

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

January 11, 2023

**PERMIT TO INSTALL
99-20B**

**ISSUED TO
Billerud Quinnesec, LLC**

**LOCATED AT
W-6791 U.S. Highway 2
Quinnesec, Michigan 49876**

**IN THE COUNTY OF
Dickinson**

**STATE REGISTRATION NUMBER
B7192**

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 2, 2022	
DATE PERMIT TO INSTALL APPROVED: January 11, 2023	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
EU0203-1	Chip bin – Chips that have been conveyed to the chip bin are metered, as needed, into the digester through a rotary feed system. Dilute vent gases from the chip bin are routed to the Waste Fuel Boiler or Recovery Furnace for incineration.	06/01/1981 08/02/1989 04/01/2008	FG2334-1 FGBBKRAFT-1
EU0204-1	Digester System – Chips and cooking additives are combined with steam in the digester to produce pulp. Concentrated vent gases from the digester system are routed to the Lime Kiln or Waste Fuel Boiler for incineration.	06/01/1981 04/01/2008 05/01/2012 10/31/2018	FG2334-1 FGBBKRAFT-1
EU0205-1	Digester Blow Tank – Pulp from the digester process is transferred to this tank prior to processing in the brown stock washing system. Dilute vent gases from the blow tank are routed to the Waste Fuel Boiler or Recovery Furnace for incineration.	06/01/1981	FG2334-1 FGBBKRAFT-1
EU0368-1	Brown Stock Washers – Pulp from the digester system is transferred to the brown stock washers where the pulp is screened and cleaned using a water solution. Dilute vent gases from the Brown Stock Washers are routed to the Waste Fuel Boiler or Recovery Furnace for incineration.	06/01/1981 05/01/1990 04/01/2008	FG2335-1 FGBBKRAFT-1
EU0407-1	White Liquor Oxidation System - White Liquor Oxidation System – A caustic solution is combined with air, steam and spent liquor solution which converts the sodium sulfide to sodium thiosulfate. A demister controls emissions from the White Liquor Oxidation System.	05/01/1990	FGPULPINGMOD-1
EU0610-1	Chlorine Dioxide (ClO ₂) Generating Plant – Process unit and associated equipment used to make chlorine dioxide (ClO ₂). Emissions are controlled by scrubbers.	06/01/1981 04/01/1994 04/01/2008	FGPULPINGMOD-1
EU0611-1	Methanol Storage Tank – The overflow capacity of the tank is 28,000 gallons.	04/01/1994	FGPULPINGMOD-1
EU0765-1	Evaporator System – Liquor from the digester and pulp washer systems is processed in the evaporator system to increase solids content of the liquor. Emissions are collected in the CVG system and routed to the Lime Kiln or Waste Fuel Boiler for incineration.	06/01/1981 04/01/2008	FG2334-1 FGBBKRAFT-1

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date / Modification Date	Flexible Group ID
EU0766-1	Hotwell – This unit is part of the evaporator system. Emissions are collected in the CVG system and routed to the Lime Kiln or Waste Fuel Boiler for incineration.	06/01/1981	FG2334-1 FGBBKRAFT-1
EU0767-1	Condensate Stripper – Condensate from the evaporator system is steam-stripped to remove organics. CVG Emissions are collected in the CVG system and routed to the Lime Kiln or Waste Fuel Boiler for incineration.	06/01/1981	FG2334-1 FGBBKRAFT-1
EU0815-1	Chemical Recovery Furnace is capable of burning black liquor solids, salt cake, and ESP hopper solids. Also capable of firing natural gas and incinerating vent gases (containing TRS compounds) from the pulping processes. Emissions are controlled by an ESP.	06/01/1981 05/30/1995 04/01/2008 05/01/2012 10/31/2018	FGPULPINGMOD-1
EU0816-1	Smelt Dissolving Tank – Inorganics from the Chemical Recovery Furnace and precipitator are mixed with weak wash to form green liquor. Emissions are controlled by a wet scrubber.	06/01/1981 04/01/2008 05/01/2012	FGPULPINGMOD-1
EU0917-1	Lime Kiln – Lime mud from the causticizing system is converted to lime in a rotary kiln. Emissions are controlled by a wet scrubber.	06/01/1981	FGPULPINGMOD-1
EU1121-1	Waste Fuel Boiler – Combination boiler capable of burning wood refuse, coal and natural gas to produce steam used in the mill. Emissions are controlled by a multicyclone collector, ESP and OFA system.	06/01/1981 10/22/2010	FGWFBMOD-1 FGPULPINGMOD-1
EU1882-1	Pulp Dryer – Pulp produced onsite is dewatered, pressed, dried, and cut into bales for transport and sale.	06/01/1981	FGPULPINGMOD-1
EU1227-1	Q41 Paper Machine – Pulp (from hardwood pulp, softwood pulp, coated broke, and uncoated broke storage) is combined with supplemental chemicals and additives to make various grades of paper.	06/01/1988	FGPULPINGMOD-1

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.

**EU0611-1 METHANOL STORAGE TANK
EMISSION UNIT CONDITIONS**

DESCRIPTION

Methanol Storage Tank – The overflow capacity of the tank is 28,000 gallons.

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
1. Methanol	0.54 tpy ¹	12-month rolling time period as determined at the end of each calendar month	EU0611-1	SC VI.1, SC VI.2	R 336.1224(1)

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Methanol	650,000 gallons per year transferred	12-month rolling time period as determined at the end of each calendar month	EU0611-1	SC VI.1	R 336.1205(1)(a) & (b), R 336.1224(1), R 336.1225

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not fill EU0611-1 at a rate faster than 200 gallons per minute.¹ (R 336.1224(1), R 336.1225)

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))

NA

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, in a satisfactory manner acceptable to the AQD District Supervisor, the amount of methanol transferred into EU0611-1 on a monthly and 12-month rolling time period. The permittee shall keep all records on file and make them available to the Department upon request.¹ (R 336.1205(1)(a) & (b), R 336.1224(1), R 336.1225)

2. The permittee shall calculate and record the amount of methanol emissions from EU0611-1 on a monthly and 12-month rolling time period basis. The permittee shall keep all records on file and make them available to the Department upon request.¹ (R 336.1205(1)(a) & (b), R 336.1224(1), R 336.1225)

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

Tank pressure may be released by a pressure/vacuum breaker safety valve, as needed. Pressure relief valve discharges through a goose-neck vent.

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV06-ST-007-002	4	22	R 336.1225, R 336.2803, R 336.2804

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

¹ This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

**EU0815-1 CHEMICAL RECOVERY FURNACE
 EMISSION UNIT CONDITIONS**

DESCRIPTION

CHEMICAL RECOVERY FURNACE is capable of burning black liquor solids, salt cake, and ESP hopper solids. The Recovery Furnace is also capable of firing natural gas and vent gases (containing TRS compounds) from the pulping process.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Electrostatic Precipitator (ESP) to control particulate emissions.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. H ₂ SO ₄	9.06 tpy	12-month rolling time period as determined at the end of each calendar month	EU0815-1	SC VI.5	R 336.1205(1)(a) & (b)
2. TRS based on H ₂ S	5.0 ppmv on a dry basis, at 8% oxygen	12-hour block average	EU0815-1	SC VI.2, SC VI.3, SC VI.4	R 336.1224(1), R 336.1225, 40 CFR 60.283(a)(2), 40 CFR 52.21(j)(3)
3. TRS based on H ₂ S	12.15 tpy	12-month rolling time period as determined at the end of each calendar month	EU0815-1	SC VI.5	R 336.1205(1)(a) & (b)
4. H ₂ S	10.7 tpy	12-month rolling time period as determined at the end of each calendar month	EU0815-1	SC VI.5	R 336.1205(1)(a) & (b)
5. PM _{2.5}	42.1 pph	Hourly	EU0815-1	SC V.1	R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810
6. PM _{2.5}	184.3 tpy	12-month rolling time period as determined at the end of each calendar month	EU0815-1	SC VI.5	R 336.1205(1)(a) & (b), R 336.2810
7. PM ₁₀	45.7 pph	Hourly	EU0815-1	SC V.1	R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
8. PM10	200.2 tpy	12-month rolling time period as determined at the end of each calendar month	EU0815-1	SC VI.5	R 336.1205(1)(a) & (b), R 336.2810
9. PM	0.044 gr/dscf at 8% oxygen	Hourly	EU0815-1	SC V.2, SC VI.1	40 CFR 63.862(a)(1)(i)
10. PM	48.6 pph	Hourly	EU0815-1	SC V.1, SC VI.1	R 336.1205(1)(a) & (b), R 336.1331, R 336.2810
11. PM	212.9 tpy	12-month rolling time period as determined at the end of each calendar month	EU0815-1	SC VI.5	R 336.1205(1)(a) & (b), R 336.2810
12. SO ₂	50 ppmv on a dry basis, at 8% oxygen	24-hour average	EU0815-1	SC VI.4	40 CFR 52.21(j)(3)
13. SO ₂	110 pph	24-hour average	EU0815-1	SC VI.6	R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d), 40 CFR 52.21(j)(3)
14. SO ₂	25 tpy	12-month rolling time period as determined at the end of each calendar month	EU0815-1	SC VI.5	R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)
15. NO _x	110 ppmv on a dry basis, at 8% oxygen	24-hour rolling average	EU0815-1	SC VI.4	R 336.1205(1)(a) & (b), R 336.2810
16. NO _x	218 pph	24-hour rolling average	EU0815-1	SC VI.6	R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810
17. NO _x	890 tpy	12-month rolling time period as determined at the end of each calendar month	EU0815-1	SC VI.5	R 336.1205(1)(a) & (b), R 336.2810
18. CO	380 ppmv on a dry basis at 8% oxygen	8-hour rolling average	EU0815-1	SC VI.4	R 336.1205(1)(a) & (b), R 336.2804, R 336.2810
19. CO	458 pph	8-hour rolling average	EU0815-1	SC VI.6	R 336.1205(1)(a) & (b), R 336.2804, R 336.2810
20. CO	425 ppmv on a dry basis, at 8% oxygen	3-hour rolling average	EU0815-1	SC VI.4	R 336.1205(1)(a) & (b), R 336.2804, R 336.2810
21. CO	512.2 pph	3-hour rolling average	EU0815-1	SC VI.6	R 336.1205(1)(a) & (b), R 336.2804, R 336.2810

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
22. CO	900 tpy	12-month rolling time period as determined at the end of each calendar month	EU0815-1	SC VI.5	R 336.1205(1)(a) & (b), R 336.2810
23. VOC	43.96 tpy	12-month rolling time period as determined at the end of each calendar month	EU0815-1	SC VI.5	R 336.1205(1)(a), R 336.1702(c)
24. Lead	0.54 tpy	12-month rolling time period as determined at the end of each calendar month	EU0815-1	SC VI.5	R 336.1205(1)(a), R 336.2804, 40 CFR 52.21(d)
25. Total Gaseous Nonmethane Organics (TGNMO) measured as total methane	50 ppmv on a dry basis, at 8% oxygen	Hourly	EU0815-1	SC V.1	R 336.1702(c), 40 CFR 52.21(j)(3)
26. TGNMO measured as total methane	27.4 pph	Hourly	EU0815-1	SC V.1	R 336.1702(c), 40 CFR 52.21(j)(3)
27. GHG as CO ₂ e	210 lbs/MMBTU	12-month rolling time period as determined at the end of each calendar month	EU0815-1	SC VI.5	R 336.1205(1)(a) & (b), R 336.2810, 40 CFR 52.21(j)
28. GHG as CO ₂ e	972,722 tpy	12-month rolling time period as determined at the end of each calendar month	EU0815-1	SC VI.5	R 336.1205(1)(a) & (b), R 336.2810, 40 CFR 52.21(j)

II. MATERIAL LIMIT(S)

1. The permittee shall not fire any fuels in EU0815-1 except for natural gas, virgin black liquor solids, salt cake or ESP hopper materials. **(R 336.1224, R 336.1225, R 336.1702(c))**
2. The natural gas fuel usage for EU0815-1 shall not exceed 793.55 million cubic feet per year based on a 12-month rolling time period. **(R 336.1205(1)(a) & (b), R 336.1224, R 336.1225, R 336.1702(c))**
3. The permittee shall not fire virgin black liquor solids, salt cake or ESP hopper materials greater than 4.68 million pounds per operating day and 823,440 tons per year, based on a 12-month rolling time period. **(R 336.1205(1)(a) & (b), R 336.1224, R 336.1225, R 336.1702(c))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The steam load from EU0815-1 while incinerating dilute vent gases (DVG) shall not be less than 100,000 pounds of steam per hour, unless otherwise demonstrated by the permittee to the satisfaction of the AQD. **(R336.1225, R 336.1910)**

2. The permittee shall not generate DVGs during startup unless the DVGs can be accepted to either EU0815-1 or EU1121-1, which has maintained a minimum steam load under stable conditions. **(R 336.1225, R 336.1301(1)(c), R 336.1331(1)(c), R 336.1702(c))**
3. The permittee shall not operate EU0815-1 unless the smelt dissolving tank scrubber and mist eliminator are operating properly. Proper operation includes, but is not limited to, compliance with established operating parameters. **(R 336.1225, R 336.1301, R 336.1331(1)(c), R 336.1702(c), R 336.1910, 40 CFR Part 63 Subparts A and MM)**
4. The permittee shall not operate EU0815-1 on virgin black liquor solids, salt cake, and/or ESP hopper materials, including during startup and shutdown, unless the ESP is operating properly. **(R 336.1225, R 336.1301(1)(c), R 336.1331(1)(c), R 336.1910, 40 CFR 52.21, R 336.2810)**
5. The period of startup or shutdown is defined as the period when the permittee commences the process of continuously burning black liquor solids in EU0815-1 or begins the process of discontinuing the continuous burning of black liquor solids, respectively, and does not include any period when the permittee is combusting only natural gas in EU0815-1. The periods of startup or shutdown shall not exceed 12 hours per occurrence. **(R 336.1205, R 336.1225, R 336.1301(1)(c), R 336.1331(1)(c), R 336.1910, 40 CFR 52.21, R 336.2810)**
6. The permittee shall operate and maintain EU0815-1, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including startup, shutdown, and malfunction. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1702(c), R 336.2803, R 336.2804, R 336.2810)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate EU0815-1 unless the ESP is installed, maintained, and operated in a satisfactory manner acceptable to the AQD District Supervisor. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1301, R 336.1331, R 336.1910, R 336.2803, R 336.2804)**

V. TESTING/SAMPLING

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

1. Within 60 days of achieving the maximum production rate, but not later than 180 days after commencement of initial startup of EU0815-1, the permittee shall verify PM, PM10, PM2.5, and TGNMO emission rates by testing at owner's expense, in accordance with Department requirements. Thereafter, performance stack testing shall be once every five years from the last test. Testing shall be performed using an approved USEPA Method listed in:

Pollutant	Test Method Reference
PM	40 CFR Part 60 Appendix A; Part 10 of the Michigan Air Pollution Control Rules
PM10	40 CFR Part 51, Appendix M
PM2.5	40 CFR Part 51, Appendix M
Total Gaseous Nonmethane Organics (TGNMO)	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved USEPA 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 336.2001, R 336.2003, R 336.2004)**

2. The permittee shall conduct performance tests for particulate matter per the applicable performance test requirements and test methods specified in 40 CFR Part 63, Subpart A and MM. Subsequent periodic tests

must be conducted within 5 years following the previous performance test. Notification of performance tests shall be submitted at least 60 days in advance to the Administrator along with a site-specific test plan if requested. Test results must be submitted within 60 days of test completion to the USEPA via CEDRI in a format generated through EPA's ERT (electronic reporting tool), or consistent with the XML schema listed on USEPA's ERT website. A notification of compliance status must be submitted within 60 days of performance test completion. **(40 CFR 63.7, 40 CFR 63.865, 40 CFR 63.867)**

VI. MONITORING/RECORDKEEPING

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

1. Continuous Opacity Monitoring

- a) The permittee shall utilize COM-recorded opacity as an indicator of the proper operation of the ESP. The indicator range of opacity defining proper function of the ESP is 20%. Six-minute average values shall be based on 36 or more equally spaced instantaneous opacity measurements per six-minute period. An excursion is a departure from the indicator range of 20% opacity. Opacity shall be determined at the exit of the main stack using a combiner equation acceptable to the AQD. **(R 336.1301, R 336.2810)**
- b) The permittee shall install, calibrate, maintain, and operate a continuous opacity monitoring system to measure opacity in accordance with the procedures in 40 CFR 63.6(h) and 40 CFR 63.8. Opacity shall be determined at the exhaust of the recovery furnace to the main stack. **(40 CFR 63.6(h), 40 CFR 63.8)**
- c) The permittee shall maintain opacity at or below 35% except for 2% of the time in any semiannual period. **(40 CFR Part 63, Subpart MM)**
- d) The permittee shall implement corrective action when the average of ten consecutive 6-minute averages results in a measurement greater than 20% opacity. **(40 CFR 63.864(k)(2)(i))**
- e) The permittee shall record opacity emissions on a continuous basis, with certified instrumentation meeting the requirements of 40 CFR 60 Appendix B Performance Specification 1 and the applicable standards. The permittee shall perform quality assurance procedures according to 40 CFR 60 Appendix F, Procedure 3. Alternate procedures may be approved by the AQD. The permittee shall maintain and submit at the request of the AQD a Quality Assurance Plan for the continuous opacity monitoring system. The results of all quality assurance procedures shall be reported to the AQD in a format of the data assessment report (DAR) along with the quarterly excess emission reports (EER) and summary reports. **(40 CFR Part 63 Subparts A and MM, 40 CFR Part 60, Subparts A & BB, and Appendix B and Appendix F to Part 60)**
- f) Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. **(R 336.1910)**
- g) The permittee shall properly maintain the monitoring system, including keeping necessary parts for routine repair of the monitoring equipment. **(R 336.1910)**
- h) The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan and any activities undertaken to implement a quality improvement plan, and other information such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions. **(R 336.1910)**

2. Continuous Emission Monitoring (CEM) System and Recordkeeping.

- a) The permittee shall calibrate, monitor and record gaseous emissions of TRS on a continuous basis, with certified instrumentation, and in a manner acceptable to 40 CFR Part 60, Appendix B, Performance Specification Nos. 1 & 5. **(40 CFR 60.13, 40 CFR 60 Appendix B, Performance Specifications Nos. 1 & 5, 40 CFR 60.284)**

- b) The permittee shall perform and report Quality Assurance Procedures of the CEMS and submit it to the AQD in a format of the data assessment report (DAR) along with the quarterly excess emission reports (EER) and summary reports. **(40 CFR Part 60, Subparts A & BB, and Appendix F)**
3. Process Monitoring System and Recordkeeping.
 - a) The permittee shall comply with the monitoring system and recordkeeping as required by 40 CFR 60.284. **(40 CFR 60.284)**
4. Other Monitoring and/or Recordkeeping.
 - a) The permittee shall maintain records of Particulate Matter and TRS emissions. **(40 CFR Part 60, Subpart A; 40 CFR 60.284)**
 - b) Compliance with the concentration limits (ppmv) of SO₂, NO_x, CO, and TRS shall be determined using CEMS located downstream of the ESP and in accordance with the procedures described in 40 CFR Part 60, Subpart BB, Section 60.284 and 40 CFR Part 60, Appendix B and the applicable Performance Specifications (PS) 2 through 5. **(R 336.1205(1)(a) & (b), R 336.2810, 40 CFR 52.21, 40 CFR 60.284, 40 CFR 60.285)**
 - c) The permittee shall monitor and record, in a satisfactory manner, the amount of fuel combusted daily and monthly from EU0815-1 and calculate the annual capacity factor for natural gas as determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month. **(R 336.1205(1)(a) & (b), 40 CFR 60.49b(d)(1))**
 - d) The permittee shall install, calibrate, maintain, and operate, in a satisfactory manner, a device to monitor and record black liquor solid (BLS) usage rate from EU0815-1, on a daily basis. **(R 336.1205(1)(a) & (b), R 336.2810)**
 - e) Records of the data and calculations used to determine compliance with the emission limits of NO_x, CO, and SO₂ as required in SC V.3. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810, 40 CFR 52.21(c), (d), (j))**
The permittee shall keep all records on file at the facility and make them available to the Department upon request.
5. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period emission calculation records for EU0815-1, for H₂SO₄, TRS, H₂S, PM_{2.5}, PM₁₀, PM, SO₂, NO_x, CO, VOC, lead, and CO_{2e}, as required by SC I.1, I.3, I.4, I.6, I.8, I.11, I.14, I.17, I.22, I.23, I.24, I.27, and I.28. 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, R 336.2810)**
6. The permittee shall calculate and keep pound per hour (pph) emission rates of SO₂, NO_x, and CO for EU0815-1, once every five years from the date of the last performance test. The permittee shall use the flow rate from the most recent stack test for particulate or TGNMO; and the concentration (in ppm) of each pollutant, measured from a certified CEMs, for the applicable averaging periods to calculate the pph emission rates. 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, R 336.12810)**
7. The permittee shall maintain a record of all fuels including natural gas, virgin black liquor solids, salt cake and ESP hopper materials fired in EU0815-1 on a 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 336.1224, R 336.1225, R 336.1702(c))**
8. The permittee shall maintain records of the startup and shutdown periods for EU0815-1, including dates, starting time, and ending time of such periods. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.2803, R 336.2804)**
9. The permittee shall monitor and record the total hourly, daily and annual EU0815-1 feed rates of black liquor solids which includes the virgin black liquor solids, salt cake, and ESP hoppers materials; the hourly steam load and natural gas usage of EU0815-1; the voltage and amperage supplied to all the fields and chambers of EU0815-1's ESP; and the time periods of one chamber operation of the ESP on a continuous basis in a manner and with instrumentation acceptable to the AQD. The permittee shall keep all records on file at the

facility and make them available to the Department upon request. **(R 336.1205, R 336.1224, R 336.1225, R 336.1301(1)(c), R 336.1331(1)(c), R 336.1910, 40 CFR 52.21, R 336.2810)**

10. The permittee shall keep records, as applicable, specified in 40 CFR 63.866(b)-(d) in addition to the applicable recordkeeping requirements of 40 CFR 63.10. **(40 CFR 63.866(b)-(d), 40 CFR 63.10)**

VII. REPORTING

1. The permittee shall submit any performance test reports, including RATA reports, to the AQD Technical Programs Unit and District Office, in a format approved by the AQD. **(R 336.2001(5))**
2. The permittee shall submit the notifications and reports as specified in the applicable sections of 40 CFR Part 63, Subpart MM and A. Semiannual excess emissions reports must be submitted electronically via CEDRI if forms are available. If CEDRI forms are not available, electronic reports must be submitted within one year of availability. **(40 CRR 63.867, 40 CFR 63.9, 40 CFR 63.10)**

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. SV08-ST-004-001	168	299	R 336.1225, R 336.2803 R 336.2804

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with the applicable requirements of 40 CFR Part 63, Subpart MM: National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semi chemical Pulp Mills. **(40 CFR Part 63, Subpart MM)**
2. The permittee shall comply with the applicable requirements of 40 CFR Part 60, Subpart BB, New Source Performance Standards for Kraft Pulp Mills. **(40 CFR Part 60, Subpart BB)**
3. The permittee shall comply with the applicable requirements of 40 CFR Part 60, Subpart Db: New Source Performance Standards for Industrial, Commercial, Institutional Steam Generating Units. **(40 CFR Part 60, Subpart Db)**

Footnotes:

¹ This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

**EU0816-1 SMELT DISSOLVING TANK
 EMISSION UNIT CONDITIONS**

DESCRIPTION

SMELT DISSOLVING TANK – Inorganics from the chemical recovery furnace and precipitator are mixed with weak wash to form green liquor. Emissions are controlled by a wet scrubber.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Dynamic scrubber to control total reduced sulfur (TRS), hydrogen sulfide, and total gaseous nonmethane organics (TGNMO) emissions.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. H ₂ S	3.63 tpy	12-month rolling time period as determined at the end of each calendar month	EU0816-1	SC VI.7	R 336.1205(1)(a) & (b)
2. TRS based on H ₂ S	0.0168 lb/ton BLS on a dry weight as fired basis	Hourly	EU0816-1	SC V.1	40 CFR 52.21(j)(3)
3. TRS based on H ₂ S	0.033 lb/ton BLS on a dry weight as fired basis	3-hour average	EU0816-1	SC V.1	40 CFR 60.283(a)(4)
4. TRS	5.21 tpy	12-month rolling time period as determined at the end of each calendar month	EU0816-1	SC VI.7	R 336.1205(1)(a) & (b)
5. PM **	0.107 lb/ton BLS on a dry weight as fired basis	Hourly	EU0816-1	SC V.1 SC VI.3	40 CFR 52.21(j)(3)
6. PM **	8.5 pph	Hourly	EU0816-1	SC V.1 SC VI.3	40 CFR 52.21(j)(3)
7. PM	0.2 lb/ton BLS, on a dry weight as fired basis	Hourly	EU0816-1	SC V.2	40 CFR 63.862(a)(1)(i)(B), 40 CFR 60.282(a)(2)
8. PM	28.16 tpy	12-month rolling time period as determined at the end of each calendar month	EU0816-1	SC VI.7	R 336.1205(1)(a) & (b)
9. PM ₁₀ **	0.107 lb/ton BLS on a dry weight as fired basis	Hourly	EU0816-1	SC V.1 SC VI.3	40 CFR 52.21(j)(3)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
10. PM10 **	8.5 pph	Hourly	EU0816-1	SC V.1 SC VI.3	R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d), 40 CFR 52.21(j)(3)
11. PM10	26.31 tpy	12-month rolling time period as determined at the end of each calendar month	EU0816-1	SC VI.7	R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)
12. PM2.5	22.5 tpy	12-month rolling time period as determined at the end of each calendar month	EU0816-1	SC VI.7	R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)
13. SO ₂ **	0.016 lb/ton BLS on a dry weight as fired basis	Hourly	EU0816-1	SC V.1 SC VI.2	R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)
14. SO ₂ **	1.27 pph	Hourly	EU0816-1	SC V.1 SC VI.2	R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)
15. SO ₂	5.56 tpy	12-month rolling time period as determined at the end of each calendar month	EU0816-1	SC VI.7	R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)
16. VOC	14.61 tpy	12-month rolling time period as determined at the end of each calendar month	EU0815-1	SC VI.7	R 336.1205(1)(a) & (b)
17. CO	5.29 tpy	12-month rolling time period as determined at the end of each calendar month	EU0816-1	SC VI.7	R 336.1205(1)(a) & (b), R 336.2804, 40 CFR 52.21(d)
18. NO _x	11.29 tpy	12-month rolling time period as determined at the end of each calendar month	EU0816-1	SC VI.7	R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)
19. TGNMO measured as methane	200 ppmv of exhaust gases, on a dry basis	Hourly	EU0816-1	SC V.1	R 336.1702(a), 40 CFR 52.21(j)(3)
20. TGNMO measured as methane	6.5 pph	Hourly	EU0816-1	SC V.1	R 336.1702(a), 40 CFR 52.21(j)(3)
BLS = Black liquor solids **Limit is based on a maximum of 4.68 MM lbs per day of virgin black liquor solids, salt cake and/or ESP hoppers materials.					

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate EU0816-1 unless the scrubber is installed, maintained, and operated in a satisfactory manner acceptable to the AQD District Supervisor. **(R 336.1205(1)(a) & (b), R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.2810, R 336.2803, R 336.2804)**

V. TESTING/SAMPLING

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

1. The permittee shall verify H₂S, TRS, PM, PM₁₀, SO₂, and TGNMO emission rates from EU0816-1, by testing at owner's expense, in accordance with the Department requirements, once every five years from the last test. Testing shall be performed using an approved EPA Method listed in:

Pollutant	Test Method Reference
PM	40 CFR Part 60, Appendix A; Part 10 of the Michigan Air Pollution Control Rules
PM ₁₀	40 CFR Part 51, Appendix M
SO ₂	40 CFR Part 60, Appendix A
H ₂ S	40 CFR Part 60, Appendix A
Total Gaseous Nonmethane Organics (TGNMO)	40 CFR Part 60, Appendix A
Total Reduced Sulfurs (TRS)	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. The TRS emission testing shall be conducted when incinerating DVGs in the chemical recovery furnace. **(R 336.2001, R 336.2003, R 336.2004, 40 CFR 60.7, 40 CFR 60.8 and Appendix A)**

2. The permittee shall conduct performance tests for particulate matter per the applicable performance test requirements and test methods specified in 40 CFR Part 63, Subpart A and MM. Subsequent periodic tests must be conducted within 5 years following the previous performance test. Notification of performance tests shall be submitted at least 60 days in advance to the Administrator along with a site-specific test plan if requested. Test results must be submitted within 60 days of test completion to the USEPA via CEDRI in a format generated through USEPA's ERT (electronic reporting tool), or consistent with the XML schema listed on USEPA's ERT website. A notification of compliance status must be submitted within 60 days of performance test completion. Beginning October 11, 2019, the notification of compliance status must be submitted to the USEPA via CEDRI. **(40 CFR 63.7, 40 CFR 63.865, 40 CFR 63.867)**

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall install, calibrate, maintain, and operate a continuous monitoring system to measure fan amperage and the scrubbing liquid flow rate at least once every successive 15-minute period using the procedures in 40 CFR 63.8. **(40 CFR 63.864(e)(10), 40 CFR 60.13(A), 40 CFR 63.8(b)(1))**

2. The permittee shall establish scrubber operating ranges for fan amperage and scrubbing liquid flow rate as specified in 40 CFR 63.864(j) and 40 CFR 63.865. The minimum scrubbing liquid flow rate is the rate established during the most recent performance test for particulate matter. **(40 CFR 63.864(j))**
3. The permittee shall maintain operating parameters within the range established according to 40 CFR 63.864(j) except for up to five 3-hour average periods in a semi-annual period. No more than one exceedance will be attributed to any 24-hour period. **(40 CFR 63.864(k)(2)(iv) and 40 CFR 63.864(k)(3))**
4. An excursion is when any 3-hour average parameter value is outside the minimum scrubber liquid flow rate established during the most recent performance test for particulate matter as provided in 40 CFR 63.864(j). The permittee shall implement corrective action upon detection of an excursion. **(40 CFR 63.864(k)(1)(ii))**
5. The permittee shall conduct CMS inspections, evaluations, and quality control. **(40 CFR 63.864(f) and 40 CFR 63.8(d)-(e))**
6. The permittee shall maintain the records, as applicable, specified in 40 CFR 63.866(b)-(d) in addition to the applicable record-keeping requirements of 40 CFR 63.10. **(40 CFR 63.866(b)-(d), 40 CFR 63.10)**
7. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period H₂S, TRS, PM, PM₁₀, PM_{2.5}, SO₂, VOC, CO and NO_x emission calculation records for EU0816-1, as required by SC I.1, I.4, I.8, I.11, I.12, I.15, I.16, I.17, and I.18. 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))**
8. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. **(R 336.1910, R 336.1912)**
9. The permittee shall properly maintain the monitoring system, including keeping necessary parts for routine repair of the monitoring equipment. **(R 336.1910)**
10. The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan and any activities undertaken to implement a quality improvement plan, and other information such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions. **(R 336.1910, R 336.1912)**
11. The permittee shall monitor and record the time(s) when the collector bypass is opened and closed.¹ **(R 336.1901)**

VII. REPORTING

1. The permittee shall submit the notifications and reports as specified in the applicable sections of 40 CFR 63 Subparts MM and A. Beginning October 11, 2019, semiannual excess emissions reports must be submitted electronically via CEDRI if forms are available. If CEDRI forms are not available, electronic reports must be submitted within one year of availability. **(40 CFR 63.867, 40 CFR 63.9, 40 CFR 63.10)**
2. The permittee shall submit any performance test reports, including RATA reports, to the AQD Technical Programs Unit and District Office, in a format approved by the AQD. **(R 336.2001(5))**

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. SV08-ST-005-001	48	186	R 336.1225, R 336.2803, R 336.2804

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with the applicable requirements of 40 CFR Part 63, Subpart MM: National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semi chemical Pulp Mills. **(40 CFR Part 63, Subpart MM)**
2. The permittee shall comply with the applicable requirements of 40 CFR Part 60, Subpart BB: New Source Performance Standards for Kraft Pulp Mills. **(40 CFR Part 60, Subpart BB)**

Footnotes:

¹ This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

**EU0917-1 LIME KILN
 EMISSION UNIT CONDITIONS**

DESCRIPTION

LIME KILN – Lime mud from the causticizing system is converted to lime in a rotary kiln. Emissions are controlled by a wet scrubber.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Venturi wet scrubber to control particulate, total reduced sulfur (TRS), hydrogen sulfide, methanol, and total gaseous nonmethane organics (TGNMO) emissions.

Low NOx burner to control NOx emissions.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. TRS based on H ₂ S	8.0 ppmv on a dry basis, at 10% oxygen	12-hour block average	EU0917-1	SC VI.1	R 336.1224, R 336.1225, 40 CFR 60.283(a)(5), 40 CFR 52.21(j)(3)
2. Carbon Monoxide (CO)	0.64 lb/MMBTU heat input when firing natural gas and/or No. 6 fuel oil	Hourly	EU0917-1	SC V.1	R 336.2804, 40 CFR 52.21(d)
3. Nitrogen Oxides (NO _x)	0.30 lb/MMBTU heat input when firing natural gas and/or No. 6 fuel oil	Hourly	EU0917-1	SC V.1	R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)
4. NO _x	29 pph	Hourly	EU0917-1	SC V.1	R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)
5. PM	0.064 gr/dscf at 10% oxygen	Hourly	EU0917-1	SC V.3, SC VI.2	40 CFR 60.282(a)(3)(i), 40 CFR 63.862(a)(1)(i)
6. PM	16.9 pph	Hourly	EU0917-1	SC V.1, SC VI.2	40 CFR 52.21(j)(3)
7. PM	9.4 pph	Hourly	EU0917-1	SC V.1, SC VI.2	R 336.2803, R 336.2804
8. PM	41.1 tpy	12-month rolling time period as determined at the end of each calendar month	EU0917-1	SC VI.7	R 336.1205(1)(a) & (b)
9. PM ₁₀	9.7 pph	Hourly	EU0917-1	SC V.1, SC VI.2	R 336.2803, R 336.2804

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
10. PM10	42.3 tpy	12-month rolling time period as determined at the end of each calendar month	EU0917-1	SC VI.7	R 336.1205(1)(a) & (b)
11. PM2.5	9.7 pph	Hourly	EU0917-1	SC V.1, SC VI.2	R 336.2803, R 336.2804
12. PM2.5	42.3 tpy	12-month rolling time period as determined at the end of each calendar month	EU0917-1	SC VI.7	R 336.1205(1)(a) & (b)
13. SO ₂	40 pph	Hourly	EU0917-1	SC V.2	R 336.2803, R 336.2804, 40 CFR 52.21(j)(3)
14. SO ₂	1.7 lbs/MMBTU of heat input (Applies when burning fuel oil)	Hourly	EU0917-1	SC V.2, SC VI.6	R 336.1402, R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)
15. Total Gaseous Nonmethane Organics (TGNMO) measured as total methane	68 ppmv on a dry basis, at 10% oxygen	Hourly	EU0917-1	SC V.1	R 336.1702(a)
16. TGNMO measured as total methane	5.0 pph	Hourly	EU0917-1	SC V.1	R 336.1702(a)

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

- The permittee shall maintain operating parameters within the range established according to 40 CFR 63.864(j) except for up to five 3-hour average periods in a semiannual period, with the exception of pressure drop during periods of startup and shutdown. The permittee shall implement a corrective action when any 3-hour average parameter value is outside the range of values established as provided in 40 CFR 63.864(j). No more than one exceedance will be attributed to any 24-hour period. **(40 CFR 63.864(k)(1)(ii), 40 CFR 63.864(k)(2), 40 CFR 63.864(k)(3))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

- The permittee shall not operate EU0917-1 unless the wet scrubber is installed, maintained, and operated in a satisfactory manner acceptable to the AQD District Supervisor. **(R 336.1205(1)(a) & (b), R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(j)(3), R 336.2803, R 336.2804)**

V. TESTING/SAMPLING

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

1. The permittee shall verify Methanol, CO, NO_x, PM, PM₁₀, PM_{2.5}, and TGNMO emission rates from EU0917-1, by testing at owner's expense, in accordance with the Department requirements, once every five years from the last test. Testing shall be performed using an approved EPA Method listed in:

Pollutant	Test Method Reference
CO	40 CFR Part 60, Appendix A
NO _x	40 CFR Part 60, Appendix A
PM	40 CFR Part 60, Appendix A; Part 10 of the Michigan Air Pollution Control Rules
PM ₁₀	40 CFR Part 51, Appendix M
PM _{2.5}	40 CFR Part 51, Appendix M
TGNMO	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. The TRS emission testing shall be conducted when incinerating DVGs in the chemical recovery furnace. **(R 336.2001, R 336.2003, R 336.2004, 40 CFR Part 51 and Appendix M, 40 CFR Part 60 and Appendix A)**

2. Upon request of the AQD District Supervisor, the permittee shall verify SO₂ emission rates from EU0917-1, by testing at owner's expense, in accordance with the Department requirements. Testing shall be performed using an approved EPA Method listed in:

Pollutant	Test Method Reference
SO ₂	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 336.2001, R 336.2003, R 336.2004, 40 CFR 60.7, 40 CFR 60.8 and Appendix A)**

3. The permittee shall conduct performance tests for particulate matter per the applicable performance test requirements and test methods specified in 40 CFR Part 63, Subpart A and MM. Subsequent periodic tests must be conducted within 5 years following the previous performance test. Test results must be submitted within 60 days of test completion to the USEPA via CEDRI in a format generated through USEPA's ERT (electronic reporting tool), or consistent with the XML schema listed on USEPA's ERT website. A notification of compliance status must be submitted within 60 days of performance test completion. Beginning October 11, 2019, the notification of compliance status must be submitted to the USEPA via CEDRI. **(40 CFR 63.7, 40 CFR 63.865, 40 CFR 63.867)**

VI. MONITORING/RECORDKEEPING

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

1. The TRS concentration limit shall be determined using a CEMS located downstream of the scrubber and in accordance with the procedures specified in 40 CFR 60.284, 40 CFR Part 60, Appendix F and Performance Specifications 5 & 3. **(40 CFR 60.284, 40 CFR 60 Appendix F and Appendix B PS 5 & 3)**
2. The permittee shall install, calibrate, maintain, monitor and operate a continuous monitoring system to measure and record pressure drop across the scrubber and scrubber liquid flow rate at least once every

successive 15-minute period using the procedure in (40 CFR 63.864 (e)(10), 40 CFR 60.13(a). **(40 CFR 63.8, 40 CFR 63.864 (e)(10))**

3. The permittee shall maintain operating parameters within the range established according to 40 CFR 63.864(j) except for up to five 3-hour average periods in a semi-annual period. No more than one exceedance will be attributed to any 24-hour period. **(40 CFR 63.864(k)(2)(iv), 40 CFR 63.864(k)(3))**
4. The permittee shall maintain and implement CMS data quality assurance procedures consistent with the requirements in 40 CFR 63.8(d)(1) and (2). **(40 CFR 63.864(f), 40 CFR 63.8(d)(1)-(2))**
5. The permittee shall maintain records, as applicable, specified in 40CFR 63.866(b) - (d) in addition to the applicable record keeping requirements of 40 CFR 63.10. **(40 CFR 63.866(b)-(d), 40 CFR 63.10)**
6. The permittee shall maintain purchase records for ASTM specification fuel oil, specifications or analyses provided by the vendor at the time of delivery, analytical results from laboratory testing or any other records adequate to demonstrate compliance with the emission limit in SC I.14. **(R 336.1402, R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d))**
7. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period PM2.5, PM10, and PM emission calculation records for EU0917-1, as required by SC I.8, I.10, and I.12. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.2803, R 336.2804)**
8. The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan and any activities undertaken to implement a quality improvement plan, and other information such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions. **(R 336.1910, R 336.1912)**

VII. REPORTING

1. The permittee shall submit NESHAP semiannual excess emissions reports as specified in 40 CFR Part 63, Subparts MM and A. Semiannual reports must be submitted electronically via CEDRI if forms are available. If CEDRI forms are not available, electronic reports must be submitted within one year of availability. **(40 CFR 63.867(c), 40 CFR 63.10(e)(3)(v))**
2. The permittee shall submit the applicable notifications and reports specified in 40 CFR 63.9 and 40 CFR 63.10. **(40 CFR 63.867(a), 40 CFR 63.10(d))**
3. The permittee shall submit any performance test reports {including RATA reports} to the AQD Technical Programs Unit and District Office, in a format approved by the AQD. **(R 336.2001(5))**

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. SV09-ST-005-001	60	185	R 336.1225, R 336.2803, R 336.2804

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with the applicable requirements of 40 CFR Part 63, Subpart MM - National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semi-chemical Pulp Mills. **(40 CFR Part 63, Subpart MM)**

2. The permittee shall comply with the applicable requirements of 40 CFR Part 60, Subpart BB: New Source Performance Standards for Kraft Pulp Mills. **(40 CFR Part 60, Subpart BB)**

Footnotes:

¹ This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

**EU1882-1 Q40 PULP DRYER
 EMISSION UNIT CONDITIONS**

DESCRIPTION

Q40 PULP DRYER – Pulp produced onsite is dewatered, pressed, dried, and cut into bales for transport and sale.

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
1. VOC	24.1 tpy	12-month rolling time period as determined at the end of each calendar month	EU1882-1	SC V.1, SC VI.1, SC VI.3	R 336.1205(1)(a) & (b), R 336.1702(a)
2. PM	3.25 tpy*	12-month rolling time period as determined at the end of each calendar month	EU1882-1	SC VI.1, SC VI.2	R 336.1205(1)(a) & (b)

* Based on an emission factor of 0.0022 lb PM/ton pulp.

II. MATERIAL LIMIT(S)

- The permittee shall not dry more than dry more than 325,000 tons per year, based on a 12-month rolling time period. (R 336.1205(1)(a) & (b), R 336.1225, R 336.1702(a))

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

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 determine the methanol concentration in the EU1882-1 white-water weekly, at minimum, during weeks of Pulp Dryer operation. Methanol concentration shall be determined by NCASI Method DI/MEOH-91.03 or an alternative method approved by the AQD District Supervisor. Weekly white-water sample methanol results will be averaged and used to calculate a monthly VOC emission factor. Monthly VOC tons will be calculated using Pulp Dryer production rates and the VOC emission factor. Monthly VOC emissions will be used to verify compliance with the 12-month rolling VOC tons per year limit. If at any time the 12-month rolling VOC emissions exceed 24.1 tons, the permittee shall increase the white-water sampling and analysis frequency to a minimum of 3 samples per week (during weeks of pulp dryer operation) and shall review the operating conditions of the bleaching system along with keeping records of corrective actions

taken. Once the VOC tons are maintained below the compliance limit for one month, the permittee may resume weekly monitoring and recordkeeping. The permittee shall keep all records on file at the facility and make them available to the Department upon request. (R 336.1205, R 336.1224, R 336.1225, R 336.1702(a))

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 daily and monthly tons of pulp dried from EU1882-1. (R 336.1205(1)(a) & (b))
2. The permittee shall calculate and record, in a satisfactory manner, monthly and 12-month rolling time period PM emissions, using industry emission factors and monthly production from EU1882-1. The permittee shall keep all records on file at the facility and make them available to the Department upon request. (R 336.2803, R 336.2804)
3. The permittee shall calculate and record, in a satisfactory manner, monthly and 12-month rolling time period VOC emissions for EU1882-1. The calculations shall utilize, at a minimum, weekly white-water sampling data collected in SC V.1 and the monthly production from the pulp dryer. All records shall be kept on file at the facility and make them available to the Department upon request. (R 336.1205(1)(a) & (b), R 336.1225, R 336.1702(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 Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV18-ST-019-001	48	88	R 336.1225, R 336.2803, R 336.2804
2. SV18-ST-019-003	48	88	R 336.1225, R 336.2803, R 336.2804
3. SV18-ST-017-001	30	83	R 336.1225, R 336.2803, R 336.2804
4. SV18-ST-004-001	36	90	R 336.1225, R 336.2803, R 336.2804
5. SV18-ST-011-001	48	91	R 336.1225, R 336.2803, R 336.2804

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

¹ This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

**EU1227-1 Q41-PAPER MACHINE
 EMISSION UNIT CONDITIONS**

DESCRIPTION

Q41 PAPER MACHINE – Pulp (from hardwood pulp, softwood pulp, coated broke, and uncoated broke storage) is combined with supplemental chemicals and additives to make various grades of paper.

Flexible Group ID: FGPULPINGMOD1

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. VOC	42.71 tpy	12-month rolling time period as determined at the end of each calendar month	EU1227-1	SC V.1, SC VI.3	R 336.1205(1)(a) & (b), R 336.1702(c)
2. PM	13.14 tpy	12-month rolling time period as determined at the end of each calendar month	EU1227-1	SC VI.2	R 336.1205(1)(a) & (b), R 336.2810
3. PM10	126 lb/day**	24-Hour average	EU1227-1	SC II.1, SC VI.1	R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810
4. PM10	23.0 tpy	12-month rolling time period as determined at the end of each calendar month	EU1227-1	SC VI.2	R 336.1205(1)(a) & (b), R 336.2810
5. PM2.5	108 lb/day***	24-Hour average	EU1227-1	SC II.1, SC VI.1	R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, R 336.2810
6. PM2.5	19.71 tpy***	12-month rolling time period as determined at the end of each calendar month	EU1227-1	SC VI.2	R 336.1205(1)(a) & (b), R 336.2810

*PM emissions based on an emission rate of 0.04 lbs PM per ton Air Dry Tons Finished Paper (ADTFP) and daily production rate of ADTFP per day.

**PM10 emissions based on an emission rate of 0.07 lbs PM10 per ton ADTFP and daily production rate of ADTFP per day.

***PM2.5 emissions based on an emission rate of 0.06 lbs PM2.5 per ton ADTFP and daily production rate of ADTFP per day.

II. MATERIAL LIMIT(S)

- The permittee shall not produce more than 1,800 ADTFP per day based on a 24-hour time period as determined at the end of each calendar day. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1702(c), R 336.2810)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. Within 180 days after trial operation of EU1227-1, the permittee shall submit a plan to the AQD District Supervisor for approval, that describes how emissions will be minimized at all times. The plan shall incorporate good operating practices and shall identify the routine and periodic inspection and maintenance activities to ensure optimal operation related to the minimization of particulate emissions. Unless notified by the District Supervisor within 30 business days after plan submittal, the plan shall be deemed approved. **(R 336.1911)**

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))**

1. The permittee shall determine the methanol concentration in the EU1227-1 white-water weekly, at minimum, during weeks of Paper Machine operation. Methanol concentration shall be determined by NCASI Method DI/MEOH-91.03 or an alternative method approved by the AQD District Supervisor. Weekly white-water sample methanol results will be averaged and used to calculate a monthly VOC emission factor. Monthly VOC tons will be calculated using Paper Machine production rates and the VOC emission factor. Monthly VOC emissions will be used to verify compliance with the 12-month rolling VOC tons per year limit. If at any time the 12-month rolling VOC emissions exceed 42.71 tons, the permittee shall increase the white-water sampling and analysis frequency to a minimum of 3 samples per week (during weeks of paper machine operation) and shall review the operating conditions of the bleaching system along with keeping records of corrective actions taken. Once the VOC tons are maintained below the compliance limit for one month, the permittee may resume weekly monitoring and recordkeeping. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205, R 336.1224, R 336.1225, R 336.1702(c))**

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 daily ADTFP, from EU1227-1, as determined at the end of each calendar day. **(R 336.1205, R 336.1225, R 336.1702(c), R 336.2810)**
2. The permittee shall calculate and record, in a satisfactory manner, monthly and 12-month rolling time period PM, PM10, and PM2.5 emissions, using verified emission factors as approved by the AQD district supervisor, and the monthly paper production rate from EU1227-1. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205, R 336.2803, R 336.2804, R 336.2810)**
3. The permittee shall calculate and record, in a satisfactory manner, monthly and 12-month rolling time period VOC emissions for EU1227-1. The calculations shall utilize, at a minimum, weekly white-water sampling data collected in SC V.1, and monthly paper production. All records shall be kept on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1702(c))**
4. The permittee shall keep daily records of all inspections and maintenance activities for EU1227-1. All records shall be kept on file at the facility and made available to the Department upon request.

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 Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV12-ST-085-001	60	90	R 336.1225, R 336.2803, R 336.2804
2. SV12-ST-085-002	72	89	R 336.1225, R 336.2803, R 336.2804
3. SV12-ST-085-003	30	88	R 336.1225, R 336.2803, R 336.2804
4. SV12-ST-086-001	12	91	R 336.1225, R 336.2803, R 336.2804
5. SV12-ST-092-001	78	90	R 336.1225, R 336.2803, R 336.2804
6. SV12-ST-092-002	78	90	R 336.1225, R 336.2803, R 336.2804
7. SV12-ST-093-001	60	95	R 336.1225, R 336.2803, R 336.2804
8. SV12-ST-094-001	24	92	R 336.1225, R 336.2803, R 336.2804
9. SV12-ST-096-001	30	92	R 336.1225, R 336.2803, R 336.2804
10. SV12-ST-097-001	28	91	R 336.1225, R 336.2803, R 336.2804
11. SV12-ST-098-001	25	95	R 336.1225, R 336.2803, R 336.2804
12. SV12-ST-099-001	32	91	R 336.1225, R 336.2803, R 336.2804
13. SV12-ST-100-001	32	91	R 336.1225, R 336.2803, R 336.2804
14. SV12-ST-105-001	54	90	R 336.1225, R 336.2803, R 336.2804
15. SV12-ST-106-001	54	90	R 336.1225, R 336.2803, R 336.2804
16. SV12-ST-117-001	30	95	R 336.1225, R 336.2803, R 336.2804
17. SV12-ST-118-001	30	95	R 336.1225, R 336.2803, R 336.2804
18. SV12-ST-119-002	30	95	R 336.1225, R 336.2803, R 336.2804
19. SV12-ST-120-002	30	95	R 336.1225, R 336.2803, R 336.2804
20. SV12-ST-121-003	30	95	R 336.1225, R 336.2803, R 336.2804
21. SV12-ST-122-003	30	95	R 336.1225, R 336.2803, R 336.2804

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
FGBBKRAFT-1	KRAFT MILL SUBPART BB SYSTEMS flexible group regulated under CFR 40 Part 60, Subpart BB (40 CFR Part 60, Subpart BB – Standards of Performance for Kraft Pulp Mills)	EU0203-1 EU0204-1 EU0205-1 EU0368-1 EU0765-1 EU0766-1 EU0767-1
FGPULPINGMOD-1	Modification to increase pulping and black liquor solids firing rates and paper machine modifications.	EU0815-1 EU0816-1 EU0917-1 EU1121-1 EU1227-1 EU0407-1 FGBLEACH-1 EU1882-1 EU0610-1 EU0611-1 EU0819-1

**FGBBKRAFT-1 KRAFT MILL SUBPART BB SYSTEMS
 FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

KRAFT MILL SUBPART BB SYSTEMS flexible group regulated under CFR 40 Part 60, Subpart BB, applicable to the following associated emission units:

Emission Units:

- EU0203-1 (Chip Bin) – The Chip Bin serves as the feed point for the Digester System
- EU0204-1 (Digester System) – Chips that have been conveyed to the chip bin are metered into the digester. In the digester, chips and cooking additives are combined with steam to produce pulp
- EU0205-1 (Digester Blow Tank) – Pulp from the digester process is transferred to this tank prior to processing in the brown stock washing system
- EU0368-1 (Brown Stock Washers) – Pulp from the digester system is transferred to the brown stock washers where the pulp is screened and cleaned using a water solution
- EU0765-1 (Evaporator System) – Liquor from the digester and pulp washer systems are processed in the evaporator system to increase solids content of the liquor
- EU0766-1 (Hotwell) – This unit is part of the evaporator and receives condensate from the evaporator surface condenser
- EU0767-1 (Condensate Stripper) - Condensate from the evaporator system is steam–stripped to remove organics

POLLUTION CONTROL EQUIPMENT

Vent gasses from EU0204-1, EU0765-1, EU0766-1 and EU0767-1 are collected in the CVG System (FG2334-1) and incinerated in the Lime Kiln or Waste Fuel Boiler. Vent gasses from the EU0203-1, EU0205-1 and EU0368-1 are collected in the DVG System (FG2335-1) and incinerated in the Waste Fuel Boiler or Recovery Furnace.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Total Reduced Sulfur (TRS)	5 ppmv on a dry basis, at 10% oxygen ^(a)	Hourly	EU0203-1 EU0204-1 EU0205-1 EU0765-1 EU0766-1 EU0767-1	See FG2334-1 SC VI.3a-c	40 CFR 60.283 (a)(1)(i) & (iii)
			EU 0368-1	See FG 2335-1 SC VI.1, SC VI.2a-f	R 336.1201(3) 40 CFR 60.283 (a)(1)(ii) & (iii)

^(a) This limit applies unless the gases are combusted in either the Lime Kiln (EU0917-1), Waste Fuel Boiler (EU1121-1), or Recovery Furnace (EU1121-1).

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Pulp	1786 tons/day	24-hour average	EU0204-1	SC VI.1	R 336.1205(1)(a) & (b), R 336.2803, R 336.2804
2. Pulp	638,970 tpy	12-month rolling time period as determined at the end of each calendar month	EU0204-1	SC VI.1	R 336.1205(1)(a) & (b), R 336.2803, R 336.2804

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall route the exhaust gases from the Condensate Stripper, the Digester System, Digester Blow Tank, and Evaporator System to either the Lime Kiln, Waste Fuel Boiler, or Recovery Furnace for incineration. **(R 336.1224, R 336.1225, R 336.1901, R 336.1910, 40 CFR 52.21(j)(3), 40 CFR 60.284, 40 CFR 60.283(a)(1)(i), (ii) & (iii))**
2. The permittee shall not vent the digester low pressure feeder except to the chip bin. **(R 336.1910)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

NA

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 tons of pulp produced in EU0204-1 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 336.2803, R 336.2804)**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with the applicable requirements of 40 CFR Part 60, Subpart BB – Standards of Performance for New Stationary Sources: Kraft Pulp Mills. **(40 CFR Part 60, Subpart BB)**

Footnotes:

¹ This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

FGPULPINGMOD-1 FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Emission units affected by the NSR reform rules for using baseline actual emissions and future projected actual emissions to provide a determination of project-related emissions increases for the modified and affected emission units.

Emission Units:

- EU0815-1 Chemical Recovery Furnace
- EU0816-1 Smelt Dissolving Tank
- EU0917-1 Lime Kiln
- EU1121-1 Waste Fuel Boiler
- EU1227-1 Paper Machine
- EU1227-1 Paper Machine Coater Dryers
- EU1882-1 Pulp Dryer
- EU0407-1 White Liquor Oxidation System
- FGBLEACH-1 Bleach and Extraction Stages
- EU0610-1 ClO₂ Generating Plant
- EU0611-1 Methanol Storage Tank
- EU0819-1 Slaker

POLLUTION CONTROL EQUIPMENT

EU0815-1 control equipment includes an ESP. EU0816-1 control equipment includes a wet scrubber. EU 0917-1 control equipment includes a wet scrubber. EU1121-1 control equipment includes a multicyclone collector, ESP, and over-fired air system. FGBLEACH-1 control equipment includes two wet scrubbers. EU0407-1 control equipment includes a demister. EU0610-1 control equipment includes wet scrubbers. EU0819-1 includes a wet scrubber.

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

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))

NA

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall calculate and keep records of the annual emissions of SO₂ and VOCs described in Appendix 1, in tons per calendar year. Calculations and record keeping shall begin the month in which regular operations of EU0815-1 commence and shall continue for ten (10) years. **(R 336.2818)**

VII. REPORTING

1. The permittee shall submit records of the annual emissions of SO₂ and VOCs from FGPULPINGMOD-1 described in Appendix 1, in tons per calendar year, to the AQD Permit Section Supervisor within 60 days following the end of each reporting year if both the following occur:
 - a) The calendar year actual emission of any pollutant exceeding the baseline actual emissions (BAE) by a significant amount, and
 - b) The calendar year actual emissions differ from the pre-construction projection.

The report shall contain the name, address, and telephone number of the facility (major stationary source); the annual emissions as calculated pursuant to SC VI.1, and any other information the owner or operator wishes to include (i.e., an explanation why emissions differ from the pre-construction projection). **(R 336.2818(3)(f))**

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

APPENDIX 1 - Recordkeeping Provisions for PSD Source Using Actual to Projected-Actual Applicability Test

All information in this Appendix shall be maintained pursuant to R 336.2818(3)(f) for ten years after the emission unit(s) identified in Table C resume normal operations and shall be provided to the Department for the first year and thereafter made available to the Department upon request.

A. Project Description:

The Quinnesec Mill, a bleached Kraft pulp and paper mill, is seeking a PSD permit to increase the daily and annual digester pulping limits and recovery furnace black liquor solids firing limits. The project involves both physical modifications and increased process throughput for affected emission units.

B. Applicability Test Description:

“Actual to Projected Actual” test was used to determine project-related emissions increase for modified and affected emission units.

- Modified emission units: EU0815-1 (Recovery Furnace), EU1227-1 (Paper Machine)
- Affected emission units: EU0816-1 (Smelt Dissolving Tank), EU0917-1 (Lime kiln), EU1121-1 (Waste fuel boiler), EU1227-1 (Paper Machine Coater Dryers), EU1882-1 (Pulp Dryer), EU0407-1 (White Liquor Oxidation System), EU0610-1 (ClO₂ Generating Plant), EU0611-1 (Methanol Storage Tank), EU0819-1 (slaker), FGBLEACH-1 (Bleach and Extraction Stages)

C. FGPULPINGMOD-1 Emission Increases:

Table C.1

Emission Unit/Flexible Group ID	Pollutant	SO ₂ Emissions (tpy)				Reason for Exclusion
		Baseline Actual	Projected Actual	Excluded	Increase / Decrease (+/-)	
EU0815-1	SO ₂	4.63	25.0	0.05	20.3	Emissions were annualized during the respective baseline period using a three-month sustained BLS throughput rate, from EU0815-1.
EU0816-1	SO ₂	2.24	2.47	0.03	0.20	
EU0917-1	SO ₂	0.36	0.38	0.03	0	
EU1121-1	SO ₂	246.89	911.08	661.98	2.21	
EU1227-1	SO ₂	0.04	0.06	0	0.02	
Total		254.16	938.99	662.1	22.73	

Table C.2

Emission Unit/Flexible Group ID	Pollutant	VOC Emissions (tpy)				Reason for Exclusion
		Baseline Actual	Projected Actual	Excluded	Increase / Decrease (+/-)	
EU0407-1	VOC	0.73	0.79	0.07	0	Emissions were annualized during the respective baseline period using a three-month sustained BLS throughput rate, from EU0815-1.
FGBLEACH-1	VOC	7.41	8.89	0.33	1.15	
EU1227-1 (Paper Machine)	VOC	8.47	42.71	0	34.24	
EU1227-1 (Coater Dryers)	VOC	0.38	0.57	0.13	0.06	
EU1882-1	VOC	19.40	24.05	2.35	2.3	
EU0610-1	VOC	0.04	0.05	0.00492	0.0051	
EU0611-1	VOC	0.23	0.29	0.02	0	
EU0815-1	VOC	15.08	16.63	0.17	1.38	
EU0816-1	VOC	4.18	4.61	0.05	0.38	
EU0917-1	VOC	7.63	8.20	0.69	-0.12	
EU0819-1	VOC	0.66	0.70	0.06	-0.02	
EU1121-1	VOC	5.25	6.70	1.37	0.08	
Total		69.46	114.19	5.24	39.48	