No. 1 for destruction, with Boiler No. 2 and Boiler No. 4A as backup.	11/01/02 10/15/2019	FGBIOGASSYSTEM
EUBOILER5	A bubbling fluidized bed (BFB) boiler with a heat input capacity of 302 MMBTU/hr. The boiler will burn wood, wood waste, primary clarifier residuals, paper recycling residuals, tire derived fuel (TDF), and natural gas.	TBD	NA
EUSOLIDFUELTRAN	Existing enclosed wood and wood waste conveyors and new covered conveyors will transport solid fuels of wood and wood waste, TDF, paper recycling residuals, and primary clarifier residuals. The fuel streams will be blended while traveling along the new wood and wood waste conveyor before entering Building 4 and being deposited into a fuel storage bin.	01/01/50 08/11/88 TBD	NA
EUWASHERS	Pulp washing system and low volume/high concentration (LVHC) collection system.	03/01/04	NA
EUSANDSILO	Sand silo used to store sand used in Boiler No. 5 (EUBOILER5).	NA	NA

Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1291.

EUBOILER1
EMISSION UNIT CONDITIONS

DESCRIPTION

Boiler No. 1 has a maximum heat input rating of 240 MMBTU/hr and is equipped with low NO_x burners. The boiler will fire natural gas and/or biogas. Non-Condensable Gas (NCG) from the Low-Volume High-Concentration (LVHC) system will be primarily routed to Boiler No. 1 for destruction, with Boiler No. 2 and Boiler No. 4A as backup.

Flexible Group ID: FGBIOGASSYSTEM

POLLUTION CONTROL EQUIPMENT

Low NO_x burners to control NO_x emissions.

I. EMISSION LIMIT(S)

Pollutant	Limit^a	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. NO _x	32.34 pph	Hourly	EUBOILER1	SC V.1	R 336.2803, R 336.2804
2. NO _x	120.4 tpy	12-month rolling time period as determined at the end of each month	EUBOILER1	SC VI.2, VI.5	R 336.1205(1)(a) & (b)
3. CO	19.40 pph	Hourly	EUBOILER1	SC V.1	R 336.2804
4. CO	72.2 tpy	12-month rolling time period as determined at the end of each month	EUBOILER1	SC VI.2, VI.6	R 336.1205(1)(a) & (b)

II. MATERIAL LIMIT(S)

1. The permittee shall burn only natural gas and/or biogas fuels in EUBOILER1. The gas shall not have a total sulfur content greater than 0.0006 lb/MMBTU of gas based on a 12-month rolling time period. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2803, R 336.2804)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall submit a malfunction abatement plan (MAP) for EUBOILER1 as described in Rule 911(2), within 180 days after trial operation. The MAP shall be implemented, maintained, and shall specify, at a minimum, the following:
 - a. A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
 - b. An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
 - c. A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 60 days after such an event occurs. The permittee shall also amend the MAP within 60 days if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 60 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1225, R 336.1910, R 336.1911, R 336.2803, R 336.2804)**

2. The permittee shall operate EUBOILER1 in a manner consistent with safety and good air pollution control practices for minimizing emissions. **(40 CFR 63.7500(a)(3))**
3. The permittee shall comply with the applicable work practice standards in Table 3 to 40 CFR Part 63, Subpart DDDDD at all times EUBOILER1 is operating, except for the periods noted in 40 CFR 63.7500(f). **(40 CFR 63.7505(a))**
4. The permittee shall conduct a tune-up of EUBOILER1 as specified in 40 CFR 63.7540. **(40 CFR 63.7500(a)(1); 40 CFR 63.7515(d); Table 3, Item 1 to 40 CFR Part 63, Subpart DDDDD; 40 CFR 63.7540)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The maximum design heat input capacity for EUBOILER1 shall not exceed 240 MMBTU/hr (HHV) on a fuel heat input basis. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2803, R 336.2804)**
2. The permittee shall not operate EUBOILER1 unless the low NO_x burners are installed, maintained, and operated in a satisfactory manner. Satisfactory manner includes operating and maintaining each control device in accordance with an approved MAP for EUBOILER1 as required in SC III.1. **(R 336.1205(1)(a) & (b), R 336.1910, R 336.2803, R 336.2804)**
3. The permittee shall install, calibrate, maintain, and operate, in a satisfactory manner, a device to monitor and record the daily fuel usage rate for EUBOILER1 on a continuous basis. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, 40 CFR 60.49b(d))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall verify NO_x and CO emission rates, from EUBOILER1 at maximum routine operating conditions, by testing at owner's expense, in accordance with Department requirements once every five years. The hourly emission rate shall be determined by the average of three test runs per the method requirements. The permittee shall complete the testing once every five years for NO_x and CO, thereafter, unless an alternate testing schedule is approved by the AQD District Supervisor. Testing shall be performed using an approved EPA Method listed:

Pollutant	Test Method Reference
NO _x	40 CFR Part 60, Appendix A
CO	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205(1)(a) & (b), R 336.2001, R 336.2003, R 336.2004, R 336.2804)**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, 40 CFR Part 63 Subpart DDDDD)**
2. The permittee shall monitor and record, in a satisfactory manner, the natural gas and biogas usage rates from EUBOILER1, in cubic feet, on a daily, monthly, and 12-month rolling time period basis. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.1225)**
3. The permittee shall maintain records of the notifications, energy assessments, and tune-ups in accordance with 40 CFR 63.7555 for EUBOILER1. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(40 CFR 63.7555)**
4. The permittee shall monitor and maintain records of the hours NCG's are combusted in EUBOILER1. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a))**
5. The permittee shall calculate monthly and 12-month rolling NO_x emissions, using natural gas and biogas fuel throughput data, and emission factors from the most recent performance stack testing. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b))**
6. The permittee shall calculate and maintain records of the monthly and 12-month rolling CO emissions using natural gas and biogas fuel throughput data, and emission factors from the most recent performance stack testing. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b))**
7. The permittee shall keep, in a satisfactory manner, gas samples or records of the fuel receipts from the fuel supplier that certify that the natural gas and biogas meets the sulfur concentration as specified in SC II.1. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804)**

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EUBOILER1. **(R 336.1201(7)(a))**
2. The permittee shall submit 40 CFR Part 63, Subpart DDDDD reports pursuant to 40 CFR 63.7550. **(40 CFR 63.7550)**

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVSHARED1_2_5	144	199	R 336.1225, R 336.2803, R 336.2804

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable requirements of the National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers, and Process Heaters, as specified in 40 CFR Part 63, Subparts A and DDDDD as they apply to EUBOILER1. **(40 CFR Part 63, Subparts A and DDDDD)**

**EUBOILER2
 EMISSION UNIT CONDITIONS**

DESCRIPTION

Boiler No. 2 has a maximum heat input rating of 186 MMBTU/hr and is equipped with low NO_x burners. The boiler will fire natural gas and/or biogas. NCGs from the LVHC system will be primarily routed to Boiler No. 1 for destruction, with Boiler No. 2 and Boiler No. 4A as backup.

Flexible Group ID: FGBIOGASSYSTEM

POLLUTION CONTROL EQUIPMENT

Low NO_x burners to control NO_x emissions.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NO _x	0.20 lb/MMBTU	30-day rolling average basis	EUBOILER2	SC V.1, VI.2, VI.3, VI.6, VI.7	40 CFR 60.44b(a)(1)(ii), 40 CFR 60.44b(i)
2. NO _x	23.13 pph	24-hour rolling operating hours basis	EUBOILER2	SC V.1, VI.2, VI.3, VI.6, VI.7	R 336.2803, R 336.2804
3. NO _x	15.2 tpy	12-month rolling time period as determined at the end of each month	EUBOILER2	SC VI.4, VI.8	R 336.1205(1)(a) & (b)
4. CO	15.04 pph	Hourly	EUBOILER2	SC V.2, VI.9	R 336.2804
5. CO	9.88 tpy	12-month rolling time period as determined at the end of each month	EUBOILER2	SC VI.4, VI.10	R 336.1205(1)(a) & (b)

II. MATERIAL LIMIT(S)

- The permittee shall burn only natural gas and/or biogas fuels in EUBOILER2. The gas shall not have a total sulfur content greater than 0.0006 lb/MMBTU of gas based on a 12-month rolling time period. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2803, R 336.2804, 40 CFR 60 Subpart Db)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

- The permittee shall submit a malfunction abatement plan (MAP) for EUBOILER2 as described in Rule 911(2), within 180 days after trial operation. The MAP shall be implemented, maintained, and shall specify, at a minimum, the following:
 - A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
 - An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.

- c. A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 60 days after such an event occurs. The permittee shall also amend the MAP within 60 days if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 60 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1225, R 336.1910, R 336.1911, R 336.2803, R 336.2804)**

2. The permittee shall operate EUBOILER2 in a manner consistent with safety and good air pollution control practices for minimizing emissions. **(R 336.1912, 40 CFR 63.7500(a)(3))**
3. The permittee shall comply with the applicable work practice standards in Table 3 to 40 CFR Part 63, Subpart DDDDD at all times EUBOILER2 is operating, except for the periods noted in 40 CFR 63.7500(f). **(40 CFR 63.7505(a))**
4. The permittee shall conduct a tune-up of EUBOILER2 as specified in 40 CFR 63.7540. **(40 CFR 63.7500(a)(1); 40 CFR 63.7515(d); Table 3, Item 3 to 40 CFR Part 63, Subpart DDDDD; 40 CFR 63.7540)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The maximum design heat input capacity for EUBOILER2 shall not exceed 186 MMBTU/hr (HHV) on a fuel heat input basis. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2803, R 336.2804)**
2. The permittee shall not operate EUBOILER2 unless the low NO_x burners are installed, maintained, and operated in a satisfactory manner. Satisfactory manner includes operating and maintaining each control device in accordance with an approved MAP for EUBOILER2 as required in SC III.1. **(R 336.1205(1)(a) & (b), R 336.1910, R 336.2803, R 336.2804)**
3. The permittee shall install, calibrate, maintain, and operate, in a satisfactory manner, a device to monitor and record the daily fuel usage rate for EUBOILER2 on a continuous basis. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, 40 CFR 60.49b(d))**
4. If the permittee chooses the compliance method specified in SC VI.2 for EUBOILER2, the permittee shall install, calibrate, maintain, and operate in a satisfactory manner, a device to monitor and record the NO_x emissions from EUBOILER2 on a continuous basis. Monitoring systems are to be operated and data recorded during all periods of operation including startup, shutdown, malfunction, or emergency conditions, except for continuous monitor system breakdowns, repairs, calibration checks, and zero span adjustments. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, 40 CFR 60.48b(c))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The Permittee shall perform the Quality Assurance Procedures of the NO_x CEM as set forth in Appendix F to 40 CFR Part 60 each calendar quarter. **(40 CFR 60.13(a), 40 CFR 48b(e))**
2. The permittee shall verify CO emission rates, from EUBOILER2 at maximum routine operating conditions, by testing at owner's expense, in accordance with Department requirements once every five years. The hourly emission rate shall be determined by the average of three test runs per the method requirements. The permittee shall complete the testing once every five years for CO, thereafter, unless an alternate testing schedule is approved by the AQD District Supervisor. Testing shall be performed using an approved EPA Method listed:

Pollutant	Test Method Reference
CO	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205(1)(a) & (b), R 336.2001, R 336.2003, R 336.2004, R 336.2804)**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, 40 CFR Part 60 Subpart Db, 40 CFR Part 63 Subpart DDDDD)**
2. Except as specified in SC VI.3, the permittee shall continuously monitor and record, in a satisfactory manner, the NO_x emissions and the O₂, or CO₂, emissions from EUBOILER2. The permittee shall operate each CEMS to meet the timelines, requirements and reporting detailed in Appendix A and shall use the CEMS data for determining compliance with SC I.1 and I.2. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, 40 CFR Part 60 Subpart Db)**
3. As an alternative to the compliance method specified in SC VI.2, the permittee may demonstrate compliance by monitoring EUBOILER2 operating conditions and predicting NO_x emission rates in a satisfactory manner. The permittee shall submit a plan that identifies the operating conditions to be monitored and the records to be maintained. The permittee shall operate each Predictive Emission Monitoring System (PEMS) to meet the timelines, requirements and reporting detailed in Appendix A and shall use the PEMS data for determining compliance with SC I.1 and I.2. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, 40 CFR Part 60 Subpart Db)**
4. The permittee shall record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor individually for each fuel for the reporting period. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2803, R 336.2804, 40 CFR 60.49b(d))**
5. The permittee shall keep, in a satisfactory manner, fuel samples or records of the fuel receipts from the fuel supplier that certify that the natural gas meets the definition of natural gas defined in 40 CFR 60.41b for EUBOILER2. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, 40 CFR Part 60 Subpart Db, 40 CFR 60.49b(r)(1))**
6. The permittee shall calculate the 30-day rolling average NO_x emission rate by using the one-hour average NO_x emission rates measured by the NO_x CEM/PEM, expressed in pounds per MMBTU heat input. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (3), 40 CFR 60.48b(d))**
7. The permittee shall maintain records of the following information for each day EUBOILER2 is operated:
 - a. Calendar date;
 - b. The average hourly NO_x emission rate measured or predicted;
 - c. The 30-day average NO_x emission rate calculated at the end of each steam generating unit operating day, from the measured hourly NO_x emission rates for the preceding 30 steam generating unit operating days;

- d. Identification of the steam generating unit operating days when the calculated 30-day average NO_x emission rate are in excess of the NO_x emission limit under 40 CFR 60.44b and SC I.5 with the reasons for such excess emissions as well a description of corrective actions taken;
- e. Identification of the steam generating unit operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of the corrective actions taken;
- f. Identification of the time when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data;
- g. Identification of “F” factor used for calculations, method of determination, and type of fuel combusted;
- h. Identification of the times when the pollutant concentration exceeded full span of the CEM/PEM;
- i. Description of any modifications to the CEM/PEM that could affect the ability of the CEM/PEM to comply with the applicable Performance Specification 2, 3, or 16;
- j. Results of daily CEMS drift tests and quarterly accuracy assessments as required under 40 CFR Part 60, Appendix F, Procedure 1.

The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), 40 CFR 60.49b(g))**

8. The permittee shall calculate monthly and 12-month rolling NO_x emissions using natural gas and biogas fuel throughput data and NO_x CEMS or PEMS data. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (b))**
9. The permittee shall calculate and maintain records of the 24-hour average CO emissions at the end of each operating day, to determine compliance with the hourly emissions. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (b))**
10. The permittee shall calculate and maintain records of the monthly and 12-month rolling CO emissions using natural gas and biogas fuel throughput data, and emission factors from the most recent performance stack testing. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (b))**
11. The permittee shall monitor and maintain records of the hours that EUBOILER2 combusted NCGs. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a))**
12. When NO_x emission data is not obtained because of CEM/PEM breakdowns, repairs, calibration checks, and zero and span adjustments, emission data shall be obtained by using standby monitoring systems, Method 7, Method 7A, or other AQD approved reference methods to provide emission data for a minimum of 75% of the operating hours in each operating day, in at least 22 out of 30 successive operating days. **(R 336.1205(1)(a) & (b), 40 CFR 60.48b(f))**

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EUBOILER2. **(R 336.1201(7)(a))**
2. The permittee shall submit reports containing the information in SC VI.7. The reports shall be postmarked no later than 30 days following the end of each 6-month reporting period, unless the permittee has obtained approval from the AQD to submit reports electronically in accordance with 40 CFR 60.49b(v). The permittee has the option to submit on a more frequent basis. **(40 CFR 60.49b(i), (v), and (w))**
3. The permittee shall submit 40 CFR Part 63, Subpart DDDDD reports pursuant to 40 CFR 63.7550. **(40 CFR 63.7550)**

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVSHARED1_2_5	144	199	R 336.1225, R 336.2803, R 336.2804

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable requirements of the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units as specified in 40 CFR Part 60, Subparts A and Db as they apply to EUBOILER2. **(40 CFR Part 60, Subparts A and Db)**
2. The permittee shall comply with all applicable requirements of the National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers, and Process Heaters, as specified in 40 CFR Part 63, Subparts A and DDDDD as they apply to EUBOILER2. **(40 CFR Part 63, Subparts A and DDDDD)**

**EUBOILER4A
 EMISSION UNIT CONDITIONS**

DESCRIPTION

Boiler No. 4A is a natural gas and biogas-fired Babcock and Wilcox Model No. FM120-97 boiler. The boiler’s maximum heat input rating is 227 MMBTU/hr and is equipped with low NOx burners. NCGs from the LVHC system will be primarily routed to Boiler No. 1 for destruction, with Boiler No. 2 and Boiler No. 4A as backup.

Flexible Group ID: FGBIOGASSYSTEM

POLLUTION CONTROL EQUIPMENT

Low NOx burners to control NOx emissions.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NO _x	0.17 lb/MMBTU ^a	30-day rolling average	EUBOILER4A	SC V.2, VI.1, VI.2, VI.4, VI.5	R 336.1205(3)
2. CO	22.7 pph	24-hour average	EUBOILER4A	SC V.1, VI.6	R 336.1205(3)

^aCompliance with this streamlined nitrogen oxides emissions limit established by R 336.1205 shall be considered compliance with the nitrogen oxides emissions limit in 40 CFR 60.44b(a), an additional applicable requirement that has been subsumed within this condition.

II. MATERIAL LIMIT(S)

1. The permittee shall burn only natural gas and/or biogas in EUBOILER4A. **(R 336.1205(1)(a) & (3))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall submit a malfunction abatement plan (MAP) for EUBOILER4A as described in Rule 911(2), within 180 days after trial operation. The MAP shall be implemented, maintained, and shall specify, at a minimum, the following:
 - a. A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
 - b. An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
 - c. A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 60 days after such an event occurs. The permittee shall also amend the MAP within 60 days if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 60 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1225, R 336.1910, R 336.1911)**

2. The permittee shall operate EUBOILER4A in a manner consistent with safety and good air pollution control practices for minimizing emissions. **(40 CFR 63.7500(a)(3))**
3. The permittee shall comply with the applicable work practice standards in Table 3 to 40 CFR Part 63, Subpart DDDDD at all times EUBOILER4A is operating, except for the periods noted in 40 CFR 63.7500(f). **(40 CFR 63.7505(a))**
4. The permittee shall conduct a tune-up of EUBOILER4A as specified in 40 CFR Part 63.7540. **(40 CFR 63.7500(a)(1); 40 CFR 63.7515(d); Table 3, Item 1 to 40 CFR Part 63, Subpart DDDDD; 40 CFR 63.7540)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The maximum design heat input capacity for EUBOILER4A shall not exceed 227 MMBTU/hr (HHV) on a fuel heat input basis. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2803, R 336.2804)**
2. The permittee shall not operate EUBOILER4A unless the low NO_x burners are installed, maintained, and operated in a satisfactory manner. Satisfactory manner includes operating and maintaining each control device in accordance with an approved MAP for EUBOILER4A as required in SC III.1. **(R 336.1205(1)(a) & (b), R 336.1910)**
3. The permittee shall install, calibrate, maintain, and operate, in a satisfactory manner, a device to monitor and record the daily fuel usage rate for EUBOILER4A on a continuous basis. **(R 336.1205(1)(a), 40 CFR 60.49b(d))**
4. If the permittee chooses the compliance method specified in SC VI.2 for EUBOILER4A, the permittee shall install, calibrate, maintain, and operate in a satisfactory manner, devices to monitor and record the NO_x emissions, and O₂ or CO₂ content of the exhaust gas from EUBOILER4A on a continuous basis. **(R 336.1205(1)(a), 40 CFR 60.48b(c) & (d))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall verify CO emission rates, from EUBOILER4A at maximum routine operating conditions, by testing at owner's expense, in accordance with Department requirements. The hourly emission rate shall be determined by the average of three test runs per the method requirements. The permittee shall complete the testing once every five years for CO, thereafter, unless an alternate testing schedule is approved by the AQD District Supervisor. Testing shall be performed using an approved EPA Method listed:

Pollutant	Test Method Reference
CO	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205(1)(a), R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(d))**

2. The permittee shall perform the Quality Assurance Procedures of the NO_x CEM as set forth in Appendix F to 40 CFR Part 60 each calendar quarter. **(40 CFR 60.13(a), 40 CFR 60.48b(e))**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall monitor and record the NO_x emissions from EUBOILER4A on a continuous basis in a manner and with instrumentation acceptable to the AQD. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a), 40 CFR 60.48b(c) & (d))**
2. The permittee shall calculate the 30-day rolling average NO_x emission rate from EUBOILER4A by using one-hour average NO_x emission rates measured by the NO_x CEMS expressed in pounds per MMBTU heat input. **(40 CFR 60.48b(d))**
3. When NO_x emission data from EUBOILER4A are not obtained because of CEMS breakdowns, repairs, calibration checks, and zero and span adjustments, emission data will be obtained by using standby monitoring systems, Method 7, Method 7A, or other AQD approved reference methods to provide emission data for a minimum of 75% of the operating hours in each operating day, in at least 22 out of 30 successive operating days. **(40 CFR 60.48b(f))**
4. The permittee shall record and maintain records of the amounts of each fuel combusted, in EUBOILER4A, during each day and calculate the annual capacity factor individually for each fuel for the reporting period. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(40 CFR 60.49b(d)(1))**
5. The permittee shall maintain records for EUBOILER4A of the following information for each day the boiler is operated:
 - a. Calendar date;
 - b. The average hourly NO_x emission rate measured or predicted;
 - c. The 30-day average NO_x emission rate calculated at the end of each operating day from the measured or predicted hourly NO_x emission rates for the preceding 30 operating days;
 - d. Identification of the operating days when the calculated 30-day average NO_x emission rate are in excess of the NO_x emission limits under 40 CFR 60.44b and SC I.1 with the reasons for such excess emissions as well a description of corrective actions taken;
 - e. Identification of the operating days for which NO_x emission data have not been obtained, including reasons for not obtaining sufficient data and a description of the corrective actions taken;
 - f. Identification of the time when emission data have been excluded from the calculation of average NO_x emission rates and the reasons for excluding data;
 - g. Identification of "F" factor used for calculations, method of determination, and type of fuel combusted;
 - h. Identification of the times when the NO_x emission concentration exceeded full span of the CEMS;
 - i. Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with the applicable Performance Specification 2, 3, or 16;
 - j. Results of daily CEMS drift tests and quarterly accuracy assessments as required under 40 CFR Part 60, Appendix F, Procedure 1.

The permittee shall keep all records on file and make them available to the Department upon request. **(40 CFR 60.49b(g))**

6. The permittee shall calculate and maintain records of the 24-hour average CO emissions at the end of each operating day. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) &(3))**
7. The permittee shall monitor and maintain records of the hours that EUBOILER4A combusted NCGs in backup service to EUBOILER1 and EUBOILER2. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (3))**

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EUBOILER4A. **(R 336.1201(7)(a))**
2. The permittee shall submit, on a semiannual basis, excess emission reports for any NO_x excess emission which occurred during the reporting period. The reports shall be postmarked no later than 30 days following the end of each semiannual period. NO_x excess emissions are defined as any calculated 30-day rolling average NO_x emission rate which exceeds the applicable emission limits in 40 CFR 60.44b and SC I.1. **(40 CFR 60.49b(h), 40 CFR 60.7(c))**
3. The permittee shall submit, on a semiannual basis, reports containing the information in SC VI.5. The reports shall be postmarked no later than 30 days following the end of each semiannual period. **(40 CFR 60.49b(i))**
4. No less than 30 days prior to installation of any new monitoring system, the permittee shall submit two copies of a Monitoring Plan to the AQD, for review and approval. The Monitoring Plan shall include drawings or specifications showing proposed locations and descriptions of the required PEMS. **(40 CFR 60.49b(c))**
5. The permittee shall submit notifications pursuant to 40 CFR 63.7545 and 63.7550. **(40 CFR Part 63 Subpart DDDDD)**

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVBOILER4A	72	92	R 336.1205

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable provisions of the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units as specified in 40 CFR Part 60, Subparts A and Db, as they apply to EUBOILER4A. **(40 CFR Part 60 Subparts A and Db)**
2. The permittee shall comply with all applicable requirements of the National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers, and Process Heaters, as specified in 40 CFR Part 63, Subparts A and DDDDD as they apply to EUBOILER4A. **(40 CFR Part 63, Subparts A and DDDDD)**

**EUBOILER5
 EMISSION UNIT CONDITIONS**

DESCRIPTION

A bubbling fluidized bed (BFB) boiler with a heat input capacity of 302 MMBTU/hr. The boiler will burn wood, wood waste, primary clarifier residuals, paper recycling residuals, tire derived fuel (TDF), and natural gas.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

A baghouse to control particulates.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. NO _x (While firing Natural gas & mixture of other permitted fuels)	0.30 lb/MMBtu	30-day rolling average	EUBOILER5	SC V.3, VI.2, VI.3, VI.4, VI.11, VI.12	40 CFR 60.44b(d)
2. NO _x (While firing natural gas only)	0.20 lb/MMBtu	30-day rolling average	EUBOILER5	SC V.3, VI.2, VI.3, VI.4, VI.11, VI.12	40 CFR 60.44b(a)(1)(ii)
3. NO _x	99.7 pph	24-hour rolling operating hours basis	EUBOILER5	SC V.3, VI.2, VI.3, VI.4, VI.12	R 336.2803, R 336.2804
4. NO _x	349.70 tpy	12-month rolling time period as determined at the end of the month	EUBOILER5	SC VI.9, VI.10, VI.12	R 336.1205(1)(a) & (b)
5. CO	310 ppmvd corrected to 3% O ₂	720-hour rolling average	EUBOILER5	SC V.4, VI.5, VI.6, VI.12	40 CFR 63.7500, Table 1, Item 9a to 40 CFR Part 63, Subpart DDDDD
6. CO	51.9 pph	24-hour rolling operating hours basis	EUBOILER5	SC V.4, VI.5, VI.6, VI.12	R 336.2804
7. CO	126.45 tpy	12-month rolling time period as determined at the end of the month	EUBOILER5	SC VI.9, VI.10, VI.12	R 336.1205(1)(a) & (b)
8. PM	9.80E-03 lb/MMBtu	Hourly	EUBOILER5	SC V.2, VI.7 VI.8, VI.12	40 CFR 63.7500, Table 1, Item 9b to 40 CFR Part 63 Subpart DDDDD

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
9. PM (During periods of firing wood, when the heat input of wood is greater than 75% of total heat input)	0.50 lb/1,000 lb exhaust gas, corrected to 50% excess air	Hourly	EUBOILER5	SC V.2, VI.8, VI.13	R 336.1331 (Table 31)
10. PM10	8.06 pph	Hourly	EUBOILER5	SC V.1, VI.10, VI.13	R 336.2803, R 336.2804
11. PM10	21.10 tpy	12-month rolling time period as determined at the end of each month	EUBOILER5	SC V.1, VI.11, VI.13	R 336.1205(1)(a) & (b)
12. PM2.5	7.76 pph	Hourly	EUBOILER5	SC V.1, VI.10, VI.13	R 336.2803, R 336.2804
13. PM2.5	19.86 tpy	12-month rolling time period as determined at the end of each month	EUBOILER5	SC V.1, VI.11, VI.13	R 336.1205(1)(a) & (b)
14. SO ₂	121.05 pph	Hourly	EUBOILER5	SC V.1, VI.11, VI.13	R 336.2803, R 336.2804
15. SO ₂	375.72 tpy	12-month rolling time period as determined at the end of each month	EUBOILER5	SC VI.1, VI.11, VI.13	R 336.2803, R 336.2804
16. VOC	14.77 tpy	12-month rolling time period as determined at the end of each month	EUBOILER5	SC V.3, VI.11, VI.13	R 336.1702(a)
17. HCl	2.20E-02 lb/MMBtu	Hourly	EUBOILER5	SC V.2, VI.13	40 CFR 63.7500, Table 1, Item 9b to 40 CFR Part 63 Subpart DDDDD
18. Hg (During periods of firing primary clarifier residuals)	3.2 kg/24-hr period (7.1 lbs/24-hr period) ^a	24-hours	EUBOILER5	SC V.2, VI.13	40 CFR 61.52(b)
19. Hg	8.00E-07 lb/MMBtu heat input	Hourly	EUBOILER5	SC V.2, VI.13	40 CFR 63.7500, Table 1, Item 1b to 40 CFR Part 63, Subpart DDDDD
20. Visible Emissions	20%, except for one 6-minute period per hour of not more than 27% opacity	6-minute average	EUBOILER5	SC VI.7 VI.8, VI.13	40 CFR 60.43b(f), R 336.1301(1)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
21. Visible Emissions	10%, or the highest hourly average opacity reading measured during the performance test run demonstrating compliance with the PM emissions limitation	Daily Block Average ^b	EUBOILER5	SC VI.7 VI.8, VI.13	40 CFR 63.7500, Table 4, Item 3a to 40 CFR Part 63, Subpart DDDDD

^aIn accordance with 40 CFR Part 61, Subpart E, the permittee shall comply either 1) 40 CFR 61.52(b) emissions standard of 3.2 kilograms (kg) (7.1 pounds) of mercury per 24-hour period when firing primary clarifier residuals in proposed EUBOILER5, or 2) 40 CFR 61.54 option to sample primary clarifier residuals within 90 days of startup of EUBOILER5. The Mill is subject to a more stringent mercury emissions standard under 40 CFR Part 63, Subpart DDDDD.

^bDaily block average – the arithmetic mean of all valid emission concentrations or parameter levels recorded when a unit is operating measured over the 24-hour period from 12 a.m. (midnight) to 12 a.m. (midnight), except for periods of startup and shutdown or downtime.

II. MATERIAL LIMIT(S)

Material	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. TDF	1 ton/hr (tph)	24-hr block average	EUBOILER5	SC VI.9, VI.13	R 336.1205(1)(a), R 336.1225

2. The permittee shall burn only wood and wood waste, primary clarifier residuals, paper recycling residuals, tire derived fuel, or natural gas in EUBOILER5. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2803, R 336.2804)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall submit a malfunction abatement plan (MAP) for EUBOILER5 as described in Rule 911(2), within 180 days after trial operation. The MAP shall be implemented, maintained, and shall specify, at a minimum, the following:
 - a. A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
 - b. An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
 - c. A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 60 days after such an event occurs. The permittee shall also amend the MAP within 60 days if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 60 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1225, R 336.1910, R 336.1911, R 336.2803, R 336.2804)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The maximum design heat input capacity for EUBOILER5 shall not exceed 302 MMBTU/hr (HHV) on a fuel heat input basis. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2803, R 336.2804)**
2. The permittee shall install, maintain, and operate the baghouse for EUBOILER5 in a satisfactory manner. Satisfactory manner includes operating and maintaining the baghouse in accordance with an approved MAP for EUBOILER5 as required in SC III.1. **(R 336.1205(1)(a) & (b), R 336.1910, R 336.2803, R 336.2804, 40 CFR 63.7500, 40 CFR 63.7525)**
3. The permittee shall not operate EUBOILER5 firing wood and wood waste, primary clarifier residuals, paper recycling residuals, or TDF, unless the associated baghouse is installed and operating properly. The permittee shall maintain the differential pressure across the baghouse within the recommended range in accordance with an approved MAP for EUBOILER5 as required in SC III.1. **(R 336.1910)**
4. The permittee shall operate EUBOILER5 in a manner consistent with safety and good air pollution control practices for minimizing emissions. **(R 336.1912, 40 CFR 63.7500(a)(3))**
5. The permittee shall install, calibrate, maintain, and operate in a satisfactory manner, devices to monitor and record NO_x emissions, CO emissions, and visible emissions from EUBOILER5 on a continuous basis. Monitoring systems are to be operated and data recorded during all periods of operation including startup, shutdown, malfunction, or emergency conditions, except for continuous monitor system breakdowns, repairs, calibration checks, and zero span adjustments. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, 40 CFR 60.48b(a), (b) & (c), 40 CFR 63.7525)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Within 180 days after commencement of EUBOILER5 resumes regular operation after the project, the permittee shall verify SO₂, PM₁₀, and PM_{2.5} emission rates, from EUBOILER5 at maximum routine operating conditions firing TDF, by testing at owner's expense, in accordance with Department requirements. The hourly emission rate shall be determined by the average of three test runs per the method requirements. In addition, the permittee shall determine the total sulfur content of all fuels burned during the testing. The permittee shall complete the testing once every five years for SO₂, PM₁₀, PM_{2.5}, and total sulfur content of the fuels, thereafter, unless an alternate testing schedule is approved by the AQD District Supervisor. Testing shall be performed using an approved EPA Method listed:

Pollutant	Test Method Reference
SO ₂	40 CFR Part 60, Appendix A
PM ₁₀	40 CFR Part 60, Appendix A
PM _{2.5}	40 CFR Part 60, Appendix A
Total sulfur content of all fuels burned	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205(1)(a) & (b), R 336.2001, R 336.2003, R 336.2004, R 336.2803, R 336.2804)**

2. The permittee shall conduct performance testing for filterable PM, and either performance testing or fuel analyses to demonstrate initial compliance Hg and HCl emissions limits for EUBOILER5. The compliance demonstration shall be performed in accordance with 40 Subpart DDDDD requirements. Performance tests (if elected) shall be conducted according to 40 CFR 63.7510(a), where 40 CFR 63.7510(a) specifies the methods by which the performance testing, associated fuel analysis, and continuous monitoring system

(CMS) performance evaluations are to be conducted and its operating limits established. Fuel analyses (if elected) shall be performed according to 40 CFR 63.7510(b), where 40 CFR 63.7510(b) specifies the methods by which the fuel analysis shall be conducted, and its associated operating limits are to be established. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. The report must also verify that the operating limits for EUBOILER5 have not changed or provide documentation of revised operating limits established according to 40 CFR 63.7530 and Table 7 to 40 CFR Part 63, Subpart DDDDD. **(40 CFR 63.7510, 40 CFR 63.7515(f))**

3. Within 180 days after commencement of EUBOILER5 resumes regular operation after the project, the permittee shall verify VOC emission rates, from EUBOILER5 at maximum routine operating conditions firing TDF, by testing at owner's expense, in accordance with Department requirements. The hourly emission rate shall be determined by the average of three test runs per the method requirements. The permittee shall complete the testing once every five years thereafter for VOC, unless an alternate testing schedule is approved by the AQD District Supervisor. Testing shall be performed using an approved EPA Method listed:

Pollutant	Test Method Reference
VOC, as propane	Method 25A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1702(a), R 336.2001, R 336.2003, R 336.2004)**

4. The Permittee shall perform the Quality Assurance Procedures of the NO_x CEM as set forth in Appendix F to 40 CFR Part 60 each calendar quarter. **(40 CFR 60.13(a), 40 CFR 48b(e))**
5. The permittee shall conduct a performance evaluation of the CO CEMS according to 40 CFR 63.7525(a) to demonstrate initial compliance with 40 CFR Part 63, Subpart DDDDD. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(40 CFR 63.7510(c))**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, 40 CFR Part 60 Subpart Db, 40 CFR Part 63 Subpart DDDD)**
2. Except as specified in SC VI.3, the permittee shall continuously monitor and record, in a satisfactory manner, the NO_x emissions and the O₂, or CO₂, emissions from EUBOILER5. The permittee shall operate each CEMS to meet the timelines, requirements and reporting detailed in Appendix A and shall use the CEMS data for determining compliance with SC I.1, I.2, I.3 and I.4. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, 40 CFR 60.48b(d))**
3. As an alternative to the compliance method specified in SC VI.2, the permittee may demonstrate compliance by monitoring EUBOILER5 operating conditions and predicting NO_x emission rates in a satisfactory manner. The permittee shall submit a plan that identifies the operating conditions to be monitored and the records to be maintained. The permittee shall operate each Predictive Emission Monitoring System (PEMS) to meet the timelines, requirements and reporting detailed in Appendix A and shall use the PEMS data for determining compliance with SC I.1, I.2, I.3, and I.4. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, 40 CFR 60.48b(d))**

4. When NO_x emission data are not obtained because of CEM or PEM breakdowns, repairs, calibration checks, and zero and span adjustments, emission data will be obtained by using standby monitoring systems, Method 7, Method 7A, or other AQD approved reference methods to provide emission data for a minimum of 75% of the operating hours in each operating day, in at least 22 out of 30 successive operating days. **(40 CFR 60.48b(f))**
5. The permittee shall continuously monitor and record, in a satisfactory manner, the CO emissions from EUBOILER5. The permittee shall operate the CEMS to meet the timelines, requirements and reporting detailed in Appendix A and shall use the CEMS data for determining compliance with SC I.5. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.2804, 40 CFR 63.7525)**
6. The CO emission data obtained from CEMS, for EUBOILER5, during periods of startup and shutdown, monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods, or required monitoring system quality assurance or control activities may not be used in data averages and calculations used to report emissions or operating levels relative to demonstrating compliance with 40 CFR Part 63, Subpart DDDDD emission limits. **(R 336.1205(1)(a) & (b), R 336.2804, 40 CFR 63.7535(c))**
7. The permittee shall monitor and record the opacity, from EUBOILER5 on a continuous basis in a manner and with instrumentation acceptable to the AQD. The permittee shall operate the COMS to meet the timelines, requirements and reporting detailed in Appendix A and shall use the COMS data for determining compliance with SC I.16 and I.17. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(40 CFR 60.43b(a), 40 CFR 63.7525(c))**
8. The permittee shall monitor and record the differential pressure across EUBOILER5 baghouse once per day and take appropriate action if the differential pressure is outside of the manufacturer's recommended range outlined in the MAP. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1910)**
9. The permittee shall record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor individually for each fuel fired in EUBOILER5. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(40 CFR 60.49b(d)(1))**
10. The permittee shall calculate and maintain records for EUBOILER5 of the 24-hour average PM₁₀ and PM_{2.5} emissions of each operating day, as described in Appendix 7, to determine compliance with the hourly emissions. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (b))**
11. The permittee shall calculate and keep, in a satisfactory manner, records of monthly and 12-month rolling NO_x, CO, PM₁₀, PM_{2.5}, VOC, and SO₂ mass emissions for EUBOILER5, as required in the emission limit table. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.1702(a))**
12. The permittee shall maintain records of the following information for each day EUBOILER5 is operated:
 - a. Calendar date;
 - b. The average hourly NO_x emission rate measured or predicted;
 - c. The 30-day average NO_x emission rate calculated at the end of each steam generating unit operating day, from the measured hourly NO_x emission rates for the preceding 30 steam generating unit operating days;
 - d. Identification of the steam generating unit operating days when the calculated 30-day average NO_x emission rate are in excess of the NO_x emission limits under 40 CFR 60.44b and SC I.1 and I.2 with the reasons for such excess emissions as well a description of corrective actions taken;
 - e. Identification of the steam generating unit operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of the corrective actions taken;

- f. Identification of the time when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data;
- g. Identification of the times when the pollutant concentration exceeded full span of the CEM/PEM;
- h. Description of any modifications to the CEM/PEM that could affect the ability of the CEM/PEM to comply with the applicable Performance Specification 2, 3, or 16;
- i. Results of daily CEMS drift tests and quarterly accuracy assessments as required under 40 CFR Part 60, Appendix F, Procedure 1.

The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(40 CFR 60.49b(g))**

13. The permittee shall maintain records of all information necessary for all notifications and reports as specified in these special conditions as well as that information necessary to demonstrate compliance with the emission limits of this permit for each unit in EUBOILER5. This information shall include, but shall not be limited to the following:
 - a. Compliance tests and any testing required under the special conditions of this permit;
 - b. Monitoring data;
 - c. Total sulfur content of all fuels burned during, as measured during testing specified in SC V.1;
 - d. Verification of heat input capacity;
 - e. Identification, type, and amount of fuel combusted on a calendar month basis;
 - g. All records required by 40 CFR 60.7;
 - h. Records of the duration of all dates and times the CEMS/PEMS are not in operation;
 - i. All calculations necessary to show compliance with the limits contained in this permit;
 - j. All records related to, or as required by, the MAP and the startup and shutdown plan.

All of the above information shall be stored in a format acceptable to the AQD District Supervisor and shall be consistent with the requirements of 40 CFR 60.7(f). **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1301, R 336.1331, R 336.1912, R 336.2803, R 336.2804, 40 CFR 60.7(f), 40 CFR 60.49(b), 40 CFR 63.7540)**

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EUBOILER5. **(R 336.1201(7)(a))**
2. The permittee shall report all periods when the CO, COMS, and/or O₂ monitoring system is out of control in the semi-annual report to the AQD District Supervisor. **(40 CFR 63.7535(d))**
3. The permittee shall submit 40 CFR Part 63, Subpart DDDDD notifications pursuant to 40 CFR 63.7545, to the AQD District Supervisor. **(40 CFR 63.7545)**
4. The permittee shall submit 40 CFR Part 63, Subpart DDDDD reports pursuant to 40 CFR 63.7550, to the AQD District Supervisor. **(40 CFR 63.7550)**
5. The permittee shall submit excess emission reports for any NO_x excess emission which occurred during each 6-month period reporting period. The reports shall be postmarked no later than 30 days following the end of each reporting period, unless the permittee has obtained approval from the AQD to submit reports electronically in accordance with 40 CFR 60.49b(v). The permittee has the option to submit on a more frequent basis. NO_x excess emissions are defined as any calculated 30-day rolling average NO_x emission rate which exceeds the applicable emission limits in 40 CFR 60.44b and SC I.1 and I.2. **(R 336.1201(3); 40 CFR 60.49b(h), (v), and (w); 40 CFR 60.7(c))**
6. The permittee shall submit reports containing the information in SC VI.10. The reports shall be postmarked no later than 30 days following the end of each 6-month reporting period, unless the permittee has obtained approval from the AQD to submit reports electronically in accordance with 40 CFR 60.49b(v). The permittee has the option to submit on a more frequent basis. **(40 CFR 60.49b(i))**

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVSHARED1_2_5	144	199	R 336.1225, R 336.2803, R 336.2804

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable requirements of the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units as specified in 40 CFR Part 60, Subparts A and Db, as they apply to EUBOILER5. **(40 CFR Part 60, Subparts A and Db)**
2. The permittee shall comply with all applicable requirements of the National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers, and Process Heaters, as specified in 40 CFR Part 63, Subparts A and DDDDD as they apply to EUBOILER5. **(40 CFR Part 63, Subparts A and DDDDD)**
3. Initial compliance with 40 CFR Part 63, Subpart DDDDD must be demonstrated within 180 days of initial startup. Initial startup is defined as the first time useful thermal energy is supplied by EUBOILER5. **(40 CFR 63.7510(f), 40 CFR 63.7555(d)(11))**

**EUSOLIDFUELTRAN
 EMISSION UNIT CONDITIONS**

DESCRIPTION

Existing enclosed wood and wood waste conveyors and new covered conveyors will transport solid fuels of wood and wood waste, TDF, paper recycling residuals, and primary clarifier residuals. The fuel streams will be blended while traveling along the new wood and wood waste conveyor before entering Building 4 and being deposited into a fuel storage bin.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. All solid fuel handling and storage, for EUSOLIDFUELTRAN, shall be enclosed or covered. **(R 336.1910, R 324.5524)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall perform and document a non-certified visible emission observation once per week while the equipment is handling wood and wood waste, primary clarifier residuals, paper recycling residuals, or TDF. If any visible emissions are observed PCA will correct and document the problem causing visible emissions within two (2) hours, re-perform the non-certified visible emission observation and document that visible emissions are no longer present while the equipment is handling wood and wood waste, primary clarifier residuals, paper recycling residuals, or tire derived fuel. If visible emissions are still present additional actions shall be implemented to identify and correct the problem causing the visible emissions and these actions shall be documented. This process shall be repeated until the cause of visible emissions has been eliminated. **(R 336.1331(2))**

VI. MONITORING/RECORDKEEPING

1. The permittee shall keep records of the non-certified visible emissions observations that are performed, the reason for the visible emissions, and any corrective actions taken shall be kept on file in a format acceptable to the AQD District Supervisor. **(R 336.1331)**

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EUSOLIDFUELTRAN. **(R 336.1201(7)(a))**

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

NA

**EUWASHERS
 EMISSION UNIT CONDITIONS**

DESCRIPTION

Two vacuum drum rotary pulp washers operated in series.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

LVHC Collection System, EUBOILER1, EUBOILER2, EUBOILER4A

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. VOC (Normal operation) ^a	0.37 pph	Hourly	EUWASHERS	SC VI.1	R 336.1205(1)(a), R 336.1227
2. VOC (Abnormal operation) ^b	18.57 pph	Hourly	EUWASHERS	SC VI.1	R 336.1205(1)(a), R 336.1227
3. VOC	2.42 tpy	12-month rolling time period as determined at the end of the month	EUWASHERS	SC VI.1	R 336.1205(1)(a), R 336.1227

^a Normal operation is defined as those times when the emissions from EUWASHERS are collected by the LVHC Collection System and combusted in EUBOILER1, EUBOILER2, EUBOILER4A.

^b Abnormal operation is defined as those times when the emissions from EUWASHERS are not collected by the LVHC Collection System or when the LVHC is operating and the collected gases are not combusted in EUBOILER1 or EUBOILER2, EUBOILER4A.

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

- The permittee shall install and maintain EUWASHERS with a LVHC Collection System which collects emissions from EUWASHERS and combusts the collected emissions in EUBOILER1, EUBOILER2, or EUBOILER4A. **(R 336.1205(1)(a))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

1. The permittee shall keep records of the following information, in a manner satisfactory to the AQD:
 - a. Amount of oven dried pulp processed by EUWASHERS on a monthly basis;
 - b. Operating hours of EUWASHERS on a monthly basis;
 - c. Total time that the LVHC Collection System was unavailable or was being bypassed during operation of EUWASHERS on a monthly basis;
 - d. Annual VOC emissions, based upon a 12-month rolling time period, as determined at the end of each calendar month using the calculations in Appendix 7;
 - e. Hourly VOC emissions with and without the LVHC collection system operating, calculated on a monthly basis, using the calculations in Appendix 7.
- (R 336.1205(1)(a))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

NA

EUSANDSILO EMISSION UNIT CONDITIONS

DESCRIPTION

Sand silo used to store sand used in Boiler No. 5 (EUBOILER5).

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Baghouse to control particulate emissions.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. PM	0.10 lb/1,000 lb exhaust gases	Hourly	EUSANDSILO	SC V.1	R 336.1331(1)(a)

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

- The permittee shall not operate EUSANDSILO unless the baghouse is installed and operating properly.

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

- The Permittee shall perform and document a non-certified visible emission observation while EUSANDSILO is being filled. If any visible emissions are observed the permittee will correct and document the problem causing visible emissions within two (2) hours, re-perform the non-certified visible emission observation and document that visible emissions are no longer present while EUSANDSILO is being filled. If visible emissions are still present additional actions shall be implemented to identify and correct the problem causing the visible emissions and these actions shall be documented. This process shall be repeated until the cause of visible emissions has been eliminated. **(R 336.1910)**

VI. MONITORING/RECORDKEEPING

- Records of the non-certified visible emissions observations that are performed, the reason for the visible emissions, and any corrective actions taken shall be kept on file in a format acceptable to the AQD. **(R 336.1201(3))**

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EUSANDSILO. **(R 336.1201(7)(a))**

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

NA

FLEXIBLE GROUP SPECIAL CONDITIONS

FLEXIBLE GROUP SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGBIOGASSYSTEM	Biogas generation system which produces fuel for the three boilers. In the event of boiler upsets or malfunctions, the gas is directed to EUBIOGASFLARE for destruction.	EUBOILER1, EUBOILER2, EUBOILER4A, EUBIOGASSYSTEM, EUBIOGASFLARE
FGMACT SUBPART S	For semi-chemical pulping processes using wood, the affected sources are the digester system and the evaporator system, as defined in 40 CFR Part 63, Subpart S.	EUEVAPFC, EUEVAPLTV, EUDIGESTERS

**FGMACT SUBPART S
 FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

For semi-chemical pulping processes using wood, the affected source is the total of all HAP emission points in the pulping system. Pulping system means all process equipment, beginning with the digester system, and up to and including the last piece of pulp conditioning equipment.

Emission Units: EUDIGESTERS, EUEVAPLTV, EUEVAPFC

POLLUTION CONTROL EQUIPMENT

EUBOILER1, EUBOILER2, EUBOILER4A, LVHC collection system

EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. All regulated HAP-emitting sources associated with EUEVAPFC, EUEVAPLTV, and EUDIGESTERS shall be enclosed and vented into a closed-vent system and routed to EUBOILER1 and/or EUBOILER2 and/or EUBOILER4A. **(40 CFR 63.443(c), 40 CFR 63.443(d)(4))**
2. Each component of the closed-vent system specified in S.C. III.1 that is operated at positive pressure and located prior to a control device shall be operated with no detectable leaks as indicated by an instrument reading of less than 500 ppmv above background, as measured by the procedures in S.C.V.1. **(40 CFR 63.450(c))**
3. Each bypass line in the closed-vent system that could divert vent streams containing HAP to the atmosphere without meeting the control device requirements in S.C. III.1 shall comply with the following requirement:
 - a. On each bypass line, the owner or operator shall install, calibrate, maintain, and operate according to the manufacturer’s specifications a flow indicator that is capable of taking periodic readings as frequently as specified in 40 CFR 63.454(e). The flow indicator shall be installed in the bypass line in such a way as to indicate flow in the bypass line; or
 - b. For bypass line valves that are not computer controlled, the permittee shall maintain the bypass line valve in the closed position with a car seal or a seal placed on the valve or closure mechanism in such a way that the valve or closure mechanism cannot be opened without breaking the seal. **(40 CFR 63.450(d))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. For all regulated HAP-emitting sources associated with EUEVAPFC, EUEVAPLTV, and EUDIGESTERS, the total HAP emissions from each LVHC system shall be controlled by introducing the HAP emission stream into the flame zone of EUBOILER1 and/or EUBOILER2 and/or EUBOILER4A. **(40 CFR 63.443(b)(1), 40 CFR 63.443(d)(4)(i))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. For positive pressure closed-vent systems or portions of closed vent systems, demonstrate no detectable leaks as specified in S.C. III.2, measured annually by the procedures in 40 CFR 63.457(d) as stated below:
 - a. Method 21, of part 60, appendix A-7; and
 - b. The instrument specified in Method 21 shall be calibrated before use according to the procedures specified in Method 21 on each day that leak checks are performed. The following calibration gases shall be used:
 - i. Zero air (less than 10 parts per million by volume of hydrocarbon in air); and
 - ii. A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 parts per million by volume methane or n-hexane.**(40 CFR 63.453(k)(3))**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Each enclosure and closed-vent system used to comply with 40 CFR 63.450(a) shall comply with the following requirements:
 - a. For each enclosure opening, a visual inspection of the closure mechanism specified in 40 CFR 63.450(b) shall be performed at least once every 30 days to ensure the opening is maintained in the closed position and sealed.
 - b. Each closed-vent system required by 40 CFR 63.450(a) shall be visually inspected every 30 days and at other times requested by the AQD. The visual inspection shall include inspection of ductwork, piping, enclosures, and connections to covers for visible evidence of defects.
 - c. For positive pressure closed-vent systems or portions of closed-vent systems, demonstrate no detectable leaks as specified in 40 CFR 63.450(c) measured initially and annually by the procedures in 40 CFR 63.457(d).
 - d. The valve or closure mechanism specified in 40 CFR 63.450(d)(2) shall be inspected at least once every 30 days to ensure that the valve is maintained in the closed position and the emission point gas stream is not diverted through the bypass line.
(40 CFR 63.453(k))
2. If an inspection required by SC VI.1(a-c) identifies visible defects in ductwork, piping, enclosures, or connections to covers required by 40 CFR 63.450, or if an instrument reading of 500 ppmv or greater above background is measured by SC V.1, or if enclosure openings are not maintained at negative pressure as determined by SC V.2, then the following corrective actions shall be taken as soon as practicable.
 - a. A first effort to repair or correct the closed-vent system shall be made as soon as practicable but no later than 5 calendar days after the problem is identified.
 - b. The repair or corrective action shall be completed no later than 15 days after the problem is identified. Delay of repair or corrective action is allowed if the repair or corrective action is technically infeasible without a process unit shutdown or if the owner or operator determines that the emissions resulting from immediate repair would be greater than the emissions likely to result from delay of repair. Repair of such equipment shall be completed by the end of the next process unit shutdown.
(40 CFR 63.453(k)(6))
3. For each applicable enclosure opening, closed-vent system, and closed collection system, the permittee shall prepare and maintain a site-specific inspection plan including a drawing or schematic of the components of applicable affected equipment. **(40 CFR 63.454(b))**

4. For each inspection performed pursuant to Condition VI.1(a-c), the permittee shall record the following information:
 - a. Date of inspection;
 - b. The equipment type and identification;
 - c. Results of negative pressure tests for enclosures;
 - d. Results of leak detection tests;
 - e. The nature of the defect or leak and the method of detection (i.e., visual inspection or instrument detection);
 - f. The date the defect or leak was detected and the date of each attempt to repair the defect or leak;
 - g. Repair methods applied in each attempt to repair the defect or leak;
 - h. The reason for the delay if the defect or leak was not repaired within 15 days after discovery;
 - i. The expected date of successful repair of the defect or leak if the repair is not completed within 15 days;
 - j. The date of successful repair of the defect or leak;
 - k. The position and duration of opening of bypass line valves and the condition of any valve seals;
 - l. The duration of the use of bypass valves on computer controlled valves.

(40 CFR 63.454(b))
5. The permittee shall set the flow indicator on each bypass line specified in 40 CFR 63.450(d)(1) to provide a record of the presence of gas flow in the bypass line at least once every 15 minutes. **(40 CFR 63.454(e))**
6. The following records of malfunctions must be maintained:
 - a. Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment;
 - b. Records of actions taken during periods of malfunction to minimize emissions, including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. **(40 CFR 63.454(g))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable requirements of the National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry in 40 CFR Part 63, Subpart S, as they apply. **(40 CFR Part 63, Subpart S)**

**APPENDIX A – Monitoring
Continuous Emission Monitoring System (CEMS) and
Predictive Emission Monitoring System (PEMS) Requirements**

1. Within 30 calendar days after commencement of trial operation, the permittee shall submit two copies of a Monitoring Plan to the AQD, for review and approval. The Monitoring Plan shall include drawings or specifications showing proposed locations and descriptions of the required CEMS/PEMS.
2. Within 150 calendar days after commencement of trial operation, the permittee shall submit two copies of a complete test plan for the CEMS/PEMS to the AQD for approval.
3. Within 180 calendar days after commencement of trial operation, the permittee shall complete the installation and testing of the CEMS/PEMS.
4. Within 60 days of completion of testing, the permittee shall submit to the AQD two copies of the final report demonstrating the CEMS/PEMS complies with the requirements of the corresponding Performance Specifications (PS) in the following table.

Pollutant	Applicable PS*
Opacity (COMS)	1
NO _x (CEMS)	2
O ₂ and CO ₂	3
CO	4
NO _x (PEMS)	16
*Or other PS as approved by the AQD.	

5. The span value shall be 2.0 times the lowest emission standard or as specified in the federal regulations.
6. The CEMS shall be installed, calibrated, maintained, and operated in accordance with the procedures set forth in 40 CFR 60.13 and PS 1, 2, 3, and 4 of Appendix B to 40 CFR Part 60 or 40 CFR Part 75. If a PEMS is installed in lieu of a CEMS, the PEMS shall be installed, maintained, and operated in accordance with PS 16 of Appendix B to 40 CFR Part 60, as proposed or promulgated.
7. Each calendar quarter, the permittee shall perform the Quality Assurance Procedures of the CEMS set forth in Appendix F of 40 CFR Part 60. If a PEMS is installed in lieu of a CEMS, the permittee shall perform the Quality Assurance Procedures of the PEMS set forth in PS 16 of Appendix B to 40 CFR Part 60, as proposed or promulgated. Within 30 days following the end of each calendar quarter, the permittee shall submit the results to the AQD in the format of the data assessment report (Figure 1, Appendix F).
8. In accordance with 40 CFR 60.7(c) and (d), the permittee shall submit two copies of an excess emission report (EER) and summary report in an acceptable format to the AQD, within 30 days following the end of each calendar quarter. The Summary Report shall follow the format of Figure 1 in 40 CFR 60.7(d). The EER shall include the following information:
 - a) A report of each exceedance. This includes the date, time, magnitude, cause and corrective actions of all occurrences during the reporting period.
 - b) A report of all periods of CEMS/PEMS downtime and corrective action.
 - c) A report of the total operating time of the unit during the reporting period.
 - d) A report of any periods that the CEMS/PEMS exceeds the instrument range.
 - e) If no exceedances or CEMS/PEMS downtime occurred during the reporting period, the permittee shall report that fact.

The permittee shall keep all monitoring data on file for a period of at least five years and make them available to the AQD upon request.

APPENDIX 7 – Emission Calculations

EUWASHERS

The permittee shall use the following calculations in conjunction with monitoring, testing or recordkeeping data to determine compliance with the applicable requirements referenced in EUWASHERS.

$$\text{Daily VOC emissions} = (A \times EF \times (1 - CE)) + (B \times EF)$$

Where: A = Amount of pulp processed under normal conditions (Tons of oven dried pulp on a daily basis)
B = Amount of pulp processed under abnormal conditions (Tons of oven dried pulp on a daily basis)
EF^a = Emission factor
CE^b = Control efficiency

^aIn the absence of specific test data, a default EF of 0.518 pounds of VOC per ton of oven dried pulp shall be used.

^bCE shall equal 0.98 when emissions are collected by the LVHC Collection System and EUBOILER1, EUBOILER2, and EUBOILER4A are operating properly.

EUBOILER5

The permittee shall use the following calculations in conjunction with monitoring, testing or recordkeeping data to determine compliance with the pound per hour (pph) NO_x, CO, PM₁₀, PM_{2.5} and SO₂ emissions limits, on a continuous 24-hour rolling operating hours average basis, referenced in this PTI. The permittee shall use emission factors from the most recent source specific testing (i.e., stack testing, gas sampling), as available for each boiler.

$$\text{24-hour PM}_{10} \text{ emissions} = (A \times EF)$$

$$\text{24-hour PM}_{2.5} \text{ emissions} = (A \times EF)$$

$$\text{24-hour SO}_2 \text{ emissions} = (A \times EF)$$

$$\text{24-hour NO}_x \text{ emissions (with TDF)} = [B \times (46 \text{ lb/lb-mol}) \times (\text{lb-mol}/385.35\text{scf}) \times (C_{w/TDF}) \times A \times (1/1,000,000)]$$

$$\text{24-hour NO}_x \text{ emissions (without TDF)} = [B \times (46 \text{ lb/lb-mol}) \times (\text{lb-mol}/385.35\text{scf}) \times (C_{wo/TDF}) \times A \times (1/1,000,000)]$$

$$\text{24-hour CO emissions (with TDF)} = [B \times (28 \text{ lb/lb-mol}) \times (\text{lb-mol}/385.35\text{scf}) \times (C_{w/TDF}) \times A \times (1/1,000,000)]$$

$$\text{24-hour CO emissions (without TDF)} = [B \times (28 \text{ lb/lb-mol}) \times (\text{lb-mol}/385.35\text{scf}) \times (C_{wo/TDF}) \times A \times (1/1,000,000)]$$

Where: A = Amount of total heat input of all fuels fired (Combined MMBTU of all fuels fired on an hourly basis)
B = CEMS Concentration (hourly ppm average)
C_{w/TDF} = F factor for fuel blend with TDF from most recent fuel sampling analysis (scf/BTU)
C_{wo/TDF} = F factor for fuel blend without TDF from most recent fuel sampling analysis (scf/BTU)
EF = Emission factor from the most recent approved EPA Test Method stack test result (lb/MMBTU)