Domtar Paper Company, LLC Hawesville Mill P.O. Box 130 Hawesville, KY 42348 USA Tel (270) 927-6961 Fax (270) 927-9929



March 13th, 2023

Ms. Holley Delaney Kentucky Division for Air Quality 300 Sower Blvd., 2nd Floor Frankfort, Kentucky 40601

RE: 2023 Title V Permit Renewal and Off-Permit Change Application Domtar Paper Company, LLC, Hawesville, KY – A.I. # 43431

Dear Ms. Delaney:

Domtar Paper Company, LLC, located in Hawesville, Kentucky, is currently operating under Title V Permit No. V-18-007 which is due to expire September 22, 2023. This document and included information serves as the timely submittal of the required Title V Permit Renewal Application and an additional Off-Permit Change. In accordance with 401 KAR 52:020, Section 4(2)(c), Domtar is providing only the information that is new or different from the most recent source-wide permit application.

Please do not hesitate to contact me at (270) 927-7387 should you have any questions or need any additional information.

Very Sincerely,

Adam Krieg Environmental Superintendent



TITLE V PERMIT RENEWAL APPLICATION AND OFF-PERMIT CHANGE APPLICATION

Prepared For:

DOMTAR PAPER COMPANY, LLC HAWESVILLE, KENTUCKY

By:

KENVIRONS FRANKFORT, KENTUCKY

PROJECT NUMBER 2023014

MARCH 2023



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INTRODUCTION

Domtar Paper Company, LLC, located in Hawesville, Kentucky, is currently operating under Title V Permit No. V-18-007 which is due to expire September 22, 2023. This document and included information serves as the timely submittal of the required Title V Permit Renewal Application. In accordance with 401 KAR 52:020, Section 4(2)(c), Domtar is providing only the information that is new or different from the most recent source-wide permit application.

Previously Submitted Permit Actions:

Since the issuance of Permit V-18-007, three off-permit changes and two minor modifications were submitted:

The first off-permit change dated August 14, 2018 was for the installation of a Radial Spin Vane mist elimination system in the No. 4 Smelt Dissolving Tank (EU30);

The second off-permit change dated September 21, 2020 was for the periodic rental and use of a portable diesel-fired grinder for the purpose of grinding oversized chip rejects into hogged fuel;

The third off-permit change dated December 8, 2020 was for the periodic use of a portable diesel-fired Residuals Mixer that is owned, brought onsite and operated by a third-party contractor.

The first minor modification dated June 7, 2019 was for No. 3 Recovery Boiler (EU27) generator bank/boiler tube replacement project and the revision to Backup/Package Boiler (EU59) tune-up regulatory provisions.

The second minor modification dated June 22, 2021 was for the revision to BPM Bio-Fuel Boiler (EU-42) tune-up regulatory provisions and the installation of a propane-fired emergency generator at Security Gate G.

A copy of the prior off-permit changes and the minor permit modification applications are included in Appendix D.

Additional Cleanup/Revision Requests:

EU28 – Smelt Tank No. 3

Domtar requests that the Acceptable Range values indicated in the table below be listed under Specific Monitoring Requirements for EU28 Smelt Tank No. 3. The values are based on the most recent compliance demonstration. The Scrubber Liquid Supply Pressure currently listed in the existing table is not a regulatory required parameter for this emission unit, therefore Domtar has not established a set range for liquid supply pressure.

Parameter	Monitoring Frequency	Acceptable Range	Averaging Period
Scrubber liquid flow rate	Continuous	> 158.15 gpm	Three-hour rolling
Scrubber pressure drop	Continuous	> 7.45" H ₂ O	Three-hour rolling
Scrubber liquid supply pressure	Continuous	NA	Three-hour rolling

EU30 – Smelt Tank No. 4

Domtar requests that the Acceptable Range values indicated in the table below be listed under Specific Monitoring Requirements for EU30 Smelt Tank No. 4. The values are based on the most recent compliance demonstration. The Scrubber Liquid Supply Pressure currently listed in the existing table is not a regulatory required parameter for this emission unit, therefore Domtar has not established a set range for liquid supply pressure.

40 CFR 63 Subpart MM has also provided for the alternative to continuously monitoring pressure drop of the gas stream across the Smelt Tank Scrubber, the scrubber fan amperage or revolutions per minute (RPM) may be monitored for smelt dissolving tank dynamic scrubbers that operate at ambient pressure or for low-energy entrainment scrubbers where the fan speed does not vary. Domtar wishes to add line items to the table as shown in the following table in the event this alternative is chosen.

Parameter	Monitoring Frequency	Acceptable Range	Averaging Period
Scrubber liquid flow rate	Continuous	> 309.14 gpm	Three-hour rolling
Scrubber pressure drop	Continuous	> -0.15" H ₂ O	Three-hour rolling
Scrubber liquid supply pressure	Continuous	NA	Three-hour rolling
Scrubber Fan Amperage	Continuous	TBD	Three-hour rolling
Scrubber Fan RPM	Continuous	TBD	Three-hour rolling

EU19, 20, and 21 No. 2 and 3 Bleach Plants and ClO₂ Generator

Domtar believes that 40 CFR 63.455 does not require the submittal of Leak Detection and Repair (LDAR) reports as specified for the Bleach Plants and ClO₂ Generator under Specific Reporting Requirements: c.

The basis for this opinion is that 40 CFR 63.455(h) specifies that performance test or RATA reports be submitted to US EPA via CEDRI. 40 CFR 63.457 specifies that initial and every 5-yr repeat performance tests are to be conducted on sources

that subject to limitations under *§§...63.445...*. For the Bleach Plants this would include the performance testing to verify compliance with the control efficiency or emission limitation at the scrubber exhaust. 40 CFR 63.457 does not list Closed Vent Systems as a source requiring every 5-year performance testing. Closed Vent Systems are subject to Monitoring Requirement standards specified by 40 CFR 63.453(k) which specifies LDAR monitoring be performed, including monthly visual inspections and annual detectable leak measurements.

Thus, since Closed Vent Systems are not subject to "performance testing", and the requirement to conduct LDAR is a monitoring requirement, Domtar requests that the requirement to submit the LDAR reports be removed from Specific Reporting Requirements: c. of the current permit. This would mirror the other sources connected to Closed Vent Systems subject to LDAR monitoring that do not specify the reporting requirement.

Insignificant Activity Removal

A number of insignificant activities have been removed from the facility. Thus, Domtar is requesting the following emission units be removed from Section C of the renewal permit.

Emission Unit
KMM chip preparation-ceased operation
KMM HO screen conveyor fan- ceased operation
KMM Recycle pulp area-ceased operation
KMM condensate
KMM mineral spirits tank- ceased operation
KMM sulfite storage hopper- ceased operation
Biospan methane generator- ceased operation

EU54 K-1 & 2 Starch Silos

Domtar requests that the visual emission observation requirement for EU54 K-1 & 2 Starch Silos under Specific Monitoring Requirements: h. provide for the reduction from daily observations to weekly observations if, after six-months of daily observations, no visual emissions are observed. This provision would allow the Starch Silos to be treated similarly to the Slaker and other Silos EU33, EU37, and EU38. Suggested Permit Language is included in Appendix C.

Domtar also would like to request clarification as to the Division's definition of "when the unit is operating". This clarification would help Domtar define how to track the Starch Silo's hours of operation and when to perform visual emissions observations. Based on the operations of the Starch Silo, when trucks or railcars are unloading into the silo, the silo would be under positive pressure such that the material would potentially engage the control equipment and potential generate particulate emissions. During material unloading from the silos, material is moved from the bottom of the silo via screw auger. During unloading, material is not disturbed in a manner that particulate would engage the control equipment thus there is no potential to emit during unloading of the silo. When no loading or unloading of material is occurring, the material will remain undisturbed, thus there is no potential to emit when the silo is used purely for storage purposes.

Thus, based on the manner of operation and the stages in which particulate matter would or would not be potentially emitted, Domtar requests, strictly for the Starch Silo, that in place of "when the unit is operating" that "when the unit is operating (truck/railcar unloading)" or simply "during truck/railcar unloading" be specified for hours of operation tracking and visual emission observations.

CAM Plan Revisions:

During the most recent compliance testing in 2018 performed on EU28 and EU30 No. 3 and 4 Smelt Tanks, the acceptable ranges for scrubber liquid flow and pressure drop were established. This also established updated values to be placed in the CAM Plant Tables for EU28 and EU30. The Suggested Permit Language included in Appendix C contains the aforementioned updated values to be placed in the CAM Plan.

Typographical Corrections

Under No. 1 and No. 2 Recovery Boilers EU28 and EU30, Specific Monitoring Requirements: k., the regulatory references to 40 CFR 864(k) should be revised to 40 CFR <u>63.</u>864(k).

Under BPM Bio-fuel Boiler EU42, Emission Limitations: a., the regulatory reference to 40 CFR 60.436(b) should be revised to 40 CFR 60.43(b). Under Specific Monitoring Requirements: h.(1), the regulatory reference to 40 CFR 63.7552(a) should be revised to 40 CFR 63.75<u>25</u>(a).

There are other very minor typographical errors that have been corrected and highlighted in the suggested permit language included in Appendix C.

Regulatory Changes:

Multiple sources in operation at Domtar are subject to standards specified by 40 CFR 63 Subpart MM. Specifically, the No. 4 Smelt Tank (EU30).

On November 5, 2020, EPA finalized the revisions to 40 CFR 63 Subpart MM. The most significant changes to Subpart MM that effect the No. 4 Smelt Tank (EU30) include the following, pursuant to 40 CFR 63.864(e)(10), 63.864(j)(5):

- 1. EPA has provided for the alternative to continuously monitoring pressure drop of the gas stream across the Smelt Tank Scrubber, the scrubber fan amperage or revolutions per minute (RPM) may be monitored for smelt dissolving tank dynamic scrubbers that operate at ambient pressure or for low-energy entrainment scrubbers where the fan speed does not vary.
- 2. The minimum fan amperage operating limit must be set as the midpoint between the lowest of the 1-hour average fan amperage values associated with each test run demonstrating compliance with the applicable emission limit in § 63.862 and the no-load amperage value. The no-load amperage value must be determined using manufacturers specifications, or by performing a no-load test of the fan motor for each smelt dissolving tank scrubber; or
- 3. The minimum percent full load amperage (PFLA) to the fan motor must be set as the percent of full load amperage under no-load, plus 10 percent. The PFLA is calculated by dividing the no-load amperage value by the highest of the 1-hour average fan amperage values associated with each test run demonstrating compliance with the applicable emission limit in § 63.862 multiplied by 100 and then adding 10 percent. The no-load amperage value must be determined using manufacturers specifications, or by performing a no-load test of the fan motor for each smelt dissolving tank scrubber; or
- 4. The minimum RPM must be set as 5 percent lower than the lowest 1-hour average RPM associated with each test run demonstrating compliance with the applicable emission limit.

Multiple sources in operation at Domtar are subject to standards specified by 40 CFR 63 Subpart DDDDD. Specifically, the BPM Bio-fuel Boiler (EU42).

On October 6, 2022, EPA published the revisions to 40 CFR 63 Subpart DDDDD. The most significant changes to Subpart DDDDD that effect the unit include the following:

- Pursuant to 40 CFR 63.7500(a)(1), the permittee may continue to meet the following alternative emission limits in Table 15 of 40 CFR 63, Subpart DDDDD that apply to the existing fluidized bed boiler designed to burn biomass/bio-based solids until October 6, 2025, except as provided under 40 CFR 63.7522:
 - a. Emissions of CO shall not exceed 470 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (310 ppm by

volume corrected to 3 percent oxygen, 30-day rolling average) or 4.6E–01 lb per MMBtu of steam output;

- Emissions of PM shall not exceed 1.1E-01 lb per MMBtu of heat input; or (1.2E-03 lb per MMBtu of heat input) or 1.4E-01 lb per MMBtu of steam output;
- c. Emissions of HCI shall not exceed 2.2E-02 lb per MMBtu of heat input or 2.5E-02 lb per MMBtu of steam output; and
- d. Emissions of mercury shall not exceed 5.7E–06 lb per mmBtu of heat input or 6.4E-06 lb/MMBtu steam output.
- 2. Pursuant to 40 CFR 63.7500(a)(1), the permittee must meet the following emission limits in Table 2 of 40 CFR 63, Subpart DDDDD that apply to the existing fluidized bed boiler designed to burn biomass/bio-based solids no later than October 6, 2025, except as provided under 40 CFR 63.7522:
 - Emissions of CO shall not exceed 210 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (310 ppm by volume corrected to 3 percent oxygen, 30-day rolling average) or 2.1E–01 lb per MMBtu of steam output;
 - Emissions of PM shall not exceed 7.4E-03 lb per MMBtu of heat input; or (6.4E-05 lb per MMBtu of heat input) or 9.2E-03 lb per MMBtu of steam output;
 - c. Emissions of HCI shall not exceed 2.0E-02 lb per MMBtu of heat input or 2.3E-02 lb per MMBtu of steam output; and
 - d. Emissions of mercury shall not exceed 5.4E–06 lb per mmBtu of heat input or 6.2E-06 lb/MMBtu steam output.

It must be noted that EPA issued 40 CFR 63 Subpart DDDDD with the compliance date of October 6, 2025 for meeting the new emission limitations. The Subpart was issued with the Effective Date of December 5, 2022, the background documentation indicated that EPA intended to provide facilities a deadline of 3 years after the effective date of the final rule to demonstrate compliance with the new limits. The DEP Forms, Suggested Permit Language, and this renewal narrative have copied the applicability date of October 6, 2025 directly from the currently available Subpart DDDDD, but it must be noted that EPA may issue a revision to this date with the revised deadline of December 5, 2025. If this occurs, Domtar will submit an addendum to this renewal indicating the appropriate deadline in which the new emission limits must be met.

Included in Appendix B is a DEP7007V Form that lists solely the revised or additional requirements. Domtar is also submitting suggested permit language, included in Appendix C, to incorporate the revised language specified by Subpart MM and DDDDD as well as for cleanup and consistency.

Additional Off-Permit Change

EU57 – Wood Chip Barge Unloading and Transfer

The current maximum rated hourly capacity listed for EU57 is 750 tons per hour. Domtar is concurrently submitting with this renewal application an Off-Permit Change to increase the hourly capacity to 1,000 tons per hour. This increase will only be for short term handling, Domtar is not requesting an increase to the annual chip unloading limitation.

Air emissions from the wood chip barge unloading equipment consists of particulate matter emissions only due to transfer of the wood chips at various points in the system. Since these transfer points will be drop operations, the drop equation in AP-42 Chapter 13.2.4 (Equation 1) was used to determine potential emissions of PM, PM10, and PM2.5 from the unloading system. These calculations are also included in Appendix A, where the drop equation emission factor is multiplied by 4 to account for the drop points in the system. As these calculations show, potential PM emissions are calculated to be 0.199 lb/hr based upon the increased maximum of 1,000 tons of chips processed via the system per hour. The annual emission rate changed only due to use of current wind speed records, the annual emission rate did not change due to the annual barge unloading rate since that will not be increased. These calculations do not take into account any reduction in PM emissions that will occur due to less truck traffic for chip delivery when the barge unloading system is utilized.

The wood chip barge unloading system will be subject to 401 KAR 63:010, Fugitive Emissions. Compliance with this regulation will be maintained by proper operation and maintenance of the equipment. The size of the wood chips and the moisture content of the chips are such that emissions are minimal, as shown by the calculations in Appendix A. Although EP57 is currently permitted in Section B of the Permit, potential emissions of PM are well less than 5 tons per year.

Additional Used Oil Tank

Domtar has determined that a 2,000 gallon used oil tank is present on site and requires listing in the Insignificant Activities list. The EPA Tanks 4.0.9 program was used to calculate the annual emissions. Based on the total of the breathing and working loss, the potential emissions of VOC is well less than 5 tons per year.

An emissions inventory and permit forms for the revision to the wood chip barge unloading system and the additional used oil tank are included in Appendices A and B, respectively.

APPENDIX A

EMISSION CALCULATIONS

Wood Chip Barge Unloading

and

2,000 Gal Used Oil Tank

Domtar Paper Company - Hawesville Operations 2023 Off-Permit Change - Potential Emissions

	Emission	Maximum Hourly Process	Maximum Annual Process	Maximum Annual Hours		Emission	Emission Factor		Pote Emis	ential sions
Source	Unit	Rate	Rate	of Operation	Pollutant	Factor	Units	Reference	lb/hr	tons/yr
Barge Unloading and Handling	57	1,000	2,628,000	8760	PM	1.99E-04	lb/ton	1	0.199	0.261
Hourly Rate Increase					PM10	9.44E-05	lb/ton	1	0.0944	0.124
					PM2.5	1.43E-05	lb/ton	1	0.0143	0.019
		Maximum		Maximum			Emission		Pote	ential
	Emission	Maximum Hourly Process		Maximum Annual Hours		Emission	Emission Factor		Pote Emis	ential sions
Source	Emission Unit	Maximum Hourly Process Rate		Maximum Annual Hours of Operation	Pollutant	Emission Factor	Emission Factor Units	Reference	Pote Emis Ib/hr	ential sions tons/yr
Source BPM Used Oil Tank - 2,000 Gallon	Emission Unit Insignificant	Maximum Hourly Process Rate 2,000		Maximum Annual Hours of Operation 8760	Pollutant VOC	Emission Factor 6.41E-06	Emission Factor Units Ib/gal	Reference Tanks 4.0	Pote Emis Ib/hr 0.0128	ential sions tons/yr 0.0562
Source BPM Used Oil Tank - 2,000 Gallon	Emission Unit Insignificant Activity	Maximum Hourly Process Rate 2,000		Maximum Annual Hours of Operation 8760	Pollutant VOC	Emission Factor 6.41E-06	Emission Factor Units Ib/gal	Reference Tanks 4.0	Pote Emis Ib/hr 0.0128	ential sions tons/yr 0.0562
Source BPM Used Oil Tank - 2,000 Gallon	Emission Unit Insignificant Activity	Maximum Hourly Process Rate 2,000		Maximum Annual Hours of Operation 8760	Pollutant VOC	Emission Factor 6.41E-06	Emission Factor Units Ib/gal	Reference Tanks 4.0	Pote Emis Ib/hr 0.0128	ential sions tons/yr 0.0562

Reference:

1) Emission factors for Wood Chip and Fuel Handling derived from AP-42 Chapter 13.2.4, Equation 1 and adjusted to the appropriate number of transfer points (4). Met data: Evensville, IN 2018- 2022

Wood Chip Transfer Drop Emission Factor:

Use the drop equation from AP-42 Chapter 13.2.4, Equation 1:

$$E = k (0.0032) \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

 $\begin{array}{l} \mathsf{E} = \mathsf{PM}/\mathsf{PM}_{10}/\mathsf{PM}_{2.5} \ \mathsf{Emission} \ \mathsf{Factor,} \ \mathsf{lb/ton} \\ \mathsf{k} = \mathsf{constant} \ \mathsf{for} \ \mathsf{PM} = 0.74, \ \mathsf{PM}_{10} = 0.35, \ \mathsf{PM}_{2.5} = 0.053 \\ \mathsf{U} = \mathsf{Mean} \ \mathsf{wind} \ \mathsf{speed} = 6.46 \ \mathsf{mph} \ \mathsf{based} \ \mathsf{upon} \ 2018\text{-}2022 \ \mathsf{average} \ \mathsf{at} \ \mathsf{Evansville,} \ \mathsf{Indiana} \\ \mathsf{M} = 40\% \end{array}$

$$E_{PM} = 0.74(0.0032) \frac{\left(\frac{6.46}{5}\right)^{1.3}}{\left(\frac{40}{2}\right)^{1.4}} = 0.0000498 \frac{lb}{ton}$$

Maximum Throughput = <u>1,000 tons/hour</u>, 2,628,000 tons/year Assume 4 drop points (Barge onto conveyor, conveyor into hopper, hopper onto conveyor, conveyor onto chip pile)

Hourly PM Emissions = 1,000 tons/hour*0.0000498 lb/ton * 4 drops = 0.199 lb/hour Annual PM Emissions = 2,628,000 tons/yr * 0.0000498 lb/ton * ton/2000 lb * 4 drops = 0.262 ton/year

$$E_{PM_{10}} = 0.35(0.0032) \frac{\left(\frac{6.46}{5}\right)^{1.3}}{\left(\frac{40}{2}\right)^{1.4}} = 0.0000236 \frac{lb}{ton}$$

Hourly PM_{10} Emissions = 1,000 tons/hour * 0.0000236 lb/ton * 4 drops = 0.0944 lb/hour Annual PM_{10} Emissions = 2,628,000 tons/yr * 0.0000236 lb/ton * ton/2000 lb * 4 drops = 0.124 ton/year

$$E_{PM_{2.5}} = 0.053(0.0032) \frac{\left(\frac{6.46}{5}\right)^{1.3}}{\left(\frac{40}{2}\right)^{1.4}} = 0.00000357 \frac{lb}{ton}$$

Hourly $PM_{2.5}$ Emissions = 1,000 tons/hour * 0.00000357 lb/ton * 4 drops = 0.0143 lb/hour Annual $PM_{2.5}$ Emissions = 2,628,000 tons/yr * 0.00000357 lb/ton * ton/2000 lb * 4 drops = 0.0188 lb/year

APPENDIX B

DEP7007 SERIES PERMIT FORMS

Division for Air Quality		tv	DEP7007AI				Additional Documentation		
		Administrative Information							
300 Sc	wer Bouleva	ard		Secti	on AI.1: S	ource Information	Addi	tional Documentation attached	
Frankf	fort, KY 406	01		Secti	on AI.2: A	pplicant Information			
(50)	2) 564-3999			Secti	on AI.3: C	wner Information			
				Secti	on AI.4: T	ype of Application			
				Secti	on AI.5: C	ther Required Informat	ion		
				Secti	on AI.6: S	ignature Block			
				Secti	on AI.7: N	lotes, Comments, and E	Explanations		
							-		
Source Name:			Domtar Pape	r Company, LLC					
KY EIS (AFS) #:		21-	091-00005						
Permit #:			V-18-007						
Agency Interest (AI)) ID:		43431						
Date:			3/13/2023						
Section AI.1: S	ource Inf	orm	ation						
Physical Location	Street:		58 Wescor Ro	ad					
Address:	City:		Hawesville		County:	Hancock	Zip Code:	43248-0130	
Mailing Address:	Street or P.O. Box:		P.o. Box 130						
ivialing ruaress.	City:		Hawesville		State:	KY	Zip Code:	43248-0130	
				Standard Coor	dinates fo	r Source Physical Loc	ation		
Longitude:		37.8	9167	(decimal degrees)		Latitude:	86.69167	(decimal degrees)	
Primary (NAICS) Ca	tegory:		Paper Mills pr	oducing paper	-	Primary NAICS #:	322121		

Classification (SIC) C	'ategory:	Production of Bleached	Pulp and Fine Paper	Primary SIC #:	2611, 2621	
Briefly discuss the type conducted at this site:	oe of business	Production of Bleached Pt	Ilp and Fine Paper			
Description of Area Surrounding Source:	✓ Rural Area☐ Urban Area	Industrial ParkIndustrial Area	Residential AreaCommercial Area	Is any part of the source located on federal land?	☐ Yes ✓ No	Number of Employees: 445
Approximate distance to nearest residence o commercial property:	e r :	ft	Property Area:20	000 acres	Is this source portable?	Yes INO
	What oth	er environmental permi	ts or registrations do	es this source currently hold	or need to obtain in Ker	ntucky?
NPDES/KPDES:	Currently Ho	old 🗌 Need	N/A			
Solid Waste:	Currently Ho	old 🗌 Need	N/A			
RCRA:	Currently Ho	old 🗌 Need	N/A			
UST:	Currently Ho	old 🗌 Need	N/A			
Type of Regulated	Mixed Wast	e Generator	Generator	Recycler	Other:	
Waste Activity:	U.S. Importe	er of Hazardous Waste	Transporter	Treatment/Storage/Disposa	l Facility 🗌 N	/A

Section AI.2: App	plicant Informatio	n						
Applicant Name:	Domtar Paper Company, LLC							
Title: (if individual)								
Mailing Address	Street or P.O. Box:	P.O. Box 130						
Maning Address:	City:	Hawesville	State:	KY	Zip Code:	43248-0130		
Email: (if individual)								
Phone:	(270) 927-6961							
Technical Contact								
Name:	Adam Krieg, P.E.							
Title:	Environmental Superinter	ident						
Mailing Address:	Street or P.O. Box:			P.O. Box 130				
Training Trainess.	City: Hawesvi	lle	State:	KY	Zip Code:	43248-0130		
Email:	adam.krieg@domtar.co	om						
Phone:	(270) 927-7387							
Air Permit Contact for S	Source							
Name:	Adam Krieg, P.E.							
Title:	Environmental Superinter	ident						
Mailing Addross:	Street or P.O. Box:			P.O. Box 130				
Maning Autress.	City: Hawesvi	lle	State:	KY	Zip Code:	43248-0130		
Email:	adam.krieg@domtar.co	m						
Phone:	(270) 927-7387							

Section AI.3: Owner Information						
⊡ Owner same	☑ Owner same as applicant					
Name:						
Title:						
Mailing Address:	Street or P.O. Box:					
	City:		State:	Zip Code:		
Email:						
Phone:						
List names of owners a	nd officers of the company who have	e an interest in the com	pany of 5% or more.			
	Name			Position		

1	1/	20	1	8

Section AI.4: Type	of Application						
Current Status:	☑ Title V □ Condit	ional Major	State-Ori	gin	General Permit	Registra	tion 🗌 None
	Name Change	Initial Reg	gistration		Significant Revision	Adminis	strative Permit Amendment
	Renewal Permit	Revised R	egistration		Minor Revision	Initial So	ource-wide OperatingPermit
(<i>check all that apply</i>)	502(b)(10)Change	Extension	Request		Addition of New Facility	Dertable	Plant Relocation Notice
	Revision	Off Permi	t Change		Landfill Alternate Compliance Submittal	Modifica	ation of Existing Facilities
	Ownership Change	Closure					
Requested Status:	✓ Title V □ Condit	ional Major	State-Ori	gin	PSD NSR	Other	:
Is the source requesting	a limitation of potentia	al emissions?			Yes V No		
Pollutant:		Requested L	imit:		Pollutant:		Requested Limit:
Particulate Matter					Single HAP		
Volatile Organic Co	ompounds (VOC)				Combined HAPs		
Carbon Monoxide					Air Toxics (40 CFR 68, S	ubpart F)	
☐ Nitrogen Oxides					Carbon Dioxide		
Sulfur Dioxide					Greenhouse Gases (GHG)	1	
Lead					Other		
For New Construction	n:						
Proposed Start I (MI	Date of Construction: <i>M/YYYY</i>)				Proposed Operation Start-Up Date: (MM/YYYY)	
For Modifications:							
Proposed Start I (M)	Date of Modification: //YYYY)				Proposed Operation Start-Up Date: (MM/YYYY)	
Applicant is seeking c	overage under a permit s	shield.	Yes		Identify any non-applica☑ Nosought on a sepa	ble requireme rate attachme	ents for which permit shield is ent to the application.

Section AI.5 Other Required Information				
Indicate the document	its attached as part of this application:			
DEP7007A Indirect Heat Exchangers and Turbines	DEP7007CC Compliance Certification			
DEP7007B Manufacturing or Processing Operations	DEP7007DD Insignificant Activities			
DEP7007C Incinerators and Waste Burners	DEP7007EE Internal Combustion Engines			
DEP7007F Episode Standby Plan	DEP7007FF Secondary Aluminum Processing			
DEP7007J Volatile Liquid Storage	DEP7007GG Control Equipment			
DEP7007K Surface Coating or Printing Operations	DEP7007HH Haul Roads			
DEP7007L Mineral Processes	Confidentiality Claim			
DEP7007M Metal Cleaning Degreasers	Ownership Change Form			
☑ DEP7007N Source Emissions Profile	Secretary of State Certificate			
DEP7007P Perchloroethylene Dry Cleaning Systems	Flowcharts or diagrams depicting process			
DEP7007R Emission Offset Credit	Digital Line Graphs (DLG) files of buldings, roads, etc.			
DEP7007S Service Stations	Site Map			
DEP7007T Metal Plating and Surface Treatment Operations	Map or drawing depicting location of facility			
JDEP7007V Applicable Requirements and Compliance Activities	Safety Data Sheet (SDS)			
DEP7007Y Good Engineering Practice and Stack Height Determination	Emergency Response Plan			
DEP7007AA Compliance Schedule for Non-complying Emission Units	Other: Emissions Enventory, Prior Permit Applications			
DEP7007BB Certified Progress Report				

Section AI.6: Signature Block

I, the undersigned, hereby certify under penalty of law, that I am a responsible official*, and that I have personally examined, and am familiar with, the information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the information is on knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false or incomplete information, including the possibility of fine or imprisonment.

My Henrit

Authorized Signature

Murray Hewitt

Type or Printed Name of Signatory

*Responsible official as defined by 401 KAR 52:001.

03/13/2023

Date

General Manager

Title of Signatory

Section AI.7: Notes, Comments, and Explanations							

Division	for Air Quality] D	DEP7007DD							
300 Sov Frankfo (502)	300 Sower BoulevardInsignificant ActivitiesFrankfort, KY 40601Section DD.1: Table of Insignificant Activities(502) 564-3999Section DD.2: Signature BlockSection DD.3: Notes, Comments, and Explanations									
Source Name:		Domtar Paper Company, LLC								
KY EIS (AFS) #:	21-	091-00005								
Permit #:		V-18-007								
Agency Interest	(AI) ID:	43431								
Date:		3/13/2023								
Section DD.1:	Table of Insignific	ant Activities								
*Identify each activ	vity with a unique Insigni	ficant Activity number (IA #); for exa	ample: 1, 2, 3 etc.							
Insignificant Activity #	Description of Activity including Rated Capacity	Serial Number or Other Unique Identifier	Applicable Regulation(s)	Calculated Emissions						
	BPM Used Oil Tank - 2,000 Gal		None	VOC: 0.0562 tons/yr						

11/2018				DEP7007DI					
Insignificant Activity #	Description of Activity including Rated Capacity	Serial Number or Other Unique Identifier	Applicable Regulation(s)	Calculated Emissions					
Section DD.2:	Signature Block								
I, THE UNDE EXAMINED, AND OF THOSE IN KNOWLEDGE AN	I, THE UNDERSIGNED, HEREBY CERTIFY UNDER PENALTY OF LAW, THAT I AM A RESPONSIBLE OFFICIAL, AND THAT I HAVE PERSONALLY EXAMINED, AND AM FAMILIAR WITH, THE INFORMATION SUBMITTED IN THIS DOCUMENT AND ALL ITS ATTACHMENTS. BASED ON MY INQUIRY OF THOSE INDIVIDUALS WITH PRIMARY RESPONSIBILITY FOR OBTAINING THE INFORMATION, I CERTIFY THAT THE INFORMATION IS ON KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE OR INCOMPLETE INFORMATION, INCLUDING THE POSSIBILITY OF FINE OR IMPRISONMENT.								
		My Heworth		03/13/2023					
	By.	Authorized Signature		Date					
	<i></i>	Murray Hewitt		General Manager					
		Type/Print Name of Siguatory		Title of Siguatory					

Section DD.3: Notes, Comments, and Explanations							

	Div	rision fo	r Air Oi	ıality				-	DEP70 0	7N							
	DIV	131011 10		Janty			Source Emissions Profile						Additional Documentation				
	3	300 Sowe	r Bouleva	ard			Section N.1: Emission Summary										
	I	Frankfort	, KY 406	01				Section	n N.2: Stack	Information			Comple	ete DEP700	7AI		
		(502) 5	564-3999					Section	n N.3: Fugiti	ve Information							
								Section	n N.4: Notes	, Comments, ar	nd Explana	tions					
Source N	ame:				Domtar	Paper C	ompany, LLC										
KY EIS (AFS) #:			21-	091-000)5											
Permit #:					V-18-007	,											
Agency In	nterest (AI)	ID:			43431												
Date:					3/13/202	3											
N.1: En	nission Su	ummar	у														
Emission	Emission	Process	Process	Process Control Control Stock Design Uncontrolled Emission	Emission Factor Source	mission Capture	pture Control	Hourly Emissions Annual Emissions		nissions							
Unit #	Unit Name	ID	Name	Name	ID	ID	Capacity (SCC Units/hour)	Pollutant	Factor (lb/SCC Units)	(e.g. AP-42, Stack Test, Mass Balance)	(%)	(%)	Uncontrolled Potential (<i>lb/hr</i>)	Controlled Potential (<i>lb/hr</i>)	Uncontrolled Potential (tons/yr)	Controlled Potential (tons/yr)	
57	Wood Chip Barge Unloading and Transfer	1	Wood Chip Barge Unloading and Transfer				1,000	РМ	0.000199 lb/ton	AP42 13.2.4 Eq.1 (4 Drop Points - 0.0000498 lb/ton each)			0.199	0.199	0.87162	0.87162	
								PM10	0.0000944 lb/ton	AP42 13.2.4 Eq.1 (4 Drop Points - 0.00000236 lb/ton each)			0.0944	0.0944	0.413472	0.413472	
								PM2.5	0.0000143 lb/ton	AP42 13.2.4 Eq.1 (4 Drop Points - 0.00000357 lb/ton each)			0.0143	0.0143	0.062634	0.062634	
		ļ															

Section N.2: Stack Information

UTM Zone:

Steel ID	Identify all Emission Units (with Process ID) and	St	ack Physical Da	ata	Stack UTM	Coordinates	Stack Gas Stream Data		
Stack ID	Control Devices that Feed to Stack	Equivalent Diameter (ft)	Height (ft)	Base Elevation (ft)	Northing (m)	Easting (m)	Flowrate (acfm)	Temperature (°F)	Exit Velocity (ft/sec)

Section N.3: Fugitive Information UTM Zone:										
				Area Physic	al Data	Area UTM	Coordinates	Area Release Data		
Emission Unit #	Emission Unit Name	Process ID	Length of the X Side (ft)	Length of the Y Side (ft)	Northing (m)	Easting (m)	Release Temperature (°F)	Release Height (ft)		
57	Wood Chip Barge Unloading and Transfer		No Change to Emission Source Parameters							

Section N.4: Notes, Comments, and Explanations							
The emissions calculations provide hourly emissions based on the requested increase in hourly processing rate. The annual emission are							
based on the requested 1,000 tons/hr x 8760 to provide uncontrolled/unlimited annual emissions. The permit lists a limit of 2,628,000							
tons/yr processing which Domtar will continue to meet regardless of the hourly processing rate increase.							

				DEP7	Add	itional Documentation				
Divis	ion for Air Quali	ty Ap	plicable	Requirem	nce					
				Activ	vities	C	omplete DEP7007AI			
30	0 Sower Boulevard		Section	on V.1: Emiss	sion and Operating Limit	itation(s)				
F	ankfort, KY 40601		Section	on V.2: Moni	toring Requirements					
	(502) 564-3999		Sectio	on V.3: Recon	dkeeping Requirements	8				
			Section V.4: Reporting Requirements							
			Section V.5: Testing Requirements							
			Section V.6: Notes, Comments, and Explanations							
Source Nam	ne: Domtar	Paper Company, l	LLC							
KY EIS (A	FS) #: 21- <u>091-00</u>	005								
Permit #:	V-18-00)7								
Agency Int	erest (AI) ID:	43431								
Date:	3/13/202	23								
Section V	.1: Emission and	l Operating Li	nitation(s	5)						
Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)			
EU30	BPM Smelt Tank No.4	No Changes to Emission or Operating Requirements								

Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
EU42	BPM Bio-Fuel Boiler	40 CFR 63.7500(a)(1)(v); Table 15	со	470 ppmv dry basis corrected to 3% O2 or 0.46 lb/mmBtu steam output			The permittee may continue to meet the alternate emission limits in Table 15 of 40 CFR until Oct 6, 2025. Performance Testing, Parameter Monitoring
		40 CFR 63.7500(a)(1)(v); Table 15	РМ	0.11 lb/mmBtu heat input or 0.14 lb/mmBtu steam output			The permittee may continue to meet the alternate emission limits in Table 15 of 40 CFR until Oct 6, 2025. Performance Testing, Parameter Monitoring
		40 CFR 63.7500(a)(1)(v); Table 15	НСІ	0.022 lb/mmBtu heat input or 0.025 lb/mmBtu steam output			The permittee may continue to meet the alternate emission limits in Table 15 of 40 CFR until Oct 6, 2025. Performance Testing, Parameter Monitoring
		40 CFR 63.7500(a)(1)(v); Table 15	Mercury	5.7E-06 Ib/mmBtu heat input or 6.4E-06 Ib/mmBtu steam output			The permittee may continue to meet the alternate emission limits in Table 15 of 40 CFR until Oct 6, 2025. Performance Testing, Parameter Monitoring

Section V	.1: Emission and	l Operating Li	mitation(s	5)			
Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
EU42 Continued	BPM Bio-Fuel Boiler	40 CFR 63.7500(a)(1)(v); Table 2	со	210 ppmv dry basis corrected to 3% O2 or 0.21 lb/mmBtu steam output			The permittee must meet the emission limits in Table 2 of 40 CFR no later than Oct 6, 2025. Performance Testing, Parameter Monitoring
		40 CFR 63.7500(a)(1)(v); Table 2	РМ	0.0074 Ib/mmBtu heat input or 0.0092 Ib/mmBtu steam output			The permittee must meet the emission limits in Table 2 of 40 CFR no later than Oct 6, 2025. Performance Testing, Parameter Monitoring
		40 CFR 63.7500(a)(1)(v); Table 2	HCI	0.020 lb/mmBtu heat input or 0.023 lb/mmBtu steam output			The permittee must meet the emission limits in Table 2 of 40 CFR no later than Oct 6, 2025. Performance Testing, Parameter Monitoring
		40 CFR 63.7500(a)(1)(v); Table 2	Mercury	5.4E-06 Ib/mmBtu heat input or 6.2E-06 Ib/mmBtu steam output			The permittee must meet the emission limits in Table 2 of 40 CFR no later than Oct 6, 2025. Performance Testing, Parameter Monitoring

Section V.	.2: Monitoring Red	quirements			
Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Monitored	Description of Monitoring
EU30	BPM Smelt Tank No. 4	HAP Metals	40 CFR 63.864(e)(10)(iii)	Fan Amperage or RPM	As an alternate to pressure drop measurement, a CPMS for fan amperage or RPM may be used for smelt dissolving tank dynamic scrubbers that operate at ambient pressure or for low- energy entrainment scrubbers where fan speed does not vary.
			40 CFR 63.864(j)(5)(i)(B)(1) & (2)	Fan Amperage	Fan amperage must be set as the midpoint between the lowest 1-hr average amperage measured during performance testing and the no-load amperage value. The minimum percent full load amperage to the fan motor must be set as the percent of full load amperage under no-load, plus 10 percent.
			40 CFR 63.864(j)(5)(i)(B)(3)	Fan RPM	The minimum RPM must be set as 5 percent lower that the lowest 1-hr average RPM associated with performance testing.
			40 CFR 63.864(k)(1)(ii)	Fan Amperage or RPM	Implement corrective actions when any 3-hr average parameter value is below the minimum operating limit established during performance testing.
			40 CFR 63.864(k)(2)(iv)	Fan Amperage or RPM	Owners or operators are in violation of §63.862 when six or more 3-hr average parameter values within any 6-month reporting period are below the minimum operating limit established during performance testing.

Section V.3: Recordkeeping Requirements					
Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Recorded	Description of Recordkeeping

Section V.4: Reporting Requirements						
Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Reported	Description of Reporting	
EU30	BPM Smelt Tank No. 4	HAP Metals	40 CFR 63.867(c)(3)(iii)(C)(1) - (3)	Excess Emissions and CPMS Performance Report	Semiannual "Excess Emissions and Continuous Monitoring System Performance Report" shall contain, for wet scrubbers, the established *fan amperage or RPM* operating limit, the number of 3-hr averages below the minimum limit, and an identification of each exceedance.	

Section V.5: Testing Requirements					
Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Tested	Description of Testing

Section V.6: Notes, Comments, and Explanations
The regulatory requirements listed in this DEP7007V Form for EU30 Smelt Tank No.4 include only new requirements specific to the
option to intall and operate CPMS to monitor fan amperage or rpm as allowed by 40 CFR 63 Subpart MM. The general requirements for
all CPMS are not included if there are no specific changes related to fan amperage or rpm CPMS.
The regulatory requirements listed in this DEP7007V Form for EU42 BPM Bio-fuel Boiler only include new or revised requirements
related to the lower emissions standards specified by 40 CFR 63 Subpart DDDDD that Domtar Paper Mill is to be in compliance with by
October 6, 2025.
APPENDIX C

SUGGESTED PERMIT LANGUAGE

Commonwealth of Kentucky Energy and Environment Cabinet Department for Environmental Protection Division for Air Quality 300 Sower Boulevard, 2nd Floor Frankfort, Kentucky 40601 (502) 564-3999

Final

AIR QUALITY PERMIT Issued under 401 KAR 52:020

Permittee Name: Mailing Address:

P.O. Box 130, Hawesville, KY 43248-0130 Domtar Paper Company, LLC

58 Wescor Road, Hawesville, KY 43248-0130

Mailing Address:

Source Name:

Source Location: 58 Wescor Road

Hancock

Permit: Agency Interest: Activity: Review Type: Source ID: V-18-007 43431 APE20170004 & APE20180003 Title V, Construction/Operating 21-091-00005

Domtar Paper Company, LLC

Regional Office:

Owensboro Regional Office 3032 Alvey Park Dr. W., Suite 700 Owensboro, KY 42303 (270) 687-7304

County:

Application Complete Date: Issuance Date: Expiration Date:

March 12, 2018 September 22, 2018 September 22, 2023

Rick S. Shewekah for

Sean Alteri, Director Division for Air Quality

Version 10/16/13

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	Permit type	Activity#	Complete Date	Issuance Date	Summary of Action
V-18-007	Renewal	APE20170004	3/12/18	0/22/2018	Renewal
		APE20180003	3/23/2018	9/22/2018	Significant Revision

Version 3/8/18

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SECTION A – PERMIT AUTHORIZATION

Pursuant to a duly submitted application the Kentucky Energy and Environment Cabinet (Cabinet) hereby authorizes the operation of the equipment described herein in accordance with the terms and conditions of this permit. This permit has been issued under the provisions of Kentucky Revised Statutes (KRS) Chapter 224 and regulations promulgated pursuant thereto.

The permittee shall not construct, reconstruct, or modify any affected facilities without first submitting a complete application and receiving a permit for the planned activity from the permitting authority, except as provided in this permit or in 401 KAR 52:020, Title V Permits.

Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by the Cabinet or any other federal, state, or local agency.

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit EU-10 KMM Gasoline Storage Tank			
Emission Point	C-80		
Description	Gasoline storage tank		
Installed	December 1989		
Maximum Rated Capacity	1000 gallons maximum storage capacity, 10 ⁵ gallons/year		
Process Description	Gasoline storage tank for KMM		
Control Equipment	None		

Emission Unit EU-47 BPM Gasoline Storage Tank			
Emission Point	B - 1400		
Description	Gasoline storage tank		
Installed	December 1989		
Maximum Rated Capacity	1000 gallons maximum storage capacity, 10 ⁵ gallons/year		
Purpose	Gasoline storage tank for vehicles.		
Control Equipment	None		

APPLICABLE REGULATIONS:

401 KAR 59:050, New storage vessels for petroleum liquids.

1. **Operating Limitations**:

The permittee of each storage vessel that commenced on or after April 9, 1972 to which this administrative regulation applies shall store petroleum liquids as follows: if the storage vessel has a storage capacity greater than 2,195 liters (580 gallons), and if the true vapor pressure of the petroleum liquid, as stored, is equal to or greater than ten and three-tenths (10.3) kiloPascals (one and five-tenths (1.5) pounds per square inch absolute, as a minimum the tank shall be equipped with a permanent submerged fill pipe [401 KAR 59:050 Section 3(2)].

Compliance Demonstration Method:

The permittee shall maintain tank diagrams/blueprints to verify the existence of the submerged fill pipe.

2. Emission Limitations:

None

3. <u>Testing Requirements</u>:

None

Page: 3 of 128

SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- 4. <u>Specific Monitoring Requirements</u>: None
- 5. <u>Specific Recordkeeping Requirements</u>: None
- 6. <u>Specific Reporting Requirements:</u> See Section F.

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit EU-11 Unpaved Mill Roads			
Emission Point	C-90		
Description	Unpaved plant roads		
Installed	January 2001		
Maximum Rated Capacity	66,000 wood chip trucks and 14,000 wood fuel trucks on 0.4 miles round trip on unpaved roads		
Process Description	Unpaved roads for movement of machinery for wood chip and wood fuel handling.		

Emission Unit EU-12 Paved Mill Roads			
Emission Point	C-100		
Description	Paved plant roads		
Installed	April 1967		
Maximum Rated Capacity	66,000 wood chip trucks and 14,000 wood fuel trucks on 1.9 miles round trip on paved roads		
Process Description	Paved roads for movement of machinery for wood chip and wood fuel handling.		

APPLICABLE REGULATIONS:

401 KAR 63:010, Fugitive emissions.

1. **Operating Limitations:**

a. No person shall cause, suffer, or allow any material to be handled, processed, transported, or stored; a building or its appurtenances to be constructed, altered, repaired, or demolished, or a road to be used without taking reasonable precaution to prevent particulate matter (PM/PM₁₀/PM_{2.5}) from becoming airborne [401 KAR 63:010, Section 3(1)].

Compliance Demonstration Method:

- a. Such precautions shall include, when applicable, but not be limited to the following:
 - (1) Operating procedures shall be maintained so that dust is not emitted from the processes in a manner and amount as to cause a nuisance;
 - (2) Covering at all times when in motion, open bodied trucks transporting materials likely to become airborne or applying other dust mitigation measures including but not limited to regulating speed limits within the mill property;
 - (3) Maintaining unpaved/paved roadways in a clean condition and the prompt removal of earth or other material from the unpaved/paved street that may have been deposited there by trucking or other earth moving equipment or erosion by water.

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

b. The permittee shall not cause or permit the discharge of visible fugitive dust emissions beyond the lot line of the property on which the emissions originate [401 KAR 63:010, Section 3(2)].

Compliance Demonstration Method:

The permittee shall maintain records of the operational practices used to prevent particulate from becoming airborne.

2. <u>Emission Limitations</u>:

None

3. Testing Requirements:

None

4. <u>Specific Monitoring Requirements</u>:

- The permittee shall conduct visual observations of emissions from vehicular traffic, a minimum of once per week as follows [401 KAR 52:020, Section 10]:
 - (1) An employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for the specified processes, such as Method 9 training, shall perform the observation.
 - (2) The observation shall be taken during the part of the operation that would normally be expected to cause the greatest emissions.
 - (3) The results of the observation shall be noted as normal or abnormal.
 - (4) Visual observations are not required during or immediately after a rainfall event which included 0.254 millimeter (mm) (0.01 inch) of precipitation, and when the road is snow covered.
- b. The permittee shall keep records of the dates that it vacuumed and/or swept, and the application of water or dust suppressants to roadways.

5. Specific Recordkeeping Requirements:

- a. The permittee shall maintain records on site with totals calculated on a monthly basis and a twelve (12) month rolling total of the PM/PM₁₀/PM_{2.5} emissions using vehicle miles traveled, process weight hauled, emission factors, results of monitoring, or any other methods along with supporting calculations [401 KAR 52:020, Section 10].
- b. The permittee shall maintain records of weekly visual observations. The results of the observation and any corrective actions taken, including date and time, shall be recorded. If visual observations are not performed due to precipitation, this shall be noted in the logbook [401 KAR 52:020, Section 10].

6. Specific Reporting Requirements:

See Section F.

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit EU-14 BPM Continuous Digester System			
Emission Point	B-1		
Description	Continuous digester system		
Installed	March 1997		
Maximum Rated Capacity	512,487 tons per year (tpy) oven dried pulp (ODP).		
Process Description	Produces kraft pulp from wood chips.		
Control Equipment	Low volume high concentration gases (LVHC) are vented to the non-condensable gases (NCG)/stripper off-gases (SOG) incinerator or the lime kiln no. 3; high volume low concentration gases (HVLC) are vented to the NCG/SOG incinerator or bio-fuel boiler.		

APPLICABLE REGULATIONS:

401 KAR 60:005, Section 2(2)(kk), 40 C.F.R. 60.280 to 60.285 (Subpart BB), Standards of Performance for Kraft Pulp Mills.

401 KAR 63:002, Section 2(4)(1), 40 C.F.R. 63.440 to 63.459, Table 1 (Subpart S), National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry.

401 KAR 63:002, Section 2(4)(hh), 40 C.F.R. 63.960 to 63.967 (Subpart RR), National Emission Standards for Individual Drain Systems.

1. **Operating Limitations**:

- a. Non-condensable gas streams containing total reduced sulfur (TRS) shall be controlled at all times by being combusted in the NCG/SOG incinerator, the lime kiln no. 3, or the bio-fuel boiler for at least 0.5 second at 1200 °F [40 CFR 60.283(a)(1)(iii)].
- b. Equipment systems listed in 40 CFR 63.443(a) and (b) shall be enclosed and vented into a closed-vent system and routed to a control device that meets the requirements specified in 40 CFR 63.443(d). The enclosures and closed-vent system shall meet the requirements specified in 40 CFR 63.450 [40 CFR 63.443(c)].
- c. The control device used to reduce total hazardous air pollutant (HAP) emissions from each equipment system listed in 40 CFR 63.443(a) and (b) shall [40 CFR 63.443(d)]:
 - (1) Reduce total HAP emissions by 98 percent or more by weight; or
 - (2) Reduce the total HAP concentration at the outlet of the thermal oxidizer (NCG/SOG incinerator) to 20 parts per million by volume on a dry basis (ppmvd) or less, corrected to 10 percent oxygen; or
 - (3) Reduce total HAP emissions using a thermal oxidizer designed and operated at a minimum temperature of 1,600 Fahrenheit (°F) and a minimum residence time of 0.75 seconds; or

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- (4) Reduce total HAP emissions using the bio-fuel boiler, lime kiln no. 3, or recovery furnace by introducing the HAP emission stream with the primary fuel or into the flame zone.
- d. The pulping process condensates from the following equipment systems shall be treated to meet the requirements specified in 40 CFR 63.446(c), (d), and (e) [40 CFR 63.446(b)].
 - (1) Each digester system;
 - (2) Each turpentine recovery system;
 - (3) Each evaporator system condensate from:
 - (i) The vapors from each stage where weak liquor is introduced (feed stages); and(ii) Each evaporator vacuum system for each stage where weak liquor is introduced (feed stages).
 - (4) Each HVLC collection system; and
 - (5) Each LVHC collection system.
- e. The pulping process condensates from the equipment systems listed in **1**. <u>Operating</u> <u>Limitations</u> d. shall be conveyed in a closed collection system that is designed and operated to meet the requirements specified in 40 CFR 63.446(d)(1) and (d)(2) [40 CFR 63.446(d)].
- f. Each pulping process condensate from the equipment systems listed in **1**. <u>Operating</u> <u>Limitations</u> d shall be treated according to recycle the pulping process condensate to an equipment system specified in 40 CFR 63.443(a) meeting the requirements specified in 40 CFR 63.443(c) and (d) [40 CFR 63.446(e)(1)].
- g. Each closed-vent system specified in 40 CFR 63.443(c) for capturing and transporting vent streams that contain HAP shall meet the requirements specified in 40 CFR 63.450(c) [40 CFR 63.450(a)].
- h. Refer to Section E.3 for operation of source including associated air pollution control equipment and monitoring equipment.

Compliance Demonstration Method:

- a. The permittee shall maintain and keep records of the methods, which are being used to comply with the operating limitations.
- b. The permittee shall collect and treat any condensate to meet requirements specified under 40 CFR 63.446.
- c. The permittee shall monitor and maintain records for a leak detection and repair program pursuant to 40 CFR 63.453(k) through (l).
- d. Refer to **4.** <u>Specific Monitoring Requirements</u> and **5.** <u>Specific Recordkeeping</u> <u>Requirements</u> below.

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

2. <u>Emission Limitations</u>:

No permittee shall be caused to be discharged into the atmosphere from any digester system, any gases which contain TRS in excess of 5 ppmvd, corrected to 10 percent oxygen, unless the following conditions are met [40 CFR 60.283(a)(1)]:

- a. The gases are combusted in a lime kiln which do not contain TRS in excess of 8 ppmvd, corrected to 10 percent oxygen [40 CFR 60.283(a)(1)(i) and 40 CFR 60.283(a)(5)].
- b. The uncontrolled exhaust gases from a new, modified, or reconstructed digester system contain TRS less than 0.005 gram per kilogram (g/kg) air dried pulp (ADP) (0.01 pound per ton (lb/ton) ADP) [40 CFR 60.283(a)(1)(vi)].

Compliance Demonstration Method:

Refer to **4.** <u>Specific Monitoring Requirements</u> and **5.** <u>Specific Recordkeeping</u> <u>Requirements</u> below.

3. Testing Requirements:

- a. Pursuant to 401 KAR 50:045, Section 1, performance tests to show compliance with TRS emission limits with each control device, using the Reference Methods specified in 401 KAR 50:015 shall be conducted within five (5) years of the most recent performance test conducted to demonstrate compliance or within 6 months of issuance of the final permit V-18-007, whichever is later. The permittee shall determine compliance with the TRS standards in 40 CFR 60.283(a)(1)(vi) [40 CFR 60.285(e)].
- b. To measure detectable leaks annually for closed-vent systems as specified in 40 CFR 63.450, the permittee shall comply with the following [40 CFR 63.457(d)]:
 - (1) Method 21, of part 60, appendix A; and
 - (2) 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 part per million by volume (ppmv) 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 ppmv methane or n-hexane.
- c. Performance testing for HAPs shall be performed within five (5) years of the most recent performance test conducted to demonstrate compliance or within 6 months of issuance of the final permit V-18-007, whichever is later, and using the methods and procedures specified in 40 CFR 63.457, *Test methods and procedures*. Records shall be kept of the testing requirements which are applicable [401 KAR 52:020, Section 10].
- d. The performance test is required only for all emission sources subject to the limitations in 40 CFR 63.443 except those controlled by a combustion device that is designed and operated as specified below [40CFR 63.443(d)(3) or 40 CFR 63:443(d)(4)].
 - (1) Reduce total HAP emissions using a thermal oxidizer designed and operated at a minimum temperature of 1600 °F and a minimum residence time of 0.75 seconds; or
 - (2) Reduce total HAP emissions using one of the following [40 CFR 63.443(d)(4)]:

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- (i) A boiler, lime kiln, or recovery furnace by introducing the HAP emission stream with the primary fuel or into the flame zone; or
- (ii) A boiler or recovery furnace with a heat input capacity greater than or equal to 44 megaWatts (150 million British thermal units (MMBtu)/hour) by introducing the HAP emission stream with the combustion air.
- e. Performance testing of non-HAPs using Reference Methods specified in 401 KAR 50:015 shall be conducted if required by the Division [401 KAR 59:005, Section 2(2), 401 KAR 50:045, Section 1 and 40 CFR 60.8, Subpart A].

4. Specific Monitoring Requirements:

- The permittee shall install, calibrate, certify, operate, and maintain according to the manufacturer's specifications, a continuous HAP monitoring system [40 CFR 63.453(a)].
- b. The temperature of the thermal oxidizer shall be maintained and monitored on a continuous basis [40 CFR 60.284(b)(1) and 40 CFR 63.453(b)].
- c. Each closed-vent system shall comply with the following [40 CFR 63.453(k)]:
 - (1) Each closed-vent system required by 40 CFR 63.450(a) shall be visually inspected once per calendar month with at least 21 days elapsed time between inspections and at other times as requested by the Administrator. The visual inspection shall include inspection of ductwork, piping, enclosures, and connections to covers for visible evidence of defects [40 CFR 63.453(k)(2)].
 - (2) 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) [40 CFR 63.453(k)(3)].
 - (3) If an inspection required by 4. <u>Specific Monitoring Requirements</u> c(1) and (2) identifies visible defects in ductwork, piping, enclosures or connection to covers required by 40 CFR 63.450, or if an instrument reading of 500 ppmv or greater above background is measured, then the following corrective actions shall be taken as soon as practicable [40 CFR 63.453(k)(6)].
 - (i) A first effort to repair to correct the closed-vent system shall be made as soon as practicable but no later than 5 calendar days after the problem is identified.
 - (ii) The repair or corrective action shall be completed no later than 15 calendar 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 permittee 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.
- d. Each pulping process condensate closed collection system used to comply with 40 CFR 63.446(d) shall comply with following [40 CFR 63.453(l)]:
 - (1) Each condensate tank used in the closed collection system shall be operated with no detectable leaks as specified in 40 CFR 63.446(d)(2)(i) measured initially and annually by the procedures specified in 40 CFR 63.457(d) [40 CFR 63.453(l)(2)].

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

(2) If an inspection required by this section identifies visible defects in the closed collection system, or if an instrument reading of 500 part per million (ppm) or greater above background is measured, then corrective actions specified in 40 CFR 63.964(b) shall be taken [40 CFR 63.453(l)(3)].

5. Specific Recordkeeping Requirements:

- a. The permittee shall record all periods in excess of 5 minutes and their duration during which the combustion temperature at the point of incineration is less than 1200° F in the incinerator [40 CFR 60.284(d)(3)(ii)].
- b. The permittee shall record any downtime on the collection systems of greater than four percent for HVLC collection systems, one percent for LVHC collection systems, and greater than four percent for combined HVLC and LVHC collection systems [40 CFR 63.443(e)].
- c. For each applicable 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 and shall record the following information for each inspection [40 CFR 63.454(b)]:
 - (1) Date of inspection;
 - (2) The equipment type and identification;
 - (3) Results of leak detection tests;
 - (4) The nature of the defect or leak and the method of detection (i.e., visual inspection or instrument detection);
 - (5) The date the defect or leak was detected and the date of each attempt to repair the defect or leak;
 - (6) Repair methods applied in each attempt to repair the defect or leak;
 - (7) The reason for the delay if the defect or leak is not repaired within 15 days after discovery;
 - (8) The expected date of successful repair of the defect or leak if the repair is not completed within 15 days; and
 - (9) The date of successful repair of the defect or leak.
- d. The permittee shall record the continuous monitoring system (CMS) parameters specified in 40 CFR 63.453 and meet the requirements specified in 40 CFR 63.454(a) for any new affected process equipment or pulping process condensate stream that becomes subject to the standards due to a process change or modification [40 CFR 63.454(d)].
- e. The permittee shall maintain a log indicating the date, duration of time, and specific actions taken when the emission is not vented to a specific control device. The log shall also indicate the switching date from one control device to another and identify the control device switched to.
- f. Refer to Section E.4., for recordkeeping of malfunctions.

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

6. Specific Reporting Requirements:

- a. The permittee shall report all periods in excess of 5 minutes and their duration during which the combustion temperature at the point of incineration is less than 1200° F on a semiannual basis [40 CFR 60.284(d)(3)(ii)].
- b. The permittee shall meet the requirements specified in 40 CFR 63.455(a) upon startup of any new affected process equipment or pulping process condensate stream that becomes subject to the standards due to a process change or modification [40 CFR 63.455(d)].
- c. The permittee shall report downtime on the collection systems of greater than four percent for HVLC systems, one percent for LVHC systems, and four percent for combined HVLC and LVHC collection systems on a semiannual basis [40 CFR 63.443(e)].
- d. The permittee shall report the periods when the condensate collection and treatment requirements are not being met on a semiannual basis [40 CFR 63.446].
- e. Refer Section E.5., for malfunction reporting requirements.

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE **REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

Emission Unit EU-19 BPM No. 2 Bleach Plant				
Emission Point	B-100			
Description	No.2 chlorine dioxide (ClO ₂) bleach plant			
Installed	June 1998			
Maximum Rated Capacity	182,500 tpy ADP			
Process Description	Bleaches wood pulp			
Control Equipment	Bleach plant scrubber			

Emission Unit EU-20 BPM No. 3 Bleach Plant			
Emission Point	B-100		
Description	No.3 ClO ₂ bleach plant		
Installed	February 1997		
Maximum Rated Capacity	438,000 tpy ADP		
Process Description	Bleaches wood pulp		
Control Equipment	Bleach plant scrubber		

Emission Unit EU-21 BPM ClO ₂ Generator			
Emission Point	B-100		
Description	ClO ₂ generator		
Installed	February 1998		
Maximum Rated Capacity	620,500 tpy ADP		
Process Description	Produces the ClO2 solution used in the bleaching of wood pulp		
Control Equipment	Bleach plant scrubber		

APPLICABLE REGULATIONS: 401 KAR 63:002, Section 2(4)(1), 40 C.F.R. 63.440 to 63.459, Table 1 (Subpart S), National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry.

STATE-ORIGIN REOUIREMENT:

401 KAR 63:021, Existing sources emitting toxic air pollutants.

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

1. **Operating Limitations:**

- a The equipment at each bleaching stage, of the bleaching systems listed in 40 CFR 63.445(a), where chlorinated compounds are introduced shall be enclosed and vented into a closed-vent system and routed to a control device that meets the requirements specified in 40 CFR 63.445(c). The closed-vent system shall meet the requirements specified in 40 CFR 63.450. If process modifications are used to achieve compliance with the emission limits specified in 40 CFR 63.445(c)(2) or (c)(3), closed-vent system are not required, unless appropriate [40 CFR 63.445(b)].
- b. A scrubber required to control emissions of HAPs shall be operated [40 CFR 63.445(c)].
- c. Refer to Section E.3 for operation of source including associated air pollution control equipment and monitoring equipment.
- d. Refer to Section D.4, for source-wide ClO₂ limit pursuant to 401 KAR 63:021.

Compliance Demonstration Method:

- a Refer to **4.** <u>Specific Monitoring Requirements</u> and **5.** <u>Specific Recordkeeping</u> <u>Requirements</u> below for compliance with **1.** <u>Operating Limitations</u> (a) and (b).
- b. Refer to control device operating conditions listed in 4. <u>Specific Monitoring</u> <u>Requirements.</u>

2. Emission Limitations:

The control device used to reduce chlorinated HAP emissions (not including chloroform) from the equipment specified in 40 CFR 63.445(b) shall [40 CFR 63.445(c)]:

- (1) Reduce the total chlorinated HAP mass in the vent stream entering the control device by 99 percent or more by weight;
- (2) Achieve a treatment device outlet concentration of 10 ppmv or less of total chlorinated HAP; or
- (3) Achieve a treatment device outlet mass emission rate of 0.001 kg of total chlorinated HAP mass per megagram (Mg) (0.002 lb/ton) of ODP.

Compliance Demonstration Method:

- a. The permittee shall operate the scrubber in accordance with the manufacturer's specifications to attain emission limitations specified in **2.** <u>Emission Limitations</u> above.
- b. The scrubber shall be monitored, operated, and the records shall be kept for the given parameters specified under 4. <u>Specific Monitoring Requirements</u> and 5. <u>Specific Recordkeeping Requirements</u>.
- c. Compliance shall also be demonstrated through implementation of a leak detection and repair program for the closed vent system.

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE **REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

3. Testing Requirements:

a Pursuant to 401 KAR 50:045, Section_1, a performance test is required for all emission sources subject to the limitation in 40 CFR 63.445, Standards for the bleaching system [40 CFR 63.457(a)].

The testing shall be conducted within five (5) years of the most recent performance test conducted to demonstrate compliance or within 6 months of issuance of the final permit V-18-007, whichever is later.

- (1) For purposes of selecting vent sampling port locations and determining vent gas stream properties, required in 40 CFR 63.445, the permittee shall comply with the applicable procedures in 40 CFR 63.457(b)(1) through (b)(6) [40 CFR 63.457(b)].
- (2) For purposes of complying with the bleaching system requirements in 40 CFR 63.445, the permittee shall measure the total HAP concentration as the sum of all individual chlorinated HAPs or as chlorine [40 CFR 63.457(h)].
- (3) To demonstrate compliance with the mass emissions rate, mass emission rate per Mg of ODP, and percent reduction requirements for vent gas streams specified in 40 CFR 63.445, the permittee shall use the equations in 40 CFR 63.457(i)(1) through (i)(3) [40 CFR 63.457(i)].
- b. Performance testing of non-HAPs using Reference Methods specified in 401 KAR 50:015 shall be conducted if required by the Division [401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1].

4. Specific Monitoring Requirements:

- Permittee shall install, calibrate, certify, operate, and maintain according to the manufacturer's specifications, a CMS for the scrubber parameters [40 CFR 63.453(a)].
- The permittee shall monitor the following operating parameters at the frequency indicated b. for this scrubber.

Parameter	Monitoring Frequency	Acceptable Range
Scrubber Liquid Flow Rate	Continuous	> 51 gallon per minute (gpm)
Scrubbing Liquid pH	Continuous	> 10 pH
Scrubber Inlet Pressure (or vacuum)	Continuous	< -10 inches H ₂ O

- c. A CMS shall be operated to measure the following parameters on a continuous basis for each gas scrubber used to comply the bleaching system requirements of 40 CFR 63.445(c). Compliance shall be determined based on a three-hour rolling average [40 CFR 63.453(c)]: (1) The pH or the oxidation/reduction potential of the gas scrubber effluent;

 - (2) The gas scrubber vent gas inlet flow rate; and
 - (3) The gas scrubber liquid influent flow rate.

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- d The permittee shall meet all the requirements specified in 40 CFR 63. 450(b) through (d) [40 CFR 63.450(a)].
- e. Each closed-vent system shall comply with the following [40 CFR 63.453(k)]:
 - (1) Each closed-vent system required by 40 CFR 63.450(a) shall be visually inspected once per calendar month with at least 21 days elapsed time between inspections and at other times as requested by the Administrator. The visual inspection shall include inspection of ductwork, piping, enclosures, and connections to covers for visible evidence of defects [40 CFR 63.453(k)(2)].
 - (2) 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) [40 CFR 63.453(k)(3)].
 - (3) If an inspection required by 4. <u>Specific Monitoring Requirements</u> d(1) and (2) identifies visible defects in ductwork, piping, enclosures or connection to covers required by 40 CFR 63.450, or if an instrument reading of 500 ppmv or greater above background is measured, then the following corrective actions shall be taken as soon as practicable [40 CFR 63.453(k)(6)].
 - (i) A first effort to repair to correct the closed-vent system shall be made as soon as practicable but no later than 5 calendar days after the problem is identified.
 - (ii) The repair or corrective action shall be completed no later than 15 calendar 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 permittee 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.

5. Specific Recordkeeping Requirements:

- a For each applicable 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 and shall record the following information for each inspection [40 CFR 63.454(b)]:
 - (1) Date of inspection;
 - (2) The equipment type and identification;
 - (3) Results of leak detection tests;
 - (4) The nature of the defect or leak and the method of detection (i.e., visual inspection or instrument detection);
 - (5) The date the defect or leak was detected and the date of each attempt to repair the defect or leak;
 - (6) Repair methods applied in each attempt to repair the defect or leak;
 - (7) The reason for the delay if the defect or leak is not repaired within 15 days after discovery;
 - (8) The expected date of successful repair of the defect or leak if the repair is not completed within 15 days; and
 - (9) The date of successful repair of the defect or leak.

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- b. The permittee shall record the CMS parameters specified in 40 CFR 63.453 and meet the requirements specified in 40 CFR 63.454(a) for any new affected process equipment that becomes subject to the standards due to a process change or modification [40 CFR 63.454(d)].
- c. For compliance demonstration purposes, the permittee shall:
 - (1) Maintain records on the B-100 Bleach Plant Scrubber System operating parameters as listed in 4. <u>Specific Monitoring Requirements</u>. The monitoring data shall be recorded on a hourly and three-hour rolling average.
 - (2) Summarize the closed-vent operations venting to the B-100 Bleach Plant Scrubber System monthly including a summary of leaking and not-leaking devices and the repair logs.
 - (3) During any onsite visit, specific records (monthly production) for this area shall be made available for inspection at the request of the Regional inspector.
- d. Refer to Section E.4., for recordkeeping of malfunctions.

6. <u>Specific Reporting Requirements</u>:

a The permittee shall meet the requirements specified in 40 CFR 63.455(a) upon startup of any new affected process equipment or pulping process condensate stream that becomes subject to the standards due to a process change or modification [40 CFR 63.455(d)].

b Permittee shall submit compliance testing report to US EPA via CEDRI [40 CFR 63.455(h)(1) and (2)].

c. Refer to Section E.5., for malfunction reporting requirements.

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<#>Permittee shall submit results of the leak detection and repair monitoring program [40 CFR 63.455].¶

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit EU-22 BPM Multiple Effect Evaporator System		
Emission Point	B-700	
Description	Multiple effect evaporators Condensate stripper	
Installed	October 1997	
Maximum Rated Capacity	967,250 tpy of black liquor solids (BLS)	
Process Description	Evaporation of water from the spent pulping chemical (black liquor) to facilitate its combustion in the recovery boilers/furnace(s).	
Control Equipment	LVHC and SOG vented to the NCG/SOG incinerator, lime kiln, bio-fuel boiler, or recovery boiler	

APPLICABLE REGULATIONS:

401 KAR 60:005, Section 2(2)(kk), 40 C.F.R. 60.280 to 60.285 (Subpart BB), Standards of Performance for Kraft Pulp Mills.

401 KAR 63:002, Section 2(4)(1), 40 C.F.R. 63.440 to 63.459, Table 1 (Subpart S), National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry.

401 KAR 63:002, Section 2(4)(hh), 40 C.F.R. 63.960 to 63.967 (Subpart RR), National Emission Standards for Individual Drain Systems.

1. **Operating Limitations:**

- a. Non-condensable exhaust gases which are LVHC from the evaporators shall be vented to either the NCG/SOG incinerator for at least 0.5 second at 1200 °F or to the lime kiln no. 3, bio-fuel boiler, or recovery boiler [40 CFR 60.283(a)(1)(iii)].
- b. Equipment systems listed in 40 CFR 63.443(a) and (b) shall be enclosed and vented into a closed-vent system and routed to a control device that meets the requirements specified in 40 CFR 63.443(d). The enclosures and closed-vent system shall meet the requirements specified in 40 CFR 63.450 [40 CFR 63.443(c)].
- c. The control device used to reduce total HAP emissions from each equipment system listed in 40 CFR 63.443(a) and (b) shall [40 CFR 63.443(d)]:
 - (1) Reduce total HAP emissions by 98 percent or more by weight; or
 - (2) Reduce the total HAP concentration at the outlet of the thermal oxidizer (NCG/SOG incinerator) to 20 parts ppmvd, corrected to 10 percent oxygen; or
 - (3) Reduce total HAP emissions using a thermal oxidizer designed and operated at a minimum temperature of 1600 °F and a minimum residence time of 0.75 seconds; or
 - (4) Reduce total HAP emissions using the bio-fuel boiler, lime kiln no. 3, or recovery furnace by introducing the HAP emission stream with the primary fuel or into the flame zone.

SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- d. The pulping process condensates from the following equipment systems shall be treated to meet the requirements specified in 40 CFR 63.446(c), (d), and (e) [40 CFR 63.446(b)].
 (1) Each digester system;
 - (2) Each turpentine recovery system;
 - (3) Each evaporator system condensate from:
 - (i) The vapors from each stage where weak liquor is introduced (feed stages); and(ii) Each evaporator vacuum system for each stage where weak liquor is introduced (feed stages).
 - (4) Each HVLC collection system; and
 - (5) Each LVHC collection system.
- e. The pulping process condensates from the equipment systems listed in **1**. <u>Operating</u> <u>Limitations</u> d shall be conveyed in a closed collection system that is designed and operated to meet the requirements specified in 40 CFR 63.446(d)(1) and (d)(2) [40 CFR 63.446(d)].
- f. Each pulping process condensate from the equipment systems listed in **1**. <u>Operating</u> <u>Limitations</u> d shall be treated according to one of the following options [40 CFR 63.446(e)]:
 - (1) Recycle the pulping process condensate to an equipment system specified in 40 CFR 63.443(a) meeting the requirements specified in 40 CFR 63.443(c) and (d); or
 - (2) Discharge the pulping process condensate below the liquid surface of a biological treatment system and treat the pulping process condensates to meet the requirements specified in 40 CFR 63.446(e)(3), (4), or (5), and total HAP shall be measured as specified in 40 CFR 63.457(g).
- g. Each closed-vent system specified in 40 CFR 63.443(c) for capturing and transporting vent streams that contain HAP shall meet the requirements specified in 40 CFR 63.450(c) [40 CFR 63.450(a)].
- h. Refer to Section E.3 for operation of source including associated air pollution control equipment and monitoring equipment.
- i. On each bypass line in the closed-vent system that could divert vent streams containing HAP to the atmosphere without meeting the emission limitations, the permittee 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 [40 CFR 63.450(d)(1)].

Compliance Demonstration Method:

- a. The permittee shall maintain and keep records of the methods, which are being used to comply with the operating limitations.
- b. The permittee shall collect and treat any condensate to meet requirements specified under 40 CFR 63.446.

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- c. The permittee shall monitor and maintain records for a leak detection and repair program pursuant to 40 CFR 63.453.
- d. Refer to **4.** <u>Specific Monitoring Requirements</u> and **5.** <u>Specific Recordkeeping</u> <u>Requirements</u> below.

2. Emission Limitations:

No permittee shall cause to be discharged into the atmosphere from any multiple-effect evaporator system, any gases which contain TRS in excess of 5 ppmvd, corrected to 10 percent oxygen, unless the following conditions are met [40 CFR 60.283(a)(1)]:

- a. The gases are combusted in a lime kiln and do not contain TRS in excess of 8 ppmvd, corrected to 10 percent oxygen [40 CFR 60.283(a)(1)(i) and 40 CFR 60.283(a)(5)].
- b. The gases are combusted in a recovery furnace and do not contain TRS in excess of 5 ppmvd, corrected to 8 percent oxygen or are combusted in a cross recovery furnace and do not contain TRS in excess of 25 ppmvd, corrected to 8 percent oxygen [40 CFR 60.283(a)(1)(ii), 40 CFR 60.283(a)(2), and 40 CFR 60.283(a)(3)].

Compliance Demonstration Method:

- a. The permittee shall collect and treat any condensate to meet the above limits.
- b. Refer to **4.** <u>Specific Monitoring Requirements</u> and **5.** <u>Specific Recordkeeping</u> <u>Requirements</u> below.

3. Testing Requirements:

- a. Pursuant to 401 KAR 50:045, Section 1, performance tests to show compliance with TRS emission limits with each control device, using the Reference Methods specified in 401 KAR 50:015 shall be conducted within five (5) years of the most recent performance test conducted to demonstrate compliance or within 6 months of issuance of the final permit V-18-007, whichever is later. The permittee shall determine compliance with the TRS standards in standards in 40 CFR 60.283, except 40 CFR 60.283(a)(1)(vi) and (4) [40 CFR 60.285(d)].
- b. To measure detectable leaks annually for closed-vent systems as specified in 40 CFR 63.450, the permittee shall comply with the following [40 CFR 63.457(d)]:
 - (1) Method 21, of part 60, appendix A; and
 - (2) 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 ppmv 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 ppmv methane or n-hexane.
- c. Performance testing for HAPs shall be performed within five (5) years of the most recent performance test conducted to demonstrate compliance or within 6 months of issuance of the final permit V-18-007, whichever is later, and using the methods and procedures

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

specified in 40 CFR 63.457, *Test methods and procedures*. Records shall be kept of the testing requirements which are applicable.

The performance test is required only for all emission sources subject to the limitations in 40 CFR 63.443 except those controlled by a combustion device that is designed and operated as specified below:

- Reduce total HAP emissions using a thermal oxidizer designed and operated at a minimum temperature of 1600 °F and a minimum residence time of 0.75 seconds; [40 CFR 63.443(d)(3)]; or
- (2) Reduce total HAP emissions using one of the following [40 CFR 63.443(d)(4)]:
 - (i) A boiler, lime kiln, or recovery furnace by introducing the HAP emission stream with the primary fuel or into the flame zone; or
 - (ii) A boiler or recovery furnace with a heat input capacity greater than or equal to 44 megawatts (150 MMBtu/hour) by introducing the HAP emission stream with the combustion air.
- d. Performance testing of non-HAPs using Reference Methods specified in 401 KAR 50:015 shall be conducted if required by the Division [401 KAR 59:005, Section 2(2), 401 KAR 50:045, Section 1 and 40 CFR 60.8, Subpart A].

4. Specific Monitoring Requirements:

- a. The permittee shall install, calibrate, certify, operate, and maintain according to the manufacturer's specifications, a CMS for HAP emissions for the respective control equipment: the NCG/SOG incinerator, lime kiln no. 3, bio-fuel boiler, or recovery boiler [40 CFR 63.453(a)].
- b. The temperature of the thermal oxidizer shall be maintained and monitored on a continuous basis [40 CFR 60.284(b)(1) and 40 CFR 63.453(b)].
- c. The permittee shall monitor and maintain the process wastewater (condensate) feed rate, the steam feed rate (or steam to condensate ratio), and the process wastewater column feed temperature or outlet methanol concentration if the condensate stripper is used as a treatment device [40 CFR 63.453(g)].
- d. Each closed-vent system shall comply with the following [40 CFR 63.453(k)]:
 - (1) Each closed-vent system required by 40 CFR 63.450(a) shall be visually inspected once per calendar month with at least 21 days elapsed time between inspections and at other times as requested by the Administrator. The visual inspection shall include inspection of ductwork, piping, enclosures, and connections to covers for visible evidence of defects [40 CFR 63.453(k)(2)].
 - (2) 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) [40 CFR 63.453(k)(3)].
 - (3) If an inspection required by **4.** <u>Specific Monitoring Requirements</u> d(1) and (2) identifies visible defects in ductwork, piping, enclosures or connection to covers required by 40 CFR 63.450, or if an instrument reading of 500 ppmv or greater above

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

background is measured, then the following corrective actions shall be taken as soon as practicable [40 CFR 63.453(k)(6)].

- (i) A first effort to repair to correct the closed-vent system shall be made as soon as practicable but no later than 5 calendar days after the problem is identified.
- (ii) The repair or corrective action shall be completed no later than 15 calendar 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 permittee 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.
- e. Each pulping process condensate closed collection system used to comply with 40 CFR 63.446(d) shall comply with following [40 CFR 63.453(l)]:
 - (1) Each condensate tank used in the closed collection system shall be operated with no detectable leaks as specified in 40 CFR 63.446(d)(2)(i) measured initially and annually by the procedures specified in 40 CFR 63.457(d) [40 CFR 63.453(l)(2)]
 - (2) If an inspection required by this section identifies visible defects in the closed collection system, or if an instrument reading of 500 ppm or greater above background is measured, then corrective actions specified in 40 CFR 63.964(b) shall be taken [40 CFR 63.453(l)(3)].

5. Specific Recordkeeping Requirements:

- a. The permittee shall record all periods in excess of 5 minutes and their duration during which the combustion temperature at the point of incineration is less than 1200 °F in the incinerator [40 CFR 60.284(d)(3)(ii)].
- b. The permittee shall record any downtime on the collection systems of greater than one percent for LVHC collection systems [40 CFR 63.443(e)(1)].
- c. Refer to Section E.4., for recordkeeping of malfunctions.
- d. The permittee shall record all periods when none of the following control options are demonstrated [40 CFR 63.454(a)]:
 - (1) Total HAP emissions are captured and reduced by the NCG/SOG incinerator operated at or above 1600 °F for 0.75 seconds.
 - (2) Total HAP emissions are reduced by 98 percent or more by weight.
 - (3) Total HAP concentration at the outlet of the thermal oxidizer (incinerator) is reduced to 20 parts ppmv or less, corrected to 10 percent oxygen on a dry basis.
 - (4) Total HAP emissions are controlled using the bio-fuel boiler, lime kiln no. 3, or recovery furnace by introducing the HAP emission stream with the primary fuel or into the flame zone.
- e. For each applicable 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 and shall record the following information for each inspection [40 CFR 63.454(b)]:

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- (1) Date of inspection;
- (2) The equipment type and identification;
- (3) Results of leak detection tests;
- (4) The nature of the defect or leak and the method of detection (i.e., visual inspection or instrument detection);
- (5) The date the defect or leak was detected and the date of each attempt to repair the defect or leak;
- (6) Repair methods applied in each attempt to repair the defect or leak;
- (7) The reason for the delay if the defect or leak is not repaired within 15 days after discovery;
- (8) The expected date of successful repair of the defect or leak if the repair is not completed within 15 days;
- (9) The date of successful repair of the defect or leak; and
- (10) The duration of the use of bypass valves on computer controlled valves.
- f. The permittee shall record the CMS parameters specified in 40 CFR 63.453 and meet the requirements specified in 40 CFR 63.454(a) for any new affected process equipment or pulping process condensate stream that becomes subject to the standards due to a process change or modification [40 CFR 63.454(d)].
- g. The permittee shall maintain a log indicating the date, duration of time, and specific actions taken when the emission is not vented to a specific control device. The log shall also indicate the switching date from one control device to another and identify the control device switched to.
- Should the condensate stripper be used as a treatment device, the permittee shall maintain records on stripper downtime, including startup, shutdown, or malfunction (SSM) and HAP reduction.
- i. The permittee shall comply with the recordkeeping requirements of 40 CFR 63.10, as shown in Table 1 of 40 CFR 63, Subpart S.

6. Specific Reporting Requirements:

- a. The permittee shall report all periods in excess of 5 minutes and their duration during which the combustion temperature at the point of incineration is less than 1200 °F on a semiannual basis [40 CFR 60.284(d)(3)(ii)].
- b. The permittee shall report all periods when none of the following control options are demonstrated [40 CFR 63.455]:
 - Total HAP emissions are captured and operated by the NCG/SOG incinerator at or above 1600 °F for 0.75 seconds.
 - (2) Total HAP emissions are reduced by 98% or more by weight.
 - (3) Total HAP concentration at the outlet of the thermal oxidizer (incinerator) is reduced to 20 ppmv or less, corrected to 10 percent oxygen on a dry basis.

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- (4) Total HAP emissions are controlled using the bio-fuel boiler, lime kiln no. 3, or recovery furnace by introducing the HAP emission stream with the primary fuel or into the flame zone.
- c. The permittee shall report any downtime on the control system of greater than one percent (excluding SSM) for LVHC and SOG during times when the LVHC HAP emissions are controlled, on a semiannual basis [40 CFR 63.443(e)(1)].
- d. The permittee shall report downtime on the stripper greater than ten percent including SSM if the stripper is used as a control device [40 CFR 63.455(b)(1)].
- e. The permittee shall report the periods when the condensate collection and treatment requirements are not being met on a semiannual basis [40 CFR 63.446].
- f. Refer to Section E.5., for malfunction reporting requirements.
- g. The permittee shall demonstrate compliance with the requirements of reduction of total HAP through the stripper using a CMS if the condensate stripper is used as a treatment device. If compliance is based on the use of a biological treatment system, the compliance shall be based on daily composite samples and the percent reduction shall be determined quarterly [40 CFR 63.453(j)].

7. Specific Control Equipment Operating Conditions:

Refer to emission unit 36 (lime kiln No. 3), emission unit 40 (NCG/SOG incinerator) and emission unit 42 (bio-fuel boiler), emission unit 27 (recovery boiler), and emission unit 29 (recovery boiler).

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit EU-23BPM Recovery Area Strong & Heavy Black Liquor Tanks		
Emission Point	B-301, 303-309, 700, 900	
Description	Three recovery area strong and heavy black liquor tanks	
	Liquor Tanks (Vented to the NCG/SOG)	
Installed	October 1997	
Maximum Rated Capacity	967,250 tpy of BLS Each tank < 40 cubic meter (m ³)	
Process Description	Storage of spent pulping chemical (black liquor) while being processed	
Control device	Evaporators (emission unit 22) for process control purposes, which in turn is vented to emission unit 40	

APPLICABLE REGULATIONS:

None

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- 1. <u>Operating Limitations</u>: None
- 2. <u>Emission Limitations</u>: None
- 3. <u>Testing Requirements</u>: None
- 4. <u>Specific Monitoring Requirements</u>: None
- 5. <u>Specific Recordkeeping Requirements</u>: None
- 6. <u>Specific Reporting Requirements</u>: None

SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit EU-24	BPM Weak Liquor Tank	
Emission Unit EU-09 BPM Weak Liquor Tank		
Emission Point	B-304 (or C-70)	
	700, 900	
Description	Recovery weak black liquor tank	
	Pulp mill weak black liquor tank	
Installed	March 1997	
Maximum Rated Capacity	967,250 tpy of BLS	
Process Description	Storage of spent pulping liquor (black liquor) prior to it being processed for combustion	
Control Equipment	NCG/SOG incinerator or bio-fuel boiler	
Comments	Emission unit 9 will serve as a backup to emission unit 24 and will meet same requirements	
	meet sume requirements.	

APPLICABLE REGULATIONS:

401 KAR 50:012, Section 1(2). In the absence of a standard specified in these administrative regulations, all major air contaminant sources shall as a minimum apply control procedures that are reasonable, available, and practical.

401 KAR 63:002, Section 2(4)(1), 40 C.F.R. 63.440 to 63.459, Table 1 (Subpart S), National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry.

1. **Operating Limitations:**

- a. Each weak liquor storage tank shall be enclosed and vented into a closed-vent system and routed to a control device that meet the requirements specified in 40 CFR 63.443(d). The enclosures and closed-vent system shall meet the requirements specified in 40 CFR 63.450 [40 CFR 63.443(c)].
- b. The control device used to reduce total HAP emissions from each equipment system listed in 40 CFR 63.443(a) and (b) shall [40 CFR 63.443(d)]:
 - (1) Reduce total HAP emissions by 98 percent or more by weight; or
 - (2) Reduce the total HAP concentration at the outlet of the thermal oxidizer (NCG/SOG incinerator) to 20 ppmv or less, corrected to 10 percent oxygen on a dry basis; or
 - (3) Reduce total HAP emissions using a thermal oxidizer designed and operated at a minimum temperature of 1600 °F and a minimum residence time of 0.75 seconds; or
 - (4) Reduce total HAP emissions using the bio-fuel boiler, lime kiln no. 3, or recovery furnace by introducing the HAP emission stream with the primary fuel or into the flame zone.
- c. All major air contaminant sources shall as a minimum apply control procedures that are reasonable, available and practical (RAP) [401 KAR 50:012, Section 1(2)].

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Compliance Demonstration Method:

- a. The permittee shall monitor and maintain records for a leak detection and repair program on the closed-vent system.
- b. Refer to **4.** <u>Specific Monitoring Requirements</u> and **5.** <u>Specific Recordkeeping</u> <u>Requirements</u> below.
- c. Compliance with 40 CFR 63, Subpart S is deemed to be RAP for control of VOC emissions.

2. <u>Emission Limitations</u>:

None

3. <u>Testing Requirements</u>:

Performance testing for HAPs shall be performed using the methods and procedures specified in 40 CFR 63.457, *Test methods and procedures*, within 5 years of the most recent performance test conducted to demonstrate compliance or within 6 months of issuance of the final permit V-18-007, whichever is later [401 KAR 52:020, Section 10].

The performance test is required only for all emission sources subject to the limitations in 40 CFR 63.443 except those controlled by a combustion device that is designed and operated as specified below [40CFR 63.443(d)(3) or 40 CFR 63.443(d)(4)].

- a. Reduce total HAP emissions using a thermal oxidizer designed and operated at a minimum temperature of 1600 °F and a minimum residence time of 0.75 seconds; or
- b. Reduce total HAP emissions using one of the following:
 - (1) A boiler, lime kiln, or recovery furnace by introducing the HAP emission stream with the primary fuel or into the flame zone; or
 - (2) A boiler or recovery furnace with a heat input capacity greater than or equal to 44 megawatts (150 MMBtu/hour) by introducing the HAP emission stream with the combustion air.

4. Specific Monitoring Requirements:

- a. The permittee shall install, calibrate, certify, operate, and maintain according to the manufacturer's specifications, a CMS. The CMS shall include a continuous recorder [40 CFR 63.453(a)].
- b. The temperature of the thermal oxidizer shall be maintained and monitored on a continuous basis [40 CFR 63.453(b)].
- c. The permittee shall implement an acceptable leak detection and repair program for each enclosure and closed-vent system [40 CFR 63.453].

5. Specific Recordkeeping Requirements:

a. The permittee shall record downtime on the control system of greater than four percent for HVLC collection system [40 CFR 63.443(e)(2)].

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- b. The permittee shall record all periods when none of the following control options are demonstrated [40 CFR 63.454(a)]:
 - (1) Total HAP emissions are captured and operated by the NCG/SOG incinerator at or above 1600 $^\circ F$ for 0.75 seconds.
 - (2) Total HAP emissions are reduced by 98% or more by weight.
 - (3) Total HAP concentration at the outlet of the thermal oxidizer (incinerator) is reduced to 20 ppmvd or less, corrected to 10 percent oxygen.
 - (4) Total HAP emissions are controlled using the bio-fuel boiler, lime kiln no. 3, or recovery furnace by introducing the HAP emission stream with the primary fuel or into the flame zone.
- c. Refer to Section E4., for recordkeeping of malfunctions.

6. Specific Reporting Requirements:

- a. The permittee shall report any downtime on the control system of greater than four percent for HVLC collection system on a semiannual basis [40 CFR 63.443(e)(2)].
- b. The permittee shall report all periods when none of the following control options are demonstrated [40 CFR 63.455]:
 - Total HAP emissions are captured and operated by the NCG/SOG incinerator at or above 1600 °F for 0.75 seconds.
 - (2) Total HAP emissions are reduced by 98% or more by weight.
 - (3) Total HAP concentration at the outlet of the thermal oxidizer (incinerator) is reduced to 20 ppmvd or less, corrected to 10 percent oxygen.
 - (4) Total HAP emissions are controlled using the bio-fuel boiler, lime kiln no. 3, or recovery furnace by introducing the HAP emission stream with the primary fuel or into the flame zone.
- c. Refer to Section E.5, for malfunctions reporting requirements.
- d. Refer to 4. Specific Monitoring Requirements above.

7. Specific Control Equipment Operating Conditions:

Refer to emission unit 40 (NCG/SOG incinerator) and emission unit 42 (bio-fuel boiler).

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit EU-27 BPM Recovery Boiler/Furnace No. 3		
Emission Point	B-430, 700, and 900	
Description	Recovery boiler No. 3	
Installed	July 1985	
Primary Fuel	BLS blended with 0.12 to 1 volume percent ultra-low sulfur diesel fuel	
Secondary Fuel	Natural gas or fuel oil (with less than 0.50% sulfur content)	
Maximum Rated Capacity	383,250 tpy of BLS plus 0.12 to 1 volume percent of ultra-low sulfur diesel fuel	
Process Description	Combustion of the organic portion of the black liquor for steam generation and recovery of the inorganic portion	
Control Equipment	Electrostatic precipitator (ESP)	

APPLICABLE REGULATIONS:

401 KAR 50:012, Section 1(2). In the absence of a standard specified in these administrative regulations, all major air contaminant sources shall as a minimum apply control procedures that are reasonable, available, and practical.

401 KAR 51:017, Prevention of significant deterioration of air quality.

401 KAR 60:005, Section 2(2)(kk), 40 C.F.R. 60.280 to 60.285 (Subpart BB), Standards of Performance for Kraft Pulp Mills.

401 KAR 60:005, Section 2(2)(c), 40 C.F.R. 60.40b to 60.49b (Subpart Db), Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units.

401 KAR 63:002, Section 2(4)(cc), 40 C.F.R. 63.860 to 63.868, Table 1 (Subpart MM), National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills.

40 CFR 64, Compliance Assurance Monitoring.

1. **Operating Limitations**:

- a. Backup fuels shall only include natural gas and fuel oil with a sulfur content not to exceed 0.50 percent [401 KAR 51:017].
- b. Emission rates specified under 2. <u>Emission Limitations</u> and the air pollution control equipment to control these emissions, 7. <u>Specific Control Equipment Operating Conditions</u>, represents best available control technology (BACT); hence, all equipment, including control equipment, associated with the emission unit shall be operated and monitored, see 4. <u>Specific Monitoring Requirements</u>, to maintain emissions below the specified BACT emission rate [401 KAR 51:017, Section 9].

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- c. Emission rates specified under 2. Emission Limitations and the air pollution control equipment to control these emissions, 7. Specific Control Equipment Operating Conditions, represents maximum achievable control technology (MACT); hence, all equipment, including control equipment, associated with the emission unit shall be operated and monitored, see 4. Specific Monitoring Requirements, to maintain emissions below the specified MACT emission rate [40 CFR 63, Subpart MM].
- d. The permittee shall blend only up to 1.0 volume percent of ultra low sulfur diesel fuel with black liquor [self-imposed limit to preclude applicability of 401 KAR 51:017]
- e. All major air contaminant sources shall as a minimum apply control procedures that are reasonable, available, and practical (RAP) for the control of carbon monoxide (CO) emissions [401 KAR 50:012 Section 1(2)].
- f. At all times, the permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the permittee to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source [40 CFR 63.860(d)].
- g. Use of the backup fuels shall not exceed 10% of the total potential heat input in any consecutive 12 months. The fuel usage shall be monitored on a monthly basis and shall be used to calculate the annual percentage for any 12-month period. [40 KAR 52:020, Section 10]

Compliance Demonstration Method:

- a. Refer to **4. Specific Monitoring Requirements** and **5. Specific Recordkeeping Requirements** below.
- b. The permittee, will control CO emissions as required by 401 KAR 50:012 Section 1(2), by using the following RAP control methods to reduce CO emissions while having minimum impact on nitrogen oxides (NO_x) emissions:
 - (1) Good combustion control;
 - (2) Use of a properly designed and operated recovery boiler;
 - (3) By maintaining the proper temperature; and
 - (4) By maximizing the residence time.

2. Emission Limitations:

a. PM emissions shall not exceed 0.025 grain per dry standard cubic foot (gr/dscf) corrected to 8 percent oxygen and 106.5 tpy. PM₁₀ emissions shall not exceed 18 lb/hour and 79.7 tpy [40 KAR 51:017, prevention of significant deterioration (PSD) permit C-93-044].

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Note: BACT regulation limitation is more stringent than an applicable requirement promulgated pursuant to 40 CFR 60.282(a)(1)(i) and 40 CFR 63.862(a)(1)(i)(A).

- b. The opacity of visible emissions shall not equal or exceed 35 percent on a 6-minute average [40 KAR 51:017, PSD permit C-93-044 and 40 CFR 60.282(a)(1)(ii)].
- c. TRS emissions shall not exceed a concentration of 5 ppmvd corrected to 8 percent oxygen on a 12-hour average [40 KAR 51:017, PSD permit C-93-044 and 40 CFR 60.283(a)(2)].
- d. Sulfur dioxide (SO₂) emissions shall not exceed a concentration of 200 ppmvd corrected to 8 percent oxygen [40 KAR 51:017, PSD permit C-93-044].
- NOx emissions shall not exceed a concentration of 150 ppmvd corrected to 8 percent oxygen [40 KAR 51:017, PSD permit C-93-044].
- f. The permittee of each existing kraft recovery furnace must ensure that the concentration of PM in the exhaust gases discharged to the atmosphere is less than or equal to 0.10 gram per dry standard cubic meter (g/dscm) (0.044 gr/dscf) corrected to 8 percent oxygen [40 CFR 63.862(a)(1)(i)(A)].

Compliance Demonstration Method:

Note: The conversion equations:

microgram (μg)/m³ (pollutant concentration) = [ppm] * [pollutant molecular weight]/[0.02445] ppm (pollutant concentration) = [microgram (μg)/m³] * 0.02445/[pollutant molecular weight] lb/hour (pollutant emission rate) = 2.2527 x 10e⁻⁹ * [μg/m³] * [stack gas flowrate (dscf/minute)] lb/hour (pollutant emission rate) = [tpy] * [2000 lb/ton]/[operating hours/year] lb/hour (pollutant emission rate) = [pollutant emission rate (lb/year)]/[operating

lb/hour (pollutant emission rate) = [pollutant emission rate (lb/year)]/[operating hours/year]

a. For PM/PM₁₀ Annual emission limits:

Annual Emission Rate = [Sum (any consecutive 12 month) of the Monthly Production Rate (tons BLS from No. 3 Recovery Boiler Production)] x [PM/PM₁₀ emission factor observed during most recent performance test accepted by the Division (lb/ton BLS)] + [sum (any consecutive 12 months) of volume of ultra-low sulfur diesel used in blending with primary fuel (gallons/year)] x PM/PM₁₀ emission factor for ultra-low sulfur diesel fuel (lb/1000 gallons) from AP-42]

The permittee shall document the percentage of ultra low sulfur diesel fuel blended with the black liquor in the performance test.

b. For PM/PM₁₀ Hourly emission limits:

Hourly Emission Rate = [(Monthly tons BLS from No. 3 Recovery Boiler Production)/(Operation Hours/month)] x [PM/PM₁₀ emission factor (lb/tons) observed

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

during most recent performance test accepted by the Division] + [volume of ultra-low sulfur diesel blended per minute (gallons/minute) x 60 minutes/hour x PM/PM_{10} emission factor of ultra-low sulfur diesel fuel (lb/1000 gallons) from AP-42;

The permittee shall then document the percentage of ultra low sulfur diesel fuel blended with the black liquor in the performance test.

- c. Compliance with the opacity limits shall be demonstrated through the following methods: the permittee shall perform the monitoring and record keeping requirements listed under 4.
 <u>Specific Monitoring Requirements</u> and 5. <u>Specific Record keeping Requirements</u> during all periods.
- d. Compliance with the TRS limits shall be demonstrated through the following methods: the permittee shall perform the monitoring and record keeping requirements listed under 4. <u>Specific Monitoring Requirements</u> and 5. <u>Specific Recordkeeping Requirements</u> during all periods.
- e. Compliance with the SO₂ limits shall be demonstrated through the monitoring of a three-hour rolling average of black liquor percent solids or other parameters which have been demonstrated to correlate to SO₂ emissions. Compliance shall be demonstrated through the correlation of the most recent performance test results and three-hour rolling black liquor percent solids monitoring. The permittee shall perform the monitoring and record keeping requirements listed under 4. Specific Monitoring Requirements and 5. Specific Record Requirements during all periods.
- f. Compliance with the NOx limits shall be demonstrated through the monitoring of a threehour rolling average of boiler oxygen content or other parameters which have been demonstrated to correlate to NOx emissions. The permittee shall perform the monitoring and record keeping requirements listed under 4. <u>Specific Monitoring Requirements</u> and 5. <u>Specific Record keeping Requirements</u> during all periods.

3. Testing Requirements:

- a. Performance testing for HAPs and PM shall be performed to meet the requirements and methods specified in 40 CFR 63.865, *Performance test requirements and test methods*, within 5 years of the most recent performance test conducted to demonstrate compliance or within 6 months of issuance of the final permit V-18-007, whichever is later.
- b. Performance testing of SO₂, NO_x and TRS using Reference Methods specified in 401 KAR 50:015 shall be conducted within 5 years of the most recent performance test conducted to demonstrate compliance or within 6 months of issuance of the final permit V-18-007, whichever is later. The testing report shall include measurement results of information necessary to show compliance with the ppm at 8% concentration limits [401 KAR 59:005, Section 2(2), 401 KAR 50:045, Section 1 and 40 CFR 60.8].

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

4. Specific Monitoring Requirements:

- a. The permittee shall install, calibrate, maintain, and operate a CMS to monitor and record the opacity of the gases discharged into the atmosphere from the recovery furnace [40 CFR 60.284(a)(1)].
- b. The permittee shall install, calibrate, maintain, and operate a CMS to monitor and record the concentration of TRS emissions on a dry basis and the percent of oxygen by volume on a dry basis in the gases discharged into the atmosphere from the recovery furnace [40 CFR 60.284(a)(2)].
- c. Excluding the startup and shutdown periods, if any 12-hour average TRS value exceeds the standard, the permittee shall, as appropriate, initiate an investigation of the cause of the exceedance and/or the CMS system and make any necessary repairs or take corrective actions as soon as practicable.
- d. The permittee shall monitor and maintain records of the black liquor processed, percent solids, and average boiler percent oxygen on a 24-hour basis [401 KAR 51:017].
- e. The permittee shall monitor and maintain records of the following information:
 - The total monthly (each calendar month) production and tons of BLS consumed in No. 3 Recovery Boiler.
 - (2) Total ultra-low sulfur diesel oil fed to the No. 3 Recovery Boiler/ furnace each month.
 - (3) If the No. 3 Recovery Boiler is in operation during any period of malfunction of the continuous opacity monitoring system (COMS), the permittee shall record the downtime. If visible emissions are observed, the permittee shall perform an EPA Method 9 immediately.
- f. The permittee shall install, calibrate, maintain, and operate a COMS according to 40 CFR 63.6(h) and 63.8 and 63.864(d)(1) through (d)(4) [40 CFR 63.864(d)].
 - (1) As specified in 40 CFR 63.8(c)(4)(i), each COMS must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period [40 CFR 63.864(d)(3)].
 - (2) The COMS data must be reduced as specified in 40 CFR 63.8(g)(2) [40 CFR 63.864(d)(4)].
- g. For each continuous parameter monitoring system (CPMS) required for any kraft or soda recovery furnace using an ESP emission control device, the permittee must maintain proper operation of the ESP automatic voltage control (AVC) [40 CFR 63.864(e) and 40 CFR 63.864(e)(1)].
- h. The permittee shall keep CMS data quality assurance procedures consistent with the requirements in 40 CFR 63.8(d)(1) and (2) on record for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the Administrator. If the performance evaluation plan in 40 CFR 63.8(d)(2) is revised, the permittee shall keep previous (*i.e.*, superseded) versions of the performance evaluation plan on record to be made available for inspection,
SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

upon request, by the Administrator, for a period of 5 years after each revision to the plan. The program of corrective action should be included in the plan required under 40 CFR 63.8(d)(2) [40 CFR 63.864(f)].

- i. As specified in 40 CFR 63.8(g)(5), monitoring data recorded during periods of unavoidable CMS breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high level adjustments must not be included in any data average computed under this subpart [40 CFR 63.864(h)].
- j. Refer to Section D.5 for compliance assurance monitoring (CAM) for PM/PM₁₀ sent by the facility pursuant to 40 CFR 64.6. The permittee shall conduct this monitoring and fulfill the obligations to achieve compliance with an emission limitation. The elements of the monitoring approach, including indicators to be monitored, indicator ranges, and performance criteria are presented in the table.

k. On-going compliance provisions [40 CFR <u>63.864(k)]</u>.

- (1) Following the compliance date, permittees of all affected sources or process units are required to implement corrective action if the monitoring exceedances in 40 CFR <u>63.864 (k)(1)(i)</u> occur during times when spent pulping liquor or lime mud is fed (as applicable). Corrective action can include completion of transient startup and shutdown conditions as expediently as possible.
 - (i) For an existing kraft or soda recovery furnace or lime kiln equipped with an ESP, when the average of ten consecutive 6-minute averages result in a measurement greater than 20 percent opacity [40 CFR <u>63.864(k)(1)(i)]</u>.
- (2) Following the compliance date permittees of all affected sources or process units are in violation of the standards of 40 CFR 63.862 if the monitoring exceedances in 40 CFR 63.864(k)(2)(i) occur during times when spent pulping liquor or lime mud is fed (as applicable):
 - (i) For an existing kraft or soda recovery furnace equipped with an ESP, when opacity is greater than 35 percent for 2 percent or more of the operating time within any semiannual period [40 CFR <u>63</u>.864(k)(2)(i)].

5. Specific Recordkeeping Requirements:

- a. The facility shall maintain records of the amount of each type of fuel, and fuel analysis of the natural gas and fuel oil burned in the boiler and amount of ultra-low sulfur diesel fuel blended with primary fuel monthly.
- b. The permittee shall maintain records of the following information:(1) The total monthly (each calendar month) fuel/s usage in this boiler.
 - (2) Respective monthly production and pollutant emission rates.
 - (3) Refer to the above monitoring requirements.
- c. The permittee shall perform the following [40 CFR 60.284(c)]:
 - (1) Calculate and record on a daily basis 12-hour average TRS concentrations for the two consecutive periods of each operating day. Each 12-hour average shall be determined as the arithmetic mean of the appropriate 12 contiguous one-hour average TRS

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

concentrations provided by each CMS installed under **4.** <u>Specific Monitoring</u> <u>Requirements</u> b.

- (2) Calculate and record on a daily basis 12-hour average oxygen concentrations for the two consecutive periods of each operating day for the recovery furnace. These 12-hour averages shall correspond to the 12-hour average TRS concentrations under 5. Specific Recordkeeping Requirements c(1) and shall be determined as an arithmetic mean of the appropriate 12 contiguous one-hour average oxygen concentrations provided by each CMS installed under 4. Specific Monitoring Requirements b.
- d. In addition to the general records required by 40 CFR 63.10(b)(2)(iii) and (vi) through (xiv), the permittee must maintain records of the information in 40 CFR 63.866(c)(1) and (c)(8) [40 CFR 63.866(c)]:
 - (1) The permittee shall maintain records of BLS firing rates in units of Mg/day or ton/day for all recovery furnaces and summarize total production of BLS monthly [401 KAR 51:017 and 40 CFR 63.866(c)(1)].
 - (2) Records demonstrating compliance with the requirement in 40 CFR 63.864(e)(1) to maintain proper operation of an ESP AVC [40 CFR 63.866(c)(8)].
- e. (1) In the event that an affected unit fails to meet an applicable standard, including any emission limit in 40 CFR 63.862 or any opacity or CPMS operating limit in 40 CFR 63.864, record the number of failures. For each failure record the date, start time, and duration of each failure [40 CFR 63.866(d)(1)].
 - (2) For each failure to meet an applicable standard, record and retain a list of the affected sources or equipment, and the following information [40 CFR 63.866 (d)(2)]:
 - (i) For any failure to meet an emission limit in 40 CFR 63.862, record an estimate of the quantity of each regulated pollutant emitted over the emission limit and a description of the method used to estimate the emissions.
 - (ii) For each failure to meet an operating limit in 40 CFR 63.864, maintain sufficient information to estimate the quantity of each regulated pollutant emitted over the emission limit. This information must be sufficient to provide a reliable emissions estimate if requested by the Administrator.
 - (3) Record actions taken to minimize emissions in accordance with 40 CFR 63.860(d) and any corrective actions taken to return the affected unit to its normal or usual manner of operation [40 CFR 63.866(d)(3)].
- f. The permittee shall calculate and record the annual PM/PM₁₀, SO₂, NO_X, and TRS emissions.
- g. The permittee shall maintain records of fuel type burned and duration when not combusting primary fuel (blended BLS).
- h. The permittee shall keep on file and make available for inspection the emission factors based on the most recent stack test.

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

6. Specific Reporting Requirements:

- a. The permittee shall report semiannually periods of excess emissions as follows: [40 CFR 60.284(d)]
 - (1) All 12-hour average of TRS concentrations above 5 ppmv.
 - (2) All 6-minute average opacities that exceed 35 percent.
- b. The permittee must submit semiannual excess emissions reports containing the information specified in 40 CFR 63.867(c)(1) through (5). The permittee must submit semiannual excess emission reports and summary reports following the procedure specified in 40 CFR 63.867(d)(2) as specified in 40 CFR 63.10(e)(3)(v) [40 CFR 63.867 (c)].
- c. The permittee must submit results of performance testing, notifications and semiannual reports to EPA via Compliance and Emissions Data Reporting Interface (CEDRI) as specified in 40 CFR 63.867(d)(1) through (d)(4) [40 CFR 63.867(d)].

7. Specific Control Equipment Operating Conditions:

- a. The ESP shall be operated to maintain compliance with the permitted emission limitations in accordance with the manufacturer's specifications and/or standard operating procedures, as established in the CAM tables for control of PM/PM₁₀ in Section D.
- b. Records regarding the maintenance of the control equipment shall be maintained.

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit EU-28 BPM Smelt Tank No. 3		
Emission Point	B-435, 700, and 900	
Description	Smelt tank No. 3	
Installed	July 1985	
Maximum Rated Capacity	383,250 tpy of BLS	
Process Description	Dissolves molten inorganics recovered in the recovery furnace in water to form green liquor	
Control Equipment	Scrubber	

APPLICABLE REGULATIONS:

401 KAR 51:017, Prevention of significant deterioration of air quality.

401 KAR 60:005, Section 2(2)(kk), 40 C.F.R. 60.280 to 60.285 (Subpart BB), Standards of Performance for Kraft Pulp Mills.

401 KAR 63:002, Section 2(4)(cc), 40 C.F.R. 63.860 to 63.868, Table 1 (Subpart MM), National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills.

40 CFR 64, Compliance Assurance Monitoring.

1. **Operating Limitations**:

- a. Fresh water or caustic solution shall be used as the scrubbing liquid in the venturi scrubber for the No. 3 Smelt Dissolving Tank represents BACT for SO₂ emissions [401 KAR 51:017, PSD Permit C-93-044].
- b. Emission rates specified under 2. <u>Emission Limitations</u> and the air pollution control equipment to control these emissions, 7. <u>Specific Control Equipment Operating Conditions</u>, represents BACT; hence, all equipment, including control equipment, associated with the emission unit shall be operated and monitored, see 4. <u>Specific Monitoring Requirements</u>, to maintain emissions below the specified BACT emission rate [401 KAR 51:017, Section 9].
- c. Emission rates specified under 2. Emission Limitations and the air pollution control equipment to control these emissions, 7. Specific Control Equipment Operating Conditions, represents MACT; hence, all equipment, including control equipment, associated with the emission unit shall be operated and monitored, see 4. Specific Monitoring Requirements, to maintain emissions below the specified MACT emission rate [40 CFR 63, Subpart MM].

SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

d. At all times, the permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the permittee to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source [40 CFR 63.860(d)].

Compliance Demonstration Method:

The scrubber shall be maintained and operated as specified by **4**. <u>Specific Monitoring</u> <u>Requirements</u> of this emission point.

2. Emission Limitations:

 PM emissions shall not exceed 0.12 lb/ton of BLS (dry weight) and 23 tpy. PM₁₀ emissions shall not exceed 4.7 lb/hour and 20.6 tons/year [401 KAR 51:017, PSD permit C-93-044].

Note: BACT regulation limitation is more stringent than an applicable requirement promulgated pursuant to 40 CFR 60.282(a)(2) and 40 CFR 63.862(a)(1)(i)(B).

- b. TRS emissions shall not exceed 0.033 lb/ton of BLS (dry weight) [401 KAR 51:017, PSD permit C-93-044].
- c. SO₂ emissions shall not exceed 0.1 lb/ton of BLS (dry weight) [401 KAR 51:017, PSD permit C-93-044].
- d. The permittee of each existing kraft smelt dissolving tank must ensure that the concentration of PM in the exhaust gases discharged to the atmosphere is less than or equal to 0.10 kg/Mg (0.20 lb/ton) of BLS fired as specified in 40 CFR 63.862(a)(1)(i)(B) or meet the requirements of 40 CFR 63.865(a)(1)(ii) [40 CFR 63.862(a)].

Compliance Demonstration Method:

- a. For PM/PM₁₀ Annual emission limits:
- Annual Emission Rate = [Sum (any consecutive 12 month) of the Monthly Production Rate (tons BLS from No. 3 Recovery Boiler Production)] x [PM/PM₁₀ emission factor observed during last emission test accepted by the Division (lb/ton BLS)]
- b. Compliance with the TRS limits shall be demonstrated through the monitoring of scrubber operating conditions, or other parameters which have been demonstrated to correlate to TRS emissions: The permittee shall perform the monitoring and record keeping requirements listed under 4. <u>Specific Monitoring Requirements</u> and 5. <u>Specific Recordkeeping Requirements</u> during all periods.

SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

c. Compliance with the SO₂ limits shall be demonstrated through the monitoring of scrubber operating conditions, or other parameters which have been demonstrated to correlate to SO₂ emissions. The permittee shall perform the monitoring and record keeping requirements listed under 4. <u>Specific Monitoring Requirements</u> and 5. <u>Specific Recordkeeping Requirements</u> during all periods.

3. Testing Requirements:

- a. Performance testing for HAPs/PM shall be performed to meet the requirements and methods specified in 40 CFR 63.865, *Performance test requirements and test methods*, within 5 years of the most recent performance test conducted to demonstrate compliance or within 6 months of issuance of the final permit V-18-007, whichever is later.
- b. Performance testing of SO₂ and TRS using Reference Methods specified in 401 KAR 50:015 shall be conducted within 5 years of the most recent performance test conducted to demonstrate compliance or within 6 months of issuance of the final permit V-18-007, whichever is later. The testing report shall include the production rate (tons BLS per hour) during the testing and lb/ton BLS from testing [401 KAR 59:005, Section 2(2), 401 KAR 50:045, Section 1 and 40 CFR 60.8].

4. Specific Monitoring Requirements:

- a. The permittee shall install, calibrate, maintain, and operate the following continuous monitoring device [40 CFR 60.284(b)(2)].
 - (1) A monitoring device for the continuous measurement of the pressure loss of the gas stream through the control equipment. The monitoring device is to be certified by the manufacturer to be accurate to within a gage pressure of \pm 500 Pascals (ca. \pm 2 inches water gauge pressure).
 - (2) A monitoring device for the continuous measurement of the scrubbing liquid supply pressure to the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within \pm 15 percent of design scrubbing liquid supply pressure. The pressure sensor or tap is to be located close to the scrubber liquid discharge point. The Administrator may be consulted for approval of alternative locations.
- b. The permittee of each kraft smelt dissolving tank equipped with a wet scrubber must install, calibrate, maintain, and operate a CPMS that can be used to determine and record the pressure drop across the scrubber and the scrubbing liquid flow rate at least once every successive 15-minute period using the procedures in 40 CFR 63.8(c), as well as the procedures in 40 CFR 63.864(e)(10)(i) and (ii) [40 CFR 63.864(e)(10)].
 - (1) The monitoring device used for the continuous measurement of the pressure drop of the gas stream across the scrubber must be certified by the manufacturer to be accurate to within a gauge pressure of \pm 500 Pascals (\pm 2 inches of water gage pressure) [40 CFR 63.864(e)(10)(i)].
 - (2) The monitoring device used for continuous measurement of the scrubbing liquid flow rate must be certified by the manufacturer to be accurate within ± 5 percent of the design scrubbing liquid flow rate [40 CFR 63.864(e)(10)(ii)].

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

c. The permittee shall monitor the following operating parameters at the frequency indicated for this scrubber.

Denemator	Monitoring	Acceptable	Averaging Period
rarameter	Frequency	Range*	
Scrubbing liquid flow rate	Continuous	<u>> 158.15 GPM</u>	Three-hour rolling
Scrubber pressure drop	Continuous	<u>> 7.45" H2O</u>	Three-hour rolling
Scrubber liquid supply pressure	Continuous	N/A	Three-hour rolling

* Scrubbing liquid flow rate and scrubber pressure drop will be <u>confirmed or</u> reestablished by compliance testing.

- d. Refer to Section D.5 for CAM for PM/PM₁₀ sent by the facility pursuant to 40 CFR 64.6. The permittee shall conduct this monitoring and fulfill the obligations to achieve compliance with an emission limitation. The elements of the monitoring approach, including indicators to be monitored, indicator ranges, and performance criteria are presented in the table.
- e. The permittee shall keep CMS data quality assurance procedures consistent with the requirements in 40 CFR 63.8(d)(1) and (2) on record for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the Administrator. If the performance evaluation plan in 40 CFR 63.8(d)(2) is revised, the permittee shall keep previous (*i.e.*, superseded) versions of the performance evaluation plan on record to be made available for inspection, upon request, by the Administrator, for a period of 5 years after each revision to the plan. The program of corrective action should be included in the plan required under 40 CFR 63.8(d)(2) [40 CFR 63.864(f)].
- f. As specified in 40 CFR 63.8(g)(5), monitoring data recorded during periods of unavoidable CMS breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high level adjustments must not be included in any data average computed under this subpart [40 CFR 63.864(h)].
- g. On-going compliance provisions [40 CFR 63.864(k)].
 - (1) Following the compliance date, permittees of all affected sources or process units are required to implement corrective action if the monitoring exceedances in 40 CFR 864 (k)(1)(ii) occur during times when spent pulping liquor or lime mud is fed (as applicable). Corrective action can include completion of transient startup and shutdown conditions as expediently as possible 40 CFR 63.864(k)(1)].
 - (i) For an existing kraft soda smelt dissolving tank equipped with a wet scrubber, when any three-hour rolling average parameter value is below the minimum operating limit established in 40 CFR 864(j), with the exception of pressure drop during periods of startup and shutdown [40 CFR 864(k)(1)(ii)].

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

5. Specific Recordkeeping Requirements:

- a. (1) In the event that an affected unit fails to meet an applicable standard, including any emission limit in 40 CFR 63.862 or any opacity or compliance parameter monitoring system (CPMS) operating limit in 40 CFR 63.864, record the number of failures. For each failure record the date, start time, and duration of each failure [40 CFR 63.866 (d)(1)].
 - (1) For each failure to meet an applicable standard, record and retain a list of the affected sources or equipment, and the following information [40 CFR 63.866(d)(2)]:
 - (i) For any failure to meet an emission limit in 40 CFR 63.862, record an estimate of the quantity of each regulated pollutant emitted over the emission limit and a description of the method used to estimate the emissions.
 - (ii) For each failure to meet an operating limit in 40 CFR 63.864, maintain sufficient information to estimate the quantity of each regulated pollutant emitted over the emission limit. This information must be sufficient to provide a reliable emissions estimate if requested by the Administrator.
 - (2) Record actions taken to minimize emissions in accordance with 40 CFR 63.860(d) and any corrective actions taken to return the affected unit to its normal or usual manner of operation [40 CFR 63.866(d)(3)].
- b. The permittee shall maintain operational records on the Smelt Tank No. 3 Scrubber System operating parameters listed in accordance to 7. <u>Specific Control Equipment Operating Conditions</u> below.
- c. The permittee shall summarize total BLS processed through the No. 3 Recovery Boiler each month, and estimate and record the PM/PM₁₀, SO₂, and TRS emissions monthly and annually.
- d. The permittee shall keep on file and make available for inspection the emission factors based on the most recent stack test.

6. Specific Reporting Requirements:

The permittee must submit results of performance testing, notifications and semiannual reports to EPA via CEDRI as specified in 40 CFR 63.867(d)(1) through (d)(4) [40 CFR 63.867(d)].

7. Specific Control Equipment Operating Conditions:

- a. The permittee shall operate the control equipment at all times that the unit is in operation and in accordance with the manufacturer's specifications and/or under standard operating procedure as established in the CAM table in Section D.
- b. Control equipment minimum operational values shall be established during initial or subsequent compliance testing programs [40 CFR 63.864(j)].

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Emission Unit EU-29 BPM Recovery Boiler/Furnace No. 4		
Emission Point	B-440 700, and 900	
Description	Recovery boiler No. 4	
Installed	October 1997	
Primary Fuel	BLS blended with 0.12 to 1 volume % ultra-low sulfur diesel	
Secondary Fuel	Natural gas, propane or fuel oil (with <0.50% sulfur content)	
Maximum Rated Capacity	584,000 tpy of BLS plus 0.12 to 1 volume percent of ultra-low sulfur diesel fuel	
Process Description	Combustion of the organic portion of the black liquor for steam generation and recovery of the inorganic portion	
Control Equipment	ESP	

APPLICABLE REGULATIONS:

401 KAR 51:017, Prevention of significant deterioration of air quality.

401 KAR 60:005, Section 2(2)(kk), 40 C.F.R. 60.280 to 60.285 (Subpart BB), Standards of Performance for Kraft Pulp Mills.

401 KAR 60:005, Section 2(2)(c), 40 C.F.R. 60.40b to 60.49b (Subpart Db), Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units.

401 KAR 63:002, Section 2(4)(cc), 40 C.F.R. 63.860 to 63.868, Table 1 (Subpart MM), National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills.

40 CFR 64, Compliance Assurance Monitoring.

1. **Operating Limitations:**

- a. Backup fuels shall only be natural gas, propane, or fuel oil with sulfur content of less than 0.50%. Use of the above fuels shall not exceed 10% of the total potential heat input in any consecutive 12 months. The fuel usage shall be monitored on a monthly basis and shall be used to calculate the annual percentage for any 12-month period [401 KAR 51:017].
- b. Emission rates specified under 2. Emission Limitations and the air pollution control equipment to control these emissions, 7. Specific Control Equipment Operating Conditions, represents BACT; hence, all equipment, including control equipment, associated with the emission unit shall be operated and monitored, see 4. Specific Monitoring Requirements, to maintain emissions below the specified BACT emission rate [401 KAR 51:017, Section 9].
- c. Emission rates specified under 2. <u>Emission Limitations</u> and the air pollution control equipment to control these emissions, 7. <u>Specific Control Equipment Operating Conditions</u>, represents MACT; hence, all equipment, including control equipment,

SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

associated with the emission unit shall be operated and monitored, see **4.** <u>Specific</u> <u>Monitoring Requirements</u>, to maintain emissions below the specified MACT emission rate [40 CFR 63, Subpart MM].

- d. The permittee shall blend only up to 1.0 volume percent of ultra low sulfur diesel fuel with black liquor [self-imposed limit to preclude applicability of 401 KAR 51:017].
- e. At all times, the permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the permittee to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source [40 CFR 63.860(d)].

Compliance Demonstration Method:

Refer to 4. <u>Specific Monitoring Requirements</u> and 5. <u>Specific Recordkeeping</u> <u>Requirements</u> below.

2. <u>Emission Limitations</u>:

- a. PM/PM₁₀ emissions shall not exceed 0.044 gr/dscf at 8% oxygen, and 132.61 tpy [401 KAR 51:017, PSD Permit F-96-003 R1, 40 CFR 60.282(a)(1)(i) and 40 CFR 63.862(a)(1)(i)(A)].
- b. CO emissions shall not exceed 200 ppm at 8% oxygen, and 639.63 tpy [401 KAR 51:017, PSD Permit F-96-003 R1].
- c. NOx emissions shall not exceed 110 ppm at 8% oxygen, and 577.95 tpy [401 KAR 51:017, PSD Permit F-96-003 R1].
- d. The opacity of visible emissions shall not equal or exceed an opacity reading of 35% on 6minute average [401 KAR 51:017, PSD Permit F-96-003 R1 and 40 CFR 60.282(a)(1)(ii)].
- SO₂ emissions shall not exceed 100 ppm at 8% oxygen, and 731.01 tpy [401 KAR 51:017, PSD Permit F-96-003 R1].
- f. TRS shall not exceed 5 ppm at 8% oxygen (12-hour average), and 19.42 tpy [401 KAR 51:017, PSD Permit F-96-003 R1].
- g. VOC emissions measured as methane shall not exceed 20 ppm at 8% oxygen, and 100.51 tpy [401 KAR 51:017, PSD Permit F-96-003 R1].

Compliance Demonstration Method:

a. For PM/PM₁₀, CO, NO_X, SO₂, TRS, and VOC Annual emission limits:

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Annual Emission Rate = [Sum (any consecutive 12 month) of the Monthly Production Rate (tons BLS from No. 3 Recovery Boiler Production)] x [PM/PM₁₀ emission factor observed during most recent performance test accepted by the Division (lb/ton BLS)] + [sum (any consecutive 12 months) of volume of ultra-low sulfur diesel used in blending with primary fuel (gallons/year)] x PM/PM₁₀ emission factor for ultra-low sulfur diesel (lb/1000 gallons) from AP-42]. The permittee shall document the percentage of ultra low sulfur diesel fuel blended with the black liquor in the performance test.

b. The permittee shall comply with the requirements of **4.** <u>Specific Monitoring</u> <u>Requirements</u> and **5.** <u>Specific Recordkeeping Requirements</u> below.

3. Testing Requirements:

- a. Performance testing for HAPs/PM shall be performed to meet the requirements and methods specified in 40 CFR 63.865, *Performance test requirements and test methods*, within 5 years of the most recent performance test conducted to demonstrate compliance or within 6 months of issuance of the final permit V-18-007, whichever is later.
- b. Performance testing of SO₂, NO_x, CO, TRS and VOC using Reference Methods specified in 401 KAR 50:015 shall be conducted within 5 years of the most recent performance test conducted to demonstrate compliance or within 6 months of issuance of the final permit V-18-007, whichever is later. The testing report shall include measurement results of information necessary to show compliance with the ppm at 8% concentration limits [401 KAR 59:005, Section 2(2), 401 KAR 50:045, Section 1, 40 CFR 60.8].

4. Specific Monitoring Requirements:

- a. The permittee shall install, calibrate, maintain, and operate a CMS to monitor and record the opacity of the gases discharged into the atmosphere from the recovery furnace [40 CFR 60.284(a)(1)].
- b. The permittee shall install, calibrate, maintain, and operate a CMS to monitor and record the concentration of TRS emissions on a dry basis and the percent of oxygen by volume on a dry basis in the gases discharged into the atmosphere from the recovery furnace [40 CFR 60.284(a)(2)].
- c. Excluding the startup and shutdown periods, if any 12-hour average TRS value exceeds the standard, the permittee shall, as appropriate, initiate an investigation of the cause of the exceedance and/or the CMS system and make any necessary repairs or take corrective actions as soon as practicable.
- d. The permittee shall monitor and maintain records of the black liquor processed, percent solids, and average boiler percent oxygen on a 24-hour basis [401 KAR 51:017].
- e. The permittee shall monitor and maintain records of the following information:

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- The total monthly (each calendar month) production and tons of BLS consumed of No. 4 Recovery Boiler;
- (2) Total ultra-low sulfur diesel oil fed to the No. 4 Recovery Boiler each month; and
- (3) If the No. 4 Recovery Boiler is in operation during any period of malfunction of the COMS, the permittee shall record the downtime. If visible emissions are observed, the permittee shall perform an EPA Method 9 immediately.
- f. The permittee shall install, calibrate, maintain, and operate a COMS according to 40 CFR 63.6(h) and 63.8 and 63.864(d)(1) through (d)(4) [40 CFR 63.864(d)].
 - (1) As specified in 40 CFR 63.8(c)(4)(i), each COMS must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period [40 CFR 63.864(d)(3)].
 - (2) The COMS data must be reduced as specified in 40 CFR 63.8(g)(2) [40 CFR 63.864(d)(4)].
- g. Refer to Section D.5 for CAM for PM/PM₁₀ sent by the facility pursuant to 40 CFR 64.6. The permittee shall conduct this monitoring and fulfill the obligations to achieve compliance with the emission limitation. The elements of the monitoring approach, including indicators to be monitored, indicator ranges, and performance criteria are presented in the table and follows the requirements of 40 CFR 63, Subpart MM.
- h. For each CPMS required for any kraft or soda recovery furnace using an ESP emission control device, the permittee must maintain proper operation of the ESP AVC [40 CFR 63.864(e)(1)].
- i. The permittee shall keep CMS data quality assurance procedures consistent with the requirements in 40 CFR 63.8(d)(1) and (2) on record for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the Administrator. If the performance evaluation plan in 40 CFR 63.8(d)(2) is revised, the permittee shall keep previous (*i.e.*, superseded) versions of the performance evaluation plan on record to be made available for inspection, upon request, by the Administrator, for a period of 5 years after each revision to the plan. The program of corrective action should be included in the plan required under 40 CFR 63.8(d)(2) [40 CFR 63.864(f)].
- j. As specified in 40 CFR 63.8(g)(5), monitoring data recorded during periods of unavoidable CMS breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high level adjustments must not be included in any data average computed under this subpart [40 CFR 63.864(h)].
- k. On-going compliance provisions [40 CFR <u>63.864(k)]</u>.
 - (1) Following the compliance date, permittees of all affected sources or process units are required to implement corrective action if the monitoring exceedances in 40 CFR 63.864 (k)(1)(i) occur during times when spent pulping liquor or lime mud is fed (as applicable). Corrective action can include completion of transient startup and shutdown conditions as expediently as possible.

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- (i) For an existing kraft or soda recovery furnace or lime kiln equipped with an ESP, when the average of ten consecutive 6-minute averages result in a measurement greater than 20 percent opacity [40 CFR <u>63</u>.864(k)(1)(i)].
- (2) Following the compliance date permittees of all affected sources or process units are in violation of the standards of 40 CFR 63.862 if the monitoring exceedances in 40 CFR 63.864(k)(2)(i) occur during times when spent pulping liquor or lime mud is fed (as applicable):
 - (i) For an existing kraft or soda recovery furnace equipped with an ESP, when opacity is greater than 35 percent for 2 percent or more of the operating time within any semiannual period [40 CFR <u>63.864(k)(2)(i)]</u>.

5. Specific Recordkeeping Requirements:

- a. The facility shall maintain records of the amount of each type of fuel, and fuel analysis of the natural gas and fuel oil burned in the boiler and amount of ultra-low sulfur diesel fuel blended with primary fuel monthly.
- b. The permittee shall maintain records of the following information:
 - (1) The total monthly (each calendar month) fuel/s usage in the boiler;
 - (2) Respective monthly production and pollutant emission rates; and
 - (3) Refer to the above monitoring requirements.
- c. The permittee shall perform the following [40 CFR 60.284(c)]:
 - (1) Calculate and record on a daily basis 12-hour average TRS concentrations for the two consecutive periods of each operating day. Each 12-hour average shall be determined as the arithmetic mean of the appropriate 12 contiguous one-hour average TRS concentrations provided by each CMS installed under 4. <u>Specific Monitoring Requirements</u> b.
 - (2) Calculate and record on a daily basis 12-hour average oxygen concentrations for the two consecutive periods of each operating day for the recovery furnace. These 12-hour averages shall correspond to the 12-hour average TRS concentrations under 5. <u>Specific Recordkeeping Requirements</u> c.(1) and shall be determined as an arithmetic mean of the appropriate 12 contiguous one-hour average oxygen concentrations provided by each CMS installed under 4. <u>Specific Monitoring Requirements</u> b.
- d. In addition to the general records required by 40 CFR 63.10(b)(2)(iii) and (vi) through (xiv), the permittee must maintain records of the information in 40 CFR 63.866(c)(1) and (c)(8) [40 CFR 63.866(c)]:
 - (1) The permittee shall maintain records of BLS firing rates in units of Mg/d or ton/day and summarize total production of BLS monthly [401 KAR 51:017 and 40 CFR 63.866(c)(1)].
 - (2) Records demonstrating compliance with the requirement in 40 CFR 63.864(e)(1) to maintain proper operation of an ESP AVC [40 CFR 63.866(c)(8)].
- e. (1) In the event that an affected unit fails to meet an applicable standard, including any emission limit in 40 CFR 63.862 or any opacity or CPMS operating limit in 40 CFR

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

63.864, record the number of failures. For each failure record the date, start time, and duration of each failure [40 CFR 63.866(d)(1)].

- (2) For each failure to meet an applicable standard, record and retain a list of the affected sources or equipment, and the following information [40 CFR 63.866(d)(2)]:
 - (i) For any failure to meet an emission limit in 40 CFR 63.862, record an estimate of the quantity of each regulated pollutant emitted over the emission limit and a description of the method used to estimate the emissions.
 - (ii) For each failure to meet an operating limit in 40 CFR 63.864, maintain sufficient information to estimate the quantity of each regulated pollutant emitted over the emission limit. This information must be sufficient to provide a reliable emissions estimate if requested by the Administrator.
- (3) Record actions taken to minimize emissions in accordance with 40 CFR 63.860(d) and any corrective actions taken to return the affected unit to its normal or usual manner of operation [40 CFR 63.866(d)(3)].
- f. The permittee shall calculate and record the annual PM/PM₁₀, CO, SO₂, NO_X, TRS, and VOC emissions.
- g. The permittee shall maintain records of fuel type burned and duration when not combusting primary fuel (blended BLS).
- h. The permittee shall keep on file and make available for inspection the emission factors based on the most recent stack test.

6. Specific Reporting Requirements:

- a. The permittee shall report semiannually periods of excess emissions as follows [40 CFR 60.284(d)]:
 - (1) All 12-hour average of TRS concentrations above 5 ppmv.
 - (2) All 6-minute average opacities that exceed 35 percent.
- b. The permittee must submit semiannual excess emissions reports containing the information specified in 40 CFR 63.867(c)(1) through (5). The permittee must submit semiannual excess emission reports and summary reports following the procedure specified in 40 CFR 63.867(d)(2) as specified in 40 CFR 63.10(e)(3)(v) [40 CFR 63.867(c)].
- c. The permittee must submit results of performance testing, notifications and semiannual reports to EPA via CEDRI as specified in 40 CFR 63.867(d)(1) through (d)(4) [40 CFR 63.867(d)].

7. <u>Specific Control Equipment Operating Conditions</u>:

- a. The ESP shall be operated to maintain compliance with the permitted emission limitations in accordance with the manufacturer's specifications and/or standard operating procedures, as established in the CAM table for PM/PM₁₀ in Section D.
- b. Records regarding the maintenance of the control equipment shall be maintained.

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit EU-30 BPM Smelt Tank No. 4		
Emission Point	B-445, 700, and 900	
Description	Smelt tank No. 4	
Installed	October 1997	
Maximum Rated Capacity	584,000 tpy of BLS	
Process Description	Dissolves molten inorganics recovered in the recovery furnace in water to form green liquor	
Control Equipment	Scrubber	

APPLICABLE REGULATIONS:

401 KAR 51:017, Prevention of significant deterioration of air quality.

401 KAR 60:005, Section 2(2)(kk), 40 C.F.R. 60.280 to 60.285 (Subpart BB), Standards of Performance for Kraft Pulp Mills.

401 KAR 63:002, Section 2(4)(cc), 40 C.F.R. 63.860 to 63.868, Table 1 (Subpart MM), National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills.

40 CFR 64, Compliance Assurance Monitoring.

1. **Operating Limitations:**

- a. Emission rates specified under 2. <u>Emission Limitations</u> and the air pollution control equipment to control these emissions, 7. <u>Specific Control Equipment Operating Conditions</u>, represents BACT; hence, all equipment, including control equipment, associated with the emission unit shall be operated and monitored, see 4. <u>Specific Monitoring Requirements</u>, to maintain emissions below the specified BACT emission rate [401 KAR 51:017, Section 9].
- b. Emission rates specified under 2. Emission Limitations and the air pollution control equipment to control these emissions, 7. Specific Control Equipment Operating Conditions, represents MACT; hence, all equipment, including control equipment, associated with the emission unit shall be operated and monitored, see 4. Specific Monitoring Requirements, to maintain emissions below the specified MACT emission rate [40 CFR 63, Subpart MM].
- c. At all times, the permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the permittee to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether a source is operating in compliance with operation and

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

maintenance requirements will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source [40 CFR 63.860(d)].

Compliance Demonstration Method:

The scrubber shall be maintained and operated as specified by **4**. <u>Specific Monitoring</u> <u>Requirements</u> and **7**. <u>Specific Control Equipment Operating Conditions</u>.

2. Emission Limitations:

- a PM/PM_{10} emissions shall not exceed 0.20 lb/ton of BLS and 29.57 tpp [401 KAR 51:017, PSD Permit F-96-003 R1, 40 CFR 60.282(a)(2) and 40 CFR 63.862(a)(1)(i)(B)].
- b. SO₂ emissions shall not exceed 0.1 lb/ton of BLS and 24.64 tpy [401 KAR 51:017, PSD Permit F-96-003 R1].
- c. TRS emissions shall not exceed 0.033 lb/ton of BLS and 8.13 tpy [401 KAR 51:017, PSD Permit F-96-003 R1].
- d. VOC emissions shall not exceed 0.16 lb/ton of BLS and 39.42 tpy [401 KAR 51:017, PSD Permit F-96-003 R1].

Compliance Demonstration Method:

- a. For PM/PM₁₀, SO₂, TRS, and VOC annual emission limits: Annual Emission Rate = [Sum (any consecutive 12 month) of the monthly production rate (tons BLS from each Recovery Boiler Production) x PM/PM₁₀, SO₂, TRS, and VOC emission factor observed during last emission test accepted by the Division (lb/ton BLS)]
- b. The permittee shall comply with the requirements of **4.** <u>Specific Monitoring</u> <u>Requirements</u> and **5.** <u>Specific Recordkeeping Requirements</u> below.

3. Testing Requirements:

- a. Performance testing for HAPs/PM shall be performed to meet the requirements and methods specified in 40 CFR 63.865, *Performance test requirements and test methods*, within 5 years of the most recent performance test conducted to demonstrate compliance or within 6 months of issuance of the final permit V-18-007, whichever is later. The testing report shall include the production rate (tons BLS per hour) during the testing and lb/ton BLS from testing.
- b. Performance testing of SO₂ TRS, and VOC using Reference Methods specified in 401 KAR 50:015 shall be conducted within 5 years of the most recent performance test conducted to demonstrate compliance or within 6 months of issuance of the final permit V-18-007, whichever is later. The testing report shall include the production rate (tons BLS per hour) during the testing and lb/ton BLS from testing [401 KAR 59:005, Section 2(2), 401 KAR 50:045, Section 1 and 40 CFR 60.8].

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

4. Specific Monitoring Requirements:

- a. The permittee shall install, calibrate, maintain, and operate the following continuous monitoring device [40 CFR 60.284(b)(2)].
 - (1) A monitoring device for the continuous measurement of the pressure loss of the gas stream through the control equipment. The monitoring device is to be certified by the manufacturer to be accurate to within a gauge pressure of \pm 500 Pascals (ca. \pm 2 inches water gage pressure).
 - (2) A monitoring device for the continuous measurement of the scrubbing liquid supply pressure to the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within ± 15 percent of design scrubbing liquid supply pressure. The pressure sensor or tap is to be located close to the scrubber liquid discharge point. The Administrator may be consulted for approval of alternative locations.
- b. The permittee of each kraft smelt dissolving tank equipped with a wet scrubber must install, calibrate, maintain, and operate a CPMS that can be used to determine and record the pressure drop across the scrubber and the scrubbing liquid flow rate at least once every successive 15-minute period using the procedures in 40 CFR 63.8(c), as well as the procedures in 40 CFR 63.864(e)(10)(i) and (ii) [40 CFR 63.864(e)(10)].
 - (1) The monitoring device used for the continuous measurement of the pressure drop of the gas stream across the scrubber must be certified by the manufacturer to be accurate to within a gage pressure of ± 500 Pascals (± 2 inches of water gage pressure) [40 CFR 63.864(e)(10)(i)].
 - (2) The monitoring device used for continuous measurement of the scrubbing liquid flow rate must be certified by the manufacturer to be accurate within ±5 percent of the design scrubbing liquid flow rate [40 CFR 63.864(e)(10)(ii)].
 - (3) As an alternative to pressure drop measurement under paragraph (e)(10)(i) of this section, a monitoring device for measurement of fan amperage or fan revolutions per minute (RPM) may be used for smelt dissolving tank dynamic scrubbers that operate at ambient pressure or for low-energy entrainment scrubbers where the fan speed does not vary.
- c. The permittee shall monitor the following operating parameters at the frequency indicated for this scrubber.

Parameter	Monitoring Frequency	Acceptable Range*	Averaging Period
Scrubbing liquid flow rate	Continuous	<u>> 309.14 GPM</u>	Three-hour rolling
Scrubber pressure drop	Continuous	<u>> -0.15" H2O</u>	Three-hour rolling
Scrubber liquid supply pressure	Continuous	N/A	Three-hour rolling
Scrubber Fan Amperage	Continuous	TBD	Three-hour rolling
Scrubber Fan RPM	Continuous	TBD	Three-hour rolling

* Scrubbing liquid flow rate and scrubber pressure drop<u>or fan amperage or RPM</u> will be <u>confirmed or re</u>established by compliance testing.

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- d. Refer to Section D.5 for CAM for PM/PM₁₀ and SO₂ sent by the facility pursuant to 40 CFR 64.6. The permittee shall conduct this monitoring and fulfill the obligations to achieve compliance with an emission limitation. The elements of the monitoring approach, including indicators to be monitored, indicator ranges, and performance criteria are presented in the table and follow the requirements of 40 CFR 63, Subpart MM.
- e. The permittee shall keep CMS data quality assurance procedures consistent with the requirements in 40 CFR 63.8(d)(1) and (2) on record for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the Administrator. If the performance evaluation plan in 40 CFR 63.8(d)(2) is revised, the permittee shall keep previous (*i.e.*, superseded) versions of the performance evaluation plan on record to be made available for inspection, upon request, by the Administrator, for a period of 5 years after each revision to the plan. The program of corrective action should be included in the plan required under 40 CFR 63.8(d)(2) [40 CFR 63.864(f)].
- f. As specified in 40 CFR 63.8(g)(5), monitoring data recorded during periods of unavoidable CMS breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high level adjustments must not be included in any data average computed under this subpart [40 CFR 63.864(h)].
- g. On-going compliance provisions [40 CFR 63.864(k)].
 - (1) Following the compliance date, permittees of all affected sources or process units are required to implement corrective action if the monitoring exceedances in 40 CFR 864 (k)(1)(ii) occur during times when spent pulping liquor or lime mud is fed (as applicable). Corrective action can include completion of transient startup and shutdown conditions as expediently as possible [40 CFR 63.864(k)(1)].
 - (i) For an existing kraft soda smelt dissolving tank equipped with a wet scrubber, when any three-hour rolling average parameter value is below the minimum operating limit established in 40 CFR 864(j), with the exception of pressure drop during periods of startup and shutdown [40 CFR 864(k)(1)(ii)].

5. Specific Recordkeeping Requirements:

- a. The permittee shall maintain operational records on the Smelt Tank No. 4 Scrubber System operating parameters listed in accordance to **7.** <u>Specific Control Equipment Operating Conditions</u> below.
- b. The permittee shall summarize total BLS processed through the No. 4 Recovery Boiler each month, and estimate and record the PM/PM₁₀, SO₂, TRS, and VOC emissions monthly and annually.
- c. The permittee shall keep on file and make available for inspection the emission factors based on the most recent stack test.
- d. (1) In the event that an affected unit fails to meet an applicable standard, including any emission limit in 40 CFR 63.862 or any opacity or CPMS operating limit in 40 CFR 63.864, record the number of failures. For each failure record the date, start time, and duration of each failure [40 CFR 63.866(d)(1)].

SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- (1) For each failure to meet an applicable standard, record and retain a list of the affected sources or equipment, and the following information [40 CFR 63.866 (d)(2)]:
 - (i) For any failure to meet an emission limit in 40 CFR 63.862, record an estimate of the quantity of each regulated pollutant emitted over the emission limit and a description of the method used to estimate the emissions.
 - (ii) For each failure to meet an operating limit in 40 CFR 63.864, maintain sufficient information to estimate the quantity of each regulated pollutant emitted over the emission limit. This information must be sufficient to provide a reliable emissions estimate if requested by the Administrator.
- (2) Record actions taken to minimize emissions in accordance with 40 CFR 63.860(d) and any corrective actions taken to return the affected unit to its normal or usual manner of operation [40 CFR 63.866(d)(3)].

6. Specific Reporting Requirements:

The permittee must submit results of performance testing, notifications and semiannual reports to EPA via Compliance and Emissions Data Reporting Interface (CEDRI) as specified in 40 CFR 63.867(d)(1) through (d)(4) [40 CFR 63.867(d)].

7. Specific Control Equipment Operating Conditions:

- a. The permittee shall operate the control equipment at all times that the unit is in operation and in accordance with the manufacturer's specifications and/or under standard operating procedure as established in the CAM table for PM/PM₁₀ and SO₂, in Section D.
- b. Control equipment minimum operational values shall be established during initial or subsequent compliance testing programs [40 CFR 63.864(j)].

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Emission Unit EU-31 BPM Causticizing Tanks		
Emission Point	Description	
B-501, B-502, B-503	3 Causticizing tanks	
B-504, B-505	3 Lime mud washers	
B-506, B507	1 Lime mud storages	
B-508	1 Mud mix tank	
Installed	Tanks B-501 through B-507 November 1997 Tank B-508 October 2016	
Maximum Rated Capacity	165,219 tpy calcium oxide (CaO)	
Process Description	Conversion of inorganic material in green liquor to white liquor (pulping chemical)	
Control Equipment	None	

Emission Unit EU-39 BPM Green Liquor Clarifiers		
Emission Point	B-680, B-681, 700, and 900	
Description	Two green liquor clarifiers	
Installed	October 1995	
Maximum Rated Capacity	72,000 gallons/hour green liquor or 18.86 tons/hour of CaO	
Process Description	Storage and remove inert solids from the green liquor until it is utilized in the re-causticizing process	
Control Equipment	None	

Emission Unit EU-41 BPM Process Water (Wastewater) Treatment		
Emission Point	B-800, 700, and 900	
Description	Process water treatment	
Installed	July 1997	
Maximum Rated Capacity	25 million gallons per day	
Process Description	Biologically treatment of contaminants in spent process water prior to release into the Ohio river	
Control Equipment	None	

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Emission Unit EU-43 BPM Bleach Mill Pulp Dryer System		
Emission Point	B-1000 to B-1005, 700, and 900	
Description	Pulp dryer system	
Installed	July 1969	
Maximum Rated Capacity	167,900 tpy ADP	
Process Description	Manufacture of market pulp	
Control Equipment	None	

Emission Unit EU-49 BPM Brown Stock HD Storage		
Emission Point	B-1600, and B1601	
Description	Brown Stock high density (HD) Storage	
Installed	December 1996	
Maximum Rated Capacity	632,700 tpy ODP	
Process Description	Storage of unbleached pulp until processed in the pulp bleaching process	
Control Equipment	None	

Emission Unit EU-50 BPM Bleached Pulp HD Storage		
Emission Point	Description	
B-1700, B-1701, B-1702 and B-1703	Four (4) Bleached Pulp HD Storage Tanks	
Installed	December 1996	
Maximum Rated Capacity	B-1700: 63,270 tpy ODP B-1701: 31,635 tpy ODP B-1702, B-1703: 601,900 tpy ODP	
Process Description	Storage of bleached pulp until it is utilized to manufacture market pulp or paper	
Control Equipment	None	

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Emission Unit EU-51 K-1 Paper Machine		
Emission Point	Description	
F-1	Vacuum pump	
F-2	Size press	
F-3	Reel pulper	
F-4, F-5, F-6, F-7, F-8, F-9	Dryer hoods	
F-10	Fugitives	
Installed	December 1980	
Maximum Rated Capacity	252,428 tpy ADP	
Process Description	Manufacture of paper	
Control Equipment	None	

Emission Unit EU-52 K-2 Paper Machine	
Emission Point	Description
F-20 F-21 F-22 F-23 F-24 F-25 F-26 F-27 F-28	Vacuum pump Size press Reel pulper Drver hoods
F-29	Fugitives
Installed	June 1998
Maximum Rated Capacity	469,407 tpy ODP
Process Description	Manufacture of paper
Control Equipment	None

Emission Unit EU-53	K-1 & 2 Paper Machine Stock Preparation
Emission Point	Description
F-30; F-31; F-32 F-33; F-34	Broke chests Hardwood chests Surge chests
Installed	June 1998
Maximum Rated Capacity	8,900,000 x 10 ³ gallons/year
Process Description	Prepares and stores pulp prior to being manufactured into paper
Control Equipment	None

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

STATE-ORIGIN REGULATION:

None

- 1. <u>Operating Limitations</u>: None
- 2. <u>Emission Limitations</u>: None
- 3. <u>Testing Requirements</u>: None
- 4. <u>Specific Monitoring Requirements</u>: None
- 5. <u>Specific Recordkeeping Requirements</u>: None
- 6. <u>Specific Reporting Requirements</u>: None

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Emission Unit EU-33 BPM Slaker No. 3	
Emission Point	B-530, 700, and 900
Description	Slaker No. 3
Installed	November 1997
Maximum Rated Capacity	72,000 gallons/hour green liquor or 18.86 tons/hour of CaO
Process Description	Conversion of inorganic material in green liquor to white liquor (pulping chemical)
Control Equipment	Wet scrubber

Emission Unit EU-37 BPM Lime Silos	
Emission Point	B-650, 700, and 900
Description	Lime silos (2)
Installed	September 1997
Maximum Rated Capacity	165,219 tpy CaO
Process Description	Storage of lime produced by the kiln or purchased lime until it is utilized in the re-causticizing process
Control Equipment	Baghouse (fabric filter) integral to the unit

Emission Unit EU-38 BPM Petroleum Coke Storage Silo	
Emission Point	B-660, 700, and 900
Description	Coke Silo
Installed	December 1986
Maximum Rated Capacity	17,500 tpy of coke
Process Description	Storage of petroleum coke until utilized as fuel in the lime kiln (emission unit 36)
Control Equipment	Baghouse (fabric filter) integral to the unit

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit EU-54 K-1 & 2 Starch Silos	
Emission Point	Description
F-40, F-42	K-1 & K-2 wet end starch silos
F-41, F-43	K-1 & K-2 dry end starch silos
Installed	June 1998
Maximum Rated Capacity	29,930 tpy
Process Description	Storage of dry starch during the period it is unloaded from transport vehicle until it is utilized in the paper making process
Control Equipment	Baghouse (fabric filter) integral to the unit

APPLICABLE REGULATIONS:

401 KAR 59:010, New process operations.

1. **Operating Limitations**:

Emission unit 38 – BPM petroleum coke storage silo

To preclude the applicability of 401 KAR 51:017, this unit shall be controlled by baghouse (fabric filter).

Compliance Demonstration Method:

Refer to **4.** <u>Specific Monitoring Requirements</u> and **5.** <u>Specific Recordkeeping</u> <u>Requirements</u>.

2. <u>Emission Limitations</u>:

- a. Pursuant to 401 KAR 59:010, Section 3(2), PM emissions into the open air shall not exceed the following:
 - (1) 2.34 lb/hour for process weight rate up to 1,000 lb/hr;
 - (2) $[3.59(P)^{0.62}]$ lb/hour for process weight rates up to 60,000 lb/hr; and
 - (3) [17.31(P)^{0.16}] lb/hour for process weight rates in excess of 60,000 lb/hr, where P is the processing rate in tons/hour.
- b. Pursuant to 401 KAR 59:010, Section 3(1)(a), any continuous emissions into the open air shall not equal or exceed 20% opacity based on a six-minute average.

Compliance Demonstration Method:

a. The following table of emissions factors shall be used to show compliance with the PM/PM₁₀ emission limit:

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit #	Emission Factor before control (lb PM or PM ₁₀ / ton)	Control Efficiency (%)
33	0.62 (PM); 0.62 (PM ₁₀)0.2	85
37	0.73 (PM); 0.47 (PM10)0.2	99
38	0.73 (PM); 0.47 (PM ₁₀)0.2	99
54	0.73 (PM); 0.47 (PM ₁₀)0.2	99

Where:

PM/PM10 emissions in lb/hour = (monthly processing rate in tons / month) x (1 month/ hours of operating that month) x (emission factor) x (1 – control efficiency)

 b. For compliance with visible emissions limit, see 3. <u>Testing Requirements</u> and 4. <u>Specific</u> <u>Monitoring Requirements</u>.

3. Testing Requirements:

Performance testing of criteria pollutants using Reference Methods specified in 401 KAR 50:015 shall be conducted if required by the Division [401 KAR 59:005, Section 2(2), and 401 KAR 50:045, Section 1].

4. <u>Specific Monitoring Requirements</u>: Emission unit 33 – BPM slaker no. 3

- a. The permittee shall monitor and maintain records of the following information:
 - (1) The total monthly green liquor throughput and calcium oxide usage on the No. 3 Slaker; and
 - (2) The hours per month of operation for the unit.
- b. Once per calendar day when the unit is operating, the permittee shall survey the emissions associated with BPM Slaker No. 3 for visible emissions, not including condensed water vapor. If after a six-month daily observation period, there has been no visible emissions observed the survey frequency may be reduced to once per calendar week. If during a reduced weekly frequency survey, visible emissions are observed, then the survey frequency shall return to daily. If during any visible emissions survey, visible emissions are observed, the permittee shall perform a Method 9, Appendix A of 40 CFR 60, as soon as practicable. If Method 9 indicates emissions in excess of the standard, then the unit will be immediately shutdown and repairs completed before restarting the unit.

Emission unit 37 – BPM lime silos

- c. The permittee shall monitor and maintain records of the following information:
 (1) The total monthly throughput of the BPM lime silos (tons CaO); and
 (2) The hours per month of operation for the unit.
- d. Once per calendar day when the unit is operating, the permittee shall survey the emissions associated with BPM Lime Silos for visible emissions. If after a six-month daily observation period, there has been no visible emissions observed, the survey frequency

SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

may be reduced to once per calendar week. If during a reduced weekly frequency survey, visible emissions are observed, then the survey frequency shall return to daily. If during any visible emissions survey, visible emissions are observed, the permittee shall perform a Method 9, Appendix A of 40 CFR 60, as soon as practicable. This unit is equipped with a baghouse control device. The only time visible emissions should be present is when this device is malfunctioning. If Method 9 indicates emissions in excess of the standard, then the unit will be immediately shutdown and repairs completed before restarting the unit.

Emission unit 38-BPM petroleum coke storage silo

- e. The permittee shall monitor and maintain records of the following information:
 - (1) The total monthly throughput of the petroleum coke; and
 - (2) The hours per month of operation (loading/unloading) for the unit.
- f. Once per calendar day when the unit is operating, the permittee shall survey the emissions associated with BPM petroleum coke storage silo for visible emissions. If after a six-month daily observation period, there has been no visible emissions observed, the survey frequency may be reduced to once per calendar week. If during a reduced weekly frequency survey, visible emissions are observed, then the survey frequency shall return to daily. If during any visible emissions survey, visible emissions are observed, the permittee shall perform a Method 9, Appendix A of 40 CFR 60, as soon as practicable. If Method 9 indicates emissions in excess of the standard, then the unit will be immediately shutdown and repairs completed before restarting the unit.

Emission unit 54 - K-1&2 starch silos

- g. The permittee shall monitor and maintain records of the following information:
 (1) The total monthly throughput of the starch silos; and
 (2) The hours per month of operation (truck/railcar unloading) for the unit.
- h. Once per day when the unit is operating (truck/railcar unloading), the permittee shall
- survey visible emissions associated with Unit 54. If after a six-month daily observation period, there has been no visible emissions observed, the survey frequency may be reduced to once per calendar week. If during a reduced weekly frequency survey, visible emissions are observed, then the survey frequency shall return to daily. If visible emissions are observed, the permittee shall perform an EPA Method 9. If Method 9 indicates emissions in excess of the standard, then the unit will be immediately shutdown and repairs completed before restarting the unit.

5. Specific Recordkeeping Requirements:

- a. The permittee shall maintain records of the amount of materials processed.
- b. Records in the daily/weekly/monthly log shall include but not limited to the following:
 - (1) Whether any air emissions were visible from the unit;
 - (2) Whether the visible emissions were normal for the unit; and
 - (3) The cause of any abnormal emissions and any corrective action taken.

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- c. The permittee shall also maintain records of the following information:
 - (1) The hours per month and months per year of operation for each unit;
 - (2) Respective hourly/monthly pollutant emission rates; and
 - (3) Refer to the above monitoring requirements.

6. <u>Specific Reporting Requirements</u>: See table under 4. <u>Specific Monitoring Requirements</u>.

7. Specific Control Equipment Operating Conditions:

- a. The baghouse associated with each Emission Point shall be operated properly in accordance with the manufacturer's specifications and/or standard operating procedure; at all times the emission point is in use [401 KAR 50:055, Section 2(5)].
- b. Preventive maintenance shall be performed, for the control equipment, in accordance with the manufacturers' recommendations.
- c. Pursuant to 401 KAR 59:005, Section 3(4), records regarding the maintenance of the baghouses shall be maintained.
- d. Refer to Section E.1.

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit EU-36 BPM Lime Kiln No. 3	
Emission Point	B-630
Description	Lime kiln No. 3 (Includes PCC Plant)
Installed	November 1997
Primary Fuel	Petroleum coke/natural gas
Secondary Fuel	Fuel Oil (with <0.50% sulfur content) and propane
Maximum Rated Capacity	165,219 tpy CaO
Process Description	Conversion of calcium carbonate (CaCO ₃) to CaO for use in the re-causticizing process and as a backup incineration device for LVHC and SOG
Control Equipment	ESP
Comments	This unit may serve as an alternate combustion device for the treatment of organic HAP

APPLICABLE REGULATIONS:

401 KAR 51:017, Prevention of significant deterioration of air quality.

401 KAR 60:005, Section 2(2)(kk), 40 C.F.R. 60.280 to 60.285 (Subpart BB), Standards of Performance for Kraft Pulp Mills.

401 KAR 63:002, Section 2(4)(cc), 40 C.F.R. 63.860 to 63.868, Table 1 (Subpart MM), National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills.

40 CFR 64, Compliance Assurance Monitoring.

1. **Operating Limitations**:

- a. Alternate fuels shall include propane, and fuel oil with sulfur content of less than 0.50%. Heat input shall not exceed 115 MMBtu /hour [401 KAR 51:017].
- b. At all times, the permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the permittee to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source [40 CFR 63.860(d)].

SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- c. Emission rates specified under 2. Emission Limitations and the air pollution control equipment to control these emissions, 7. Specific Control Equipment Operating Conditions, represents BACT; hence, all equipment, including control equipment, associated with the emission unit shall be operated and monitored, see 4. Specific Monitoring Requirements, to maintain emissions below the specified BACT emission rate [401 KAR 51:017, Section 9].
- d. Emission rates specified under 2. <u>Emission Limitations</u> and the air pollution control equipment to control these emissions, 7. <u>Specific Control Equipment Operating Conditions</u>, represents MACT; hence, all equipment, including control equipment, associated with the emission unit shall be operated and monitored, see 4. <u>Specific Monitoring Requirements</u>, to maintain emissions below the specified MACT emission rate [40 CFR 63, Subpart MM].

Compliance Demonstration Method:

Refer to **4.** <u>Specific Monitoring Requirements</u> and **5.** <u>Specific Recordkeeping</u> <u>Requirements</u> below.

2. Emission Limitations:

- a. PM/PM10 emissions shall not exceed 38.89 tpy [401 KAR 51:017, PSD Permit F-96-003 R1 and netting Title V/PSD Permit V-04-012].
- b. The permittee of each lime kiln must ensure that the concentration of PM in the exhaust gases discharges to the atmosphere is less than or equal to 0.15 g/dscm (0.064 gr/dscf) corrected to 10 percent oxygen [40 CFR 63.862(a)(1)(i)(C)].

Note: 40 CFR 63.862(a)(1)(i)(C) regulation limitation is more stringent than a 0.067 gr/dscf particulate requirement promulgated pursuant to BACT limitation in 401 KAR 51:017, PSD Permit F-96-003 R1, netting Title V/PSD Permit V-04-012, and 40 CFR 60.282.

- c. CO emissions shall not exceed 300 ppm at 10% oxygen, and 243.57 tpy [401 KAR 51:017, PSD Permit F-96-003 R1].
- d. NO_x emissions shall not exceed 150 ppm at 10% oxygen, and 200.07 tpy [401 KAR 51:017, PSD Permit F-96-003 R1].
- e. SO₂ emissions shall not exceed 73 ppm at 10% oxygen, and 135.78 tpy [401 KAR 51:017, PSD Permit F-96-003 R1 and netting Title V/PSD Permit V-04-012].
- f. TRS emissions shall not exceed 7.89 tpy [401 KAR 51:017, PSD Permit F-96-003 R1].
- g. No permittee shall be caused to be discharged into the atmosphere from any lime kiln, any gases which contain TRS in excess of 8 ppmvd, corrected to 10 percent oxygen [40 CFR 60.283(a)(5)].

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

 h. VOC emissions measured as methane shall not exceed 75 ppm at 10% oxygen, and 93.18 tpy [401 KAR 51:017, PSD Permit F-96-003 R1].

Compliance Demonstration Method:

a. For PM/PM₁₀, CO, NO_X, SO₂, TRS, and VOC annual emission limits: Annual Emission Rate = [Sum (any consecutive 12 month) of the Monthly Production Rate (tons CaO from lime kiln no. 3 Production)] x [PM/PM₁₀, CO, NO_X, SO₂, TRS, and VOC emission factor observed during last emission test accepted by the Division (lb/ton CaO)]

b. The permittee shall comply with the requirements of 3. <u>Testing Requirements</u>, 4. <u>Specific Monitoring Requirements</u> and 5. <u>Specific Recordkeeping Requirements</u> below.

3. Testing Requirements:

- a. Performance testing for HAPs/PM shall be performed to meet the requirements and methods specified in 40 CFR 63.865, *Performance test requirements and test methods*, within 5 years of the most recent performance test conducted to demonstrate compliance or within 6 months of issuance of the final permit V-18-007, whichever is later [401 KAR 52:020, Section 10].
- b. Performance testing of CO, NO_X, SO₂, TRS, and VOC using Reference Methods specified in 401 KAR 50:015 shall be conducted within 5 years of the most recent performance test conducted to demonstrate compliance or within 6 months of issuance of the final permit V-18-007, whichever is later. The testing report shall include measurement results of information necessary to show compliance with the ppm at 10% concentration limits [401 KAR 59:005, Section 2(2), 401 KAR 50:045, Section 1 and 40 CFR 60.8].

4. <u>Specific Monitoring Requirements</u>:

- a. The permittee shall install, calibrate, maintain, and operate a CMS to monitor and record the concentration of TRS emissions on a dry basis and the percent of oxygen by volume on a dry basis in the gases discharged into the atmosphere from any lime kiln [40 CFR 60.284(a)(2)].
- b. Excluding the startup and shutdown periods, if any 12-hour average TRS value exceeds the standard, the permittee shall, as appropriate, initiate an investigation of the cause of the exceedance and/or the CMS system and make any necessary repairs or take corrective actions as soon as practicable.
- c. Pursuant to 401 KAR 51:017, the permittee shall monitor and maintain records of the lime kiln average flame temperature, average oxygen concentration, and the average sulfur content of the petroleum coke and fuel oil as described in compliance demonstration under 2. <u>Emission Limitations</u>.
- d. The permittee shall monitor and maintain records of the total monthly (each calendar month) production of the lime kiln no. 3.

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- e. The permittee shall install, calibrate, maintain, and operate a COMS according to 40 CFR 63.6(h) and 63.8 and 63.864(d)(1) through (d)(4). [40 CFR 63.864(d)]
 - (1) As specified in 40 CFR 63.8(c)(4)(i), each COMS must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period. [40 CFR 63.864(d)(3)]
 - (2) The COMS data must be reduced as specified in 40 CFR 63.8(g)(2). [40 CFR 63.864(d)(4)]
- f. If the lime kiln no. 3 is in operation during any period of malfunction of the COM, the permittee shall survey the emission unit associated with this unit for visible emissions. If visible emissions are observed, the permittee shall perform a Method 9, Appendix A of 40 CFR 60, immediately.
- g. For each CPMS required for any kraft or soda recovery furnace using an ESP emission control device, the permittee must maintain proper operation of the ESP AVC [40 CFR 63.864(e)(1)].
- h. The permittee shall keep CMS data quality assurance procedures consistent with the requirements in 40 CFR 63.8(d)(1) and (2) on record for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the Administrator. If the performance evaluation plan in 40 CFR 63.8(d)(2) is revised, the permittee shall keep previous (*i.e.*, superseded) versions of the performance evaluation plan on record to be made available for inspection, upon request, by the Administrator, for a period of 5 years after each revision to the plan. The program of corrective action should be included in the plan required under 40 CFR 63.8(d)(2) [40 CFR 63.864(f)].
- i. As specified in 40 CFR 63.8(g)(5), monitoring data recorded during periods of unavoidable CMS breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high level adjustments must not be included in any data average computed under this subpart [40 CFR 63.864(h)].
- j. On-going compliance provisions [40 CFR 63.864(k)].
 - (1) Following the compliance date, permittee of all affected sources or process units are required to implement corrective action if the monitoring exceedances in 40 CFR 63.864(k)(1)(i) through (vii) of this section occur during times when spent pulping liquor or lime mud is fed (as applicable). Corrective action can include completion of transient startup and shutdown conditions as expediently as possible provisions [40 CFR 63.864(k)(1)].
 - (i) For a new or existing kraft or soda recovery furnace or lime kiln equipped with an ESP, when the average of ten consecutive 6-minute averages result in a measurement greater than 20 percent opacity [40 CFR 63.864(k)(1)(i)].
 - (2) Following the compliance date, permittees of all affected sources or process units are in violation of the standards of 40 CFR 63.862 if the monitoring exceedances in 40 CFR 63.864(k)(2)(iii) occur during times when spent pulping liquor or lime mud is fed (as applicable) [40 CFR 63.864(k)(2)]:

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(i) For an existing kraft or soda lime kiln equipped with an ESP, when opacity is greater than 20 percent for 3 percent or more of the operating time within any semiannual period [40 CFR 63.864(2)(iii)].

5. Specific Recordkeeping Requirements:

- The permittee shall perform the following [40 CFR 60.284(c)]:
- (1) Calculate and record on a daily basis 12-hour average TRS concentrations for the two consecutive periods of each operating day. Each 12-hour average shall be determined as the arithmetic mean of the appropriate 12 contiguous one-hour average TRS concentrations provided by each CMS installed under 4. <u>Specific Monitoring Requirements</u> a.
- (2) Calculate and record on a daily basis 12-hour average oxygen concentrations for the two consecutive periods of each operating day for the recovery furnace. These 12-hour averages shall correspond to the 12-hour average TRS concentrations under 5. <u>Specific Recordkeeping Requirements</u> a(1) and shall be determined as an arithmetic mean of the appropriate 12 contiguous one-hour average oxygen concentrations provided by each CMS installed under 4. <u>Specific Monitoring Requirements</u> a.
- b. In addition to the general records required by 40 CFR 63.10(b)(2)(iii) and (vi) through (xiv), the permittee must maintain records of the information in 40 CFR 63.866(c)(2) and (c)(8) [40 CFR 63.866(c)]:
 - Records of CaO production rates in units of Mg/day or ton/day for all lime kilns [40 CFR 63.866(c)(2)].
 - (2) Records demonstrating compliance with the requirement in 40 CFR 63.864(e)(1) to maintain proper operation of an ESP AVC [40 CFR 63.866(c)(8)].
- c. (1) In the event that an affected unit fails to meet an applicable standard, including any emission limit in 40 CFR 63.862 or any opacity or CPMS operating limit in 40 CFR63.864, record the number of failures. For each failure record the date, start time, and duration of each failure [40 CFR 63.866(d)(1)].
 - (2) For each failure to meet an applicable standard, record and retain a list of the affected sources or equipment, and the following information [40 CFR 63.866(d)(2)]:
 - (i) For any failure to meet an emission limit in 40 CFR 63.862, record an estimate of the quantity of each regulated pollutant emitted over the emission limit and a description of the method used to estimate the emissions.
 - (ii) For each failure to meet an operating limit in 40 CFR 63.864, maintain sufficient information to estimate the quantity of each regulated pollutant emitted over the emission limit. This information must be sufficient to provide a reliable emissions estimate if requested by the Administrator.
 - (3) Record actions taken to minimize emissions in accordance with 40 CFR 63.860(d) and any corrective actions taken to return the affected unit to its normal or usual manner of operation [40 CFR 63.866(d)(3)].
- d. The permittee shall summarize total production of CaO monthly in tons.

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- e. The permittee shall estimate and record the PM₁₀, CO, SO₂, NOx, TRS, VOC, and HAP emissions monthly.
- f. The permittee shall maintain records of the following information:
 - (1) The respective fuel combusted;
 - (2) The most current emission factors;
 - (3) Respective monthly pollutant emission rates; and
 - (4) Refer to the above monitoring requirements.

6. Specific Reporting Requirements:

- a. The permittee shall report semiannually periods of excess emissions that are all 12-hour average TRS concentration above 8 ppmv [40 CFR 60.284(d)(2)].
- b. The permittee must submit semiannual excess emissions reports containing the information specified in 40 CFR 63.867(c)(1) through (5). The permittee must submit semiannual excess emission reports and summary reports following the procedure specified in 40 CFR 63.867(d)(2) as specified in 40 CFR 63.10(e)(3)(v) [40 CFR 63.867(c)].
- c. The permittee must submit results of performance testing, notifications and semiannual reports to EPA via Compliance and Emissions Data Reporting Interface (CEDRI) as specified in 40 CFR 63.867(d)(1) through (d)(4) [40 CFR 63.867(d)].

7. <u>Specific Control Equipment Operating Conditions</u>:

- a. Records regarding the maintenance of the control equipment shall be maintained.
- b. The permittee shall operate the control equipment at all times that the unit is in operation and in accordance with the manufacturer's specifications and/or under standard operating procedure as established in the CAM table in Section D, based on compliance with 40 CFR 63, Subpart MM requirements.

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Emission Unit EU-40 BPM NCG/SOG Incinerator	
Emission Point	B-700
Description	NCG/SOG incinerator
Installed	November 1997
Primary Fuel	Compounds in HVLC, LVHC, SOG and natural gas
Secondary Fuel	Propane (heat input: 2.04 MMBtu/hour)
Maximum Rated Capacity	512,487 oven dried tpy
Process Description	Destruction of HAPs generated during the pulping and liquor recovery processes
Control Equipment	Scrubber and low NO _X burner

APPLICABLE REGULATIONS:

401 KAR 51:017, Prevention of significant deterioration of air quality.

401 KAR 60:005, Section 2(2)(kk), 40 C.F.R. 60.280 to 60.285 (Subpart BB), Standards of Performance for Kraft Pulp Mills.

401 KAR 63:002, Section 2(4)(1), 40 C.F.R. 63.440 to 63.459, Table 1 (Subpart S), National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry.

40 CFR 64, Compliance Assurance Monitoring.

1. **Operating Limitations:**

- a. The gases are combusted with other waste gases in an incinerator are subjected to a minimum temperature 1200 °F for at least 0.5 second [40 CFR 60.283 (a)(1)(iii)].
- b. The control device used to reduce total HAP emissions from each equipment system listed in 40 CFR 63.443(a) and (b) shall [40 CFR 63.443(d)]:
 - (1) Reduce total HAP emissions by 98 percent or more by weight; or
 - (2) Reduce the total HAP concentration at the outlet of the thermal oxidizer (NCG/SOG incinerator) to 20 ppmvd or less, corrected to 10 percent oxygen; or
 - (3) Reduce total HAP emissions using a thermal oxidizer designed and operated at a minimum temperature of 1600 °F and a minimum residence time of 0.75 seconds.
- c. The permittee shall collect and treat any condensate to meet the requirements as specified in 40 CFR 63.446.
- d. The permittee shall monitor and maintain records for a Leak Detection and Repair Program on any closed-vent system as specified in 40 CFR 63.450.
- e. Propane shall be an alternate fuel [401 KAR 51:017, PSD Permit F-96-003 R1].

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f. Emission rates specified under 2. Emission Limitations and the air pollution control equipment to control these emissions, 7. Specific Control Equipment Operating Conditions, represents BACT; hence, all equipment, including control equipment, associated with the emission unit shall be operated and monitored, see 4. Specific Monitoring Requirements, to maintain emissions below the specified BACT emission rate [401 KAR 51:017, Section 9].

Compliance Demonstration Method:

Refer to 4. <u>Specific Monitoring Requirements</u> and 5. <u>Specific Recordkeeping</u> <u>Requirements</u> below.

2. <u>Emission Limitations</u>:

- PM/PM₁₀ emissions shall not exceed 12.8 lb/hour and 56.1 tpp [401 KAR 51:017, PSD Permit F-96-003 R1 and netting Title V/PSD Permit V-04-012].
- b. CO emissions shall not exceed 12.6 lb/hour and 55.19 tpy [401 KAR 51:017, PSD Permit F-96-003 R1].
- c. NOx emissions shall not exceed 19.13 lb/hour and 83.8 tpy [401 KAR 51:017, PSD Permit F-96-003 R1 and netting Title V/PSD Permit V-04-012].
- d. SO₂ emissions shall not exceed 3.3 lb/hour and 14.42 tpy [401 KAR 51:017, PSD Permit F-96-003 R1 and netting Title V/PSD Permit V-04-012].
- e. TRS emissions shall not exceed 0.92 tpy [401 KAR 51:017, PSD Permit F-96-003 R1].
- f. VOC emissions calculated as methane shall not exceed 50 ppm corrected to 8% oxygen and 12.57 tpy [401 KAR 51:017, PSD Permit F-96-003 R1].

Compliance Demonstration Method:

- a. For PM/PM₁₀, CO, NO_X, SO₂, TRS, and VOC annual emission limits: Annual Emission Rate = [Sum (any consecutive 12 month) of the Monthly Production Rate (Total tons ADP Produced) x PM/PM₁₀, CO, NO_X, SO₂, TRS, and VOC emission factor observed during last emission test accepted by the Division (lb/ton ADP)].
- b. For compliances with the PM/PM₁₀, CO, NO_x, and SO₂ hourly emission limits and the VOC concentration limits, the permittee shall perform the monitoring and record keeping requirements listed under 4. <u>Specific Monitoring Requirements</u>, 5. <u>Specific Recordkeeping Requirements</u> and 7. <u>Specific Control Equipment Operating Condition</u> during all periods. The following parameters must be maintained within the range during which emission factors were determined during the last emission tests:
 - (1) For SO₂: Scrubber liquid flow and pH, or other parameters that have been demonstrated to correlate to SO₂ emissions.
 - (2) For NO_x, VOC, and CO: Incinerator temperature and SOG flow levels, or other parameters that have been demonstrated to correlate to NOx, VOC, and/or CO emissions.
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3. Testing Requirements:

Performance testing of non-HAPS using Reference Methods specified in 401 KAR 50:015 shall be conducted if required by the Division [401 KAR 59:005, Section 2(2), 401 KAR 50:045, Section 1 and 40 CFR 60.8].

4. Specific Monitoring Requirements:

- a. The permittee shall install, calibrate, maintain, and operate a monitoring device which measures and records the combustion temperature at the point of incineration of effluent gases which are emitted from any digester system, brown stock washer system, multiple-effect evaporator system, black liquor oxidation system, or condensate stripper system where the provisions of 40 CFR 60.283(a)(1)(iii) apply. The monitoring device is to be certified by the manufacturer to be accurate within ± 1 percent of the temperature being measured [40 CFR 60.284(b)(1)].
- b. A CMS shall be operated to measure the temperature in the firebox or in the ductwork immediately downstream of the firebox and before any substantial heat exchange occurs for each thermal oxidizer used to comply with 1. <u>Operating Limitations</u> b(1) through (3). Permittee complying with the HAP concentration requirement in 1. <u>Operating Limitations</u> b(2) may install a CMS to monitor the thermal oxidizer outlet total HAP or methanol concentration, as an alternative to monitoring thermal oxidizer operating temperature [40 CFR 63.453(b)].
- c. The permittee shall implement an acceptable Leak Detection and Repair Program for each enclosure and closed-vent system [40 CFR 63.453].
- d. The permittee shall monitor and maintain records of the incinerator average temperature on a 24-hour basis [401 KAR 51:017].
- e. The permittee shall monitor and maintain records of the following information:
 (1) The total monthly (each calendar month) production of Air-Dried Tons Pulp; and
 (2) The hours per month of operation for the incinerator.
- f. The permittee shall monitor the following operating parameters at the frequency indicated for this scrubber.

Parameter	Monitoring Frequency	Acceptable Range	Averaging Period
Scrubbing liquid flow rate	Continuous	> 250 gpm	Three-hour rolling
Scrubber liquid pH	Continuous	$\geq 9.0 \text{ pH}$	Three-hour rolling
Incinerator temperature	Continuous	>1200 °F	Three-hour rolling

g. Refer to Section D.5 for CAM for PM/PM₁₀ and SO₂ sent by the facility pursuant to 40 CFR 64.6. The permittee shall conduct this monitoring and fulfill the obligations to achieve compliance with an emission limitation. The elements of the monitoring approach,

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including indicators to be monitored, indicator ranges, and performance criteria are presented in the table.

5. Specific Recordkeeping Requirements:

- a. The permittee shall record all periods in excess of 5 minutes and their duration during which the combustion temperature at the point of incineration is less than 1200 °F in the incinerator [40 CFR 60.284(d)(3)(ii)].
- b. The permittee shall record downtime on the control system of greater than four percent for HVLC, one percent for LVHC's, and four percent for combined HVLC and LVHC systems excluding startup, shutdown and malfunction [40 CFR 63.443(e)].
- c. The permittee shall record all periods when none of the following control options are demonstrated [40 CFR 63.454(a)]:
 - Total HAP emissions are captured and operated by the NCG/SOG incinerator at or above 1600 °F for 0.75 seconds.
 - (2) Total HAP emissions are reduced by 98% or more by weight.
 - (3) Total HAP concentration is reduced at the outlet of the thermal oxidizer (incinerator) to 20 ppmv or less, corrected to 10 percent oxygen on a dry basis.
- d. The permittee shall record all required inspections under the Leak Detection and Repair Program as specified in 40 CFR 63.443 and 63.454.
- e. The permittee shall summarize total production of unbleached ADP ton/month.
- f. The permittee shall estimate and record the PM₁₀,CO, SO₂, NOx, TRS, and VOC emissions monthly.
- g. During any onsite visit, specific records (monthly production and estimated emissions) for this area shall be made available for inspection at the request of the Regional inspector.
- h. The permittee shall maintain records, including dates and time duration, when the NCG/SOG incinerator is operating on propane fuel.
- i. Refer to 4. Specific Monitoring Requirements.

6. Specific Reporting Requirements:

- a. The permittee shall report all periods in excess of 5 minutes and their duration during which the combustion temperature at the point of incineration is less than 1200 °F on a semiannual basis [40 CFR 60.284(d)(3)(ii)].
- b. The permittee shall report downtime on the control system of greater than four percent for HVLC, one percent for LVHC, and four percent for combined HVLC and LVHC systems excluding startup, shutdown and malfunction on a semiannual basis [40 CFR 63.443(e)].

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- c. The permittee shall report all periods when none of the following control options are demonstrated:
 - Total HAP emissions are captured and operated by the NCG/SOG incinerator at or above 1600 °F for 0.75 seconds.
 - (2) Total HAP emissions are reduced by 98% or more by weight.
 - (3) Total HAP concentration is reduced at the outlet of the thermal oxidizer (incinerator) to 20 ppmvd or less, corrected to 10 percent oxygen.
- d. The permittee shall report the results of the performance test before the close of business on the 60th day following the completion of the performance test, unless specified otherwise in a relevant standard or as approved otherwise [40 CFR 63.7(g)].

7. <u>Specific Control Equipment Operating Conditions</u>:

- a. The permittee shall operate the control equipment at all times that the unit is in operation and in accordance with the manufacturer's specifications and/or under standard operating procedure as established in the CAM table, for PM/PM₁₀ and SO₂ in Section D.
- b. Control equipment operational ranges may be established during subsequent compliance testing programs.

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit EU-42 BPM Bio-fuel Boiler						
Emission Point	B-900					
Description	To process waste wood/hogged fuel for steam generation and as a backup incineration device for HVLC's					
Installed	May 1997					
Primary Fuel	Waste wood/hogged fuel					
Secondary Fuel	Natural gas, fuel oil (<0.50% sulfur content), and propane					
Maximum Rated Capacity	1050 MMBtu/hour; (Hogged fuel input: 570 MMBtu/hour) (Natural gas fuel input: 480 MMBtu/hour)					
Process Description	Processes waste wood/hogged fuel for steam generation					
Control Equipment	ESP					

APPLICABLE REGULATIONS:

401 KAR 51:017, Prevention of significant deterioration of air quality.

401 KAR 59:015, New indirect heat exchangers.

401 KAR 60:005, Section 2(2)(c), 40 C.F.R. 60.40b to 60.49b (Subpart Db), Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units.

401 KAR 63:002, Section 2(4)(iiii), 40 C.F.R. 63.7480 to 63.7575, Tables 1 to <u>15</u> (Subpart DDDDD), National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters.

40 CFR 64, Compliance Assurance Monitoring.

1. **Operating Limitations:**

- a. Fuels shall include waste wood (hogged fuel), natural gas, propane, fuel oil with less than 0.50 % sulfur content, and HVLC off gases. Waste wood (hogged fuel) includes: waste wood, chips and bark, clarifier sludge, and any waste wood containing less than one percent by weight oil [401 KAR 51:017, PSD Permit F-96-003 R1]
- b. No. 2 fuel oil may be used as a backup to natural gas and propane for no more than 2 hours/day and 10 days/year at a rate not to exceed 7,703 gals/hour. [401 KAR 51:017, PSD Permit F-96-003 R1].
- c. Low NO_X burners shall be used [401 KAR 51:017, PSD Permit F-96-003 R1].

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- d. Emission rates specified under 2. <u>Emission Limitations</u> and the air pollution control equipment to control these emissions, 7. <u>Specific Control Equipment Operating Conditions</u>, represents BACT; hence, all equipment, including control equipment, ESP, associated with the emission unit shall be operated and monitored, see 4. Specific Monitoring Requirements, to maintain emissions below the specified BACT emission rate [401 KAR 51:017, Section 9].
- e. Pursuant to 40 CFR 63.7500(a)(1), the permittee must meet the following work practice standards in Table 3, items 1 and 4 of 40 CFR 63, Subpart DDDDD that applies to the boiler, except as provided under 40 CFR 63.7522. The permittee:
 - (1) Shall conduct a tune-up of the boiler every 5 years if the boiler or process heater has a continuous oxygen trim system that maintains an optimum air to fuel ratio as specified in 40 CFR 63.7540(a)(12). The burner inspection may be delayed until the next scheduled or unscheduled unit shutdown, but each burner must be inspected at least once every 72 months.
 - (2) Each 5-year tune-up specified in §63.7540(a)(12) must be conducted no more than 61 months after the previous tune-up. [40 CFR 63.7515(d)
 - (3) Conduct a one-time energy assessment as specified in Table 3 of 40 CFR 63, Subpart DDDDD. The one-time energy assessment performed by a qualified energy assessor. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in this table, satisfies the energy assessment requirement. A facility that operates under an energy management program compatible with ISO 50001 that includes the affected units also satisfies the energy assessment requirement. The energy assessment must include the following with extent of the evaluation for items 4.a. to e. of Table 3 of 40 CFR 63, Subpart DDDDD appropriate for the on-site technical hours listed in 40 CFR 63.7575:
 - (i) A visual inspection of the boiler or process heater system.
 - An evaluation of operating characteristics of the boiler or process heater systems, specifications of energy using systems, operating and maintenance procedures, and unusual operating constraints.
 - (iii) An inventory of major energy use systems consuming energy from affected boilers and process heaters and which are under the control of the boiler/process heater permittee.
 - (iv) A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage.
 - (v) A review of the facility's energy management practices and provide recommendations for improvements consistent with the definition of energy management practices, if identified.
 - (vi) A list of cost-effective energy conservation measures that are within the facility's control.
 - (vii) A list of the energy savings potential of the energy conservation measures identified.
 - (viii) A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.
 - (4) Shall follow all applicable work practice standards during startup as specified in Table 3 of 40 CFR 63, Subpart DDDDD.

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- <u>f.</u> Pursuant to 40 CFR 63.7500(a)(2), the permittee must meet the following operating limit in Table 4 of 40 CFR 63, Subpart DDDDD that applies to the boiler:
 <u>Existing boilers</u> must maintain opacity to less than or equal to 10 percent opacity (daily block average)
- g. At all times, the permittee must operate and maintain the affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source [40 CFR 63.7500(a)(3)].
- h. These standards pursuant to 40 CFR 63.7500 apply at all times the affected unit is operating, except during periods of startup and shutdown during which time the permittee must comply only with Table 3 to 40 CFR 63, Subpart DDDDD.

Compliance Demonstration Method:

- a Refer to 4. <u>Specific Monitoring Requirements</u>; 5. <u>Specific Recordkeeping</u> <u>Requirements</u> and 6. <u>Specific Reporting Requirements</u> below.
- b. Compliance with the **1**. <u>Operating Limitations</u> e., f. and g. shall be demonstrated by maintaining records in accordance with **5**. <u>Specific Recordkeeping Requirements</u>.
- c. Continuous compliance with work practice standards shall be demonstrated as specified in Table 8 of 40 CFR 63, Subpart DDDDD [40 CFR 63.7540].
- d. The permittee shall complete an initial tune-up by following the procedures described in 40 CFR 63.7540(a)(10)(i) through (vi) and the one-time energy assessment specified in Table 3 of 40 CFR 63, Subpart DDDDD, no later than the compliance date of January 31, 2016 as specified in 40 CFR 63.7495.

2. Emission Limitations:

- a. PM/PM₁₀ emissions shall not exceed 0.10 lb/MMBtu and 43.8 tpy [401 KAR 51:017, PSD Permit F-96-003 R1 and netting Title V/PSD Permit V-04-012, 401 KAR 59:015 Section 4(1)(b), and 40 CFR 60.43(b)].
- b. The opacity of visible emission shall not exceed 20 percent [401 KAR 59:015 Section 4(2), 40 CFR 60.43b(f)].
- c. CO emissions shall not exceed 0.3 lb/MMBtu and 827.82 tpy [401 KAR 51:017, PSD Permit F-96-003 R1].
- d. NO_x emissions shall not exceed 0.25 lb/MMBtu based on a 30-day average and 830.0 TPY [401 KAR 51:017, PSD Permit F-96-003 R1 and netting Title V/PSD Permit V-04-012].
- e. When gaseous fuel (natural gas, propane, and HVLC) burning, NO_x emissions shall not exceed 0.20 lb/MMBtu [40 CFR 60.44b(a)].

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- f. SO₂ emissions shall not exceed 0.033 lb/MMBtu and 73.67 tpy [401 KAR 51:017, PSD Permit F-96-003 R1 and Title V/PSD Permit V-04-012].
- g. VOC emissions measured as methane shall not exceed 0.10 lb/MMBtu and 257.54 tpy. [401 KAR 51:017, PSD Permit F-96-003 R1].
- h. Pursuant to 40 CFR 63.7500(a)(1), the permittee <u>may_continue to meet_the following alternative emission limits</u> in Table 15 of 40 CFR 63, Subpart DDDDD that apply to the <u>existing_fluidized bed boiler designed to burn biomass/bio-based solids_until October 6</u>, 2025, except as provided under 40 CFR 63.7522:
 - (1) Emissions of CO shall not exceed 470 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (310 ppm by volume corrected to 3 percent oxygen, 30-day rolling average) or 4.6E–01 lb per MMBtu of steam output;
 - (2) Emissions of PM shall not exceed 1.1E-01 lb per MMBtu of heat input; or (1.2E-03 lb per MMBtu of heat input) or 1.4E–01 lb per MMBtu of steam output;
 - (3) Emissions of HCl shall not exceed 2.2E-02 lb per MMBtu of heat input or 2.5E-02 lb per MMBtu of steam output; and
 - (4) Emissions of mercury shall not exceed 5.7E–06 lb per mmBtu of heat input or 6.4E-06 lb/MMBtu steam output.
 - Pursuant to 40 CFR 63.7500(a)(1), the permittee must meet the following emission limits in Table 2 of 40 CFR 63, Subpart DDDDD that apply to the existing fluidized bed boiler designed to burn biomass/bio-based solids no later than October 6, 2025, except as provided under 40 CFR 63.7522:
 - (1) Emissions of CO shall not exceed 210 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (310 ppm by volume corrected to 3 percent oxygen, 30-day rolling average) or 2.1E–01 lb per MMBtu of steam output;
 - (2) Emissions of PM shall not exceed 7.4E-03 lb per MMBtu of heat input; or (6.4E-05 lb per MMBtu of heat input) or 9.2E-03 lb per MMBtu of steam output;
 - (3) Emissions of HCl shall not exceed 2.0E-02 lb per MMBtu of heat input or 2.3E-02 lb per MMBtu of steam output; and
 - (4) Emissions of mercury shall not exceed 5.4E–06 lb per mmBtu of heat input or 6.2E-06 lb/MMBtu steam output.

Compliance Demonstration Method:

- a. Refer to 40 CFR 63.7505 and 63.7510 for general and initial compliance requirements.
- **b.** For compliance with BACT limits from 401 KAR 51:017 for PM/PM₁₀ CO, NO_X, SO₂, and VOC lbs/MMBtu emission limits, refer to **3.** <u>Testing Requirements.</u>
- c. For PM/PM₁₀, CO, NO_x, SO₂, and VOC <u>annual</u> emission limits:
 - Annual Emission Rate (tpy) = [Sum (any consecutive 12 month) of the Monthly Natural Gas Usage Rate (10^6 cubic feet natural gas) x Emission Factor ($1bs/10^6$ cubic feet) + Sum (any consecutive 12 month) of the Monthly Fuel Oil Usage Rate (1000 gallons) x Emission Factor (1b/1000 gallons) + Sum (any consecutive 12 month) of the Monthly Wood Waste Usage Rate (MMBtu) x Emission Factor (1b/MMBtu)].

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- d. Compliance with the opacity limits shall be demonstrated through the following methods: The permittee shall perform the monitoring and recordkeeping requirements listed under
 4. <u>Specific Monitoring Requirements</u> and 5. <u>Specific Recordkeeping Requirements</u> during all periods.
- e. For compliance with 2. Emission limitations h:
 - (1) Pursuant to 40 CFR 63.7540, continuous compliance with emission limitations shall be demonstrated as specified in Table 8 of 40 CFR 63, Subpart DDDDD.
 - (2) See 3. <u>Testing Requirements</u>, 5. <u>Specific Recordkeeping Requirements</u> and 6. <u>Specific Reporting Requirements</u>.
 - (3) Initial compliance with emissions limitations shall be demonstrated no later than 180 days after the compliance date that is specified in 40 CFR 63.7495 and according to the applicable provisions in 40 CFR 63.7(a)(2) as cited in Table 10 to 40 CFR 63, Subpart DDDDD.

3. Testing Requirements:

- a. Performance testing of PM/PM10, SO2, NOx, CO, and VOC using Reference Methods specified in 401 KAR 50:015 shall be conducted within 5 years of the most recent performance test conducted to demonstrate compliance or within 6 months of issuance of the final permit V-018-007, whichever is later. The amount (gallons/hour or lbs/hour) and heat capacity of the fuel used during testing (MMBtu/gallon or MMBtu/lb), and the emission rate of each pollutant (lb/hr), shall be measured and reported with the testing results to show compliance with lb/MMBtu limits [401 KAR 59:005, Section 2(2), 401 KAR 50:045, Section 1 and 40 CFR 60.8].
- b. The permittee shall test for compliance with emission limits for hydrochloric acid (HCl) and mercury on an annual basis as required by 40 CFR 63.7510 and as specified in 40 CFR 63.7515 and 40 CFR 63.7520 or perform fuel analysis according to 40 CFR 63.7521 and Table 6 of 40 CFR 63, Subpart DDDDD.

Permittee must conduct all applicable performance tests according to 40 CFR 63.7520 on an annual basis, except as specified in 40 CFR 63.7515(b) and (c). Annual performance tests must be completed no more than 13 months after the previous performance test, except as specified in 40 CFR 63.7515(b) and (c) [40 CFR 63.7515(a)].

(1) If your performance tests for a given pollutant for at least 2 consecutive years show that your emissions are at or below 75 percent of the emission limit (or, in limited instances as specified in Tables 1 and 2 or 11 through 15 to this subpart, at or below the emission limit) for the pollutant, and if there are no changes in the operation of the individual boiler or air pollution control equipment that could increase emissions, you may choose to conduct performance tests for the pollutant every third year. Each such performance test must be conducted no more than 37 months after the previous performance test. If permittee elects to demonstrate compliance using emission averaging under 40 CFR 63.7522, permittee must continue to conduct performance tests annually. The requirement to test at maximum chloride input level is waived unless the stack test is

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40 CFR 63.7525(a).¶

SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

conducted for HCl. The requirement to test at maximum mercury input level is waived unless the stack test is conducted for mercury. The requirement to test at maximum TSM input level is waived unless the stack test is conducted for TSM [40 CFR 63.7515(b)].

(2) If a performance test shows emissions exceeded the emission limit or 75 percent of the emission limit (as specified in Tables 1 and 2 or 11 through <u>15</u> to this subpart) for a pollutant, permittee must conduct annual performance tests for that pollutant until all performance tests over a consecutive 2-year period meet the required level (at or below 75 percent of the emission limit, as specified in Tables 1 and 2 or 11 through <u>15</u> to this subpart) [40 CFR 63.7515(c)].

4. Specific Monitoring Requirements:

- a. The permittee shall use a continuous opacity monitor (COM) to meet the continuous monitoring requirement for opacity. During periods when the COM is not in proper operation and there are visible emissions from the stack, the permittee shall determine the opacity of emissions by Reference Method 9 on a daily basis. The Method 9 shall be performed by a representative of the permittee certified in Visible Emissions Evaluations, and the permittee shall maintain a list of all individuals that are certified Visible Emissions Evaluators and their date of certification. If a Method 9 cannot be performed, the reason for not performing the test shall be documented [40 CFR 60.48b].
- b. The permittee shall use a continuous emissions monitor (CEM) to monitor the concentration of NO_x emissions to meet the periodic monitoring requirement on a dry basis and the percent of oxygen by volume on a dry basis of gases discharged in order to calculate lb/MMBtu. Excluding the startup and shutdown periods, if any 30-day average NO_x value exceeds the emission standard, the permittee shall, as appropriate, initiate an investigation of the cause of the exceedance and/or the CEM system and make any necessary repairs or take corrective actions as soon as practicable [40 CFR 60.48b].
- c. The permittee shall monitor the hours per month of operation for the unit.
- d. The permittee shall monitor the hours/day when using No. 2 fuel oil and the days/year.
- e. The permittee shall monitor the average boiler bed temperature, and percent oxygen on a 24-hour basis or other parameters which have been demonstrated to correlate to CO and VOC emissions and which have acceptable ranges established during stack tests [401 KAR 51:017].
- f. The permittee shall monitor total monthly (each calendar month) heat input (MMBtu) to the bio-fuel boiler including the monthly usage rates of waste wood, natural gas, propane, and fuel oil.
- g. Refer to Section D.5 for CAM for PM/PM₁₀ emissions control sent by the facility pursuant to 40 CFR 64.6. The permittee shall conduct this monitoring and fulfill the obligations to achieve compliance with an emission limitation. The elements of the monitoring approach, including indicator to be monitored, indicator ranges, and performance criteria are presented in the table.

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- h. The permittee shall comply with the applicable requirements specified in 40 CFR 63.7525 and 40 CFR 63.7535 and listed below:
 - (1) The permittee shall install and operate a continuous oxygen analyzer according to 40 CFR 63.7525(a),
 - (2) <u>The permittee shall operate an oxygen trim system with the oxygen level set no lower</u> than the lowest hourly average oxygen concentration measured during the most recent <u>CO performance test as the operating limit for oxygen according to Table 7 of 40 CFR</u> 63, Subpart DDDDD. [40 CFR 63.7525(a)(7)].
 - (3) The permittee shall install and operate a COMS according to 40 CFR 63.7525(c) and develop a site specific monitoring plan according to 40 CFR 63.7505(d)
 - (4) Pursuant to 40 CFR 63, Subpart DDDDD, Table 8, the permittee shall monitor the operating load or steam generation every 15 minutes, and maintain load below 110% of the rate measured during the latest performance test.

5. Specific Recordkeeping Requirements:

- a. All 6-minute average opacities equal to or exceeding 20 % shall be recorded. [40 CFR 60.49b]
- b. The permittee shall record one-hour and thirty-day average NOx concentrations.
- c. The permittee shall summarize total heat input (MMBtu) monthly.
- d. The permittee shall estimate and record the PM_{10} , CO, NOx, SO₂, and VOC emissions monthly.
- e. The permittee shall maintain records, including dates, usage rates, time, and duration, when the bio-fuel boiler is on each specific fuel.
- f. The permittee shall maintain records of a 24-hour average boiler bed temperature and 24-hour average percent oxygen.
- g. Records in the daily/weekly/monthly log shall include but are not limited to the following:(1) Whether any air emissions were visible from the unit;
 - (2) Whether the visible emissions were normal for the unit; and
 - (3) The cause of any abnormal emissions and any corrective action taken.
- h. The following records shall be kept in accordance with 40 CFR 63.7555 and 63.7560:
 - (1) Maintain records of fuel analyses and resulting emission rate calculations according to 40 CFR 63.7555(a) and (d).
 - (2) Maintain records of CMS and/or CEM data according to 40 CFR 63.7555(a), (b), and (d).
 - (3) Maintain records of COMS data according to 40 CFR 63.7555(a) and (b).
 - (4) Maintain records of operational load or steam generation measurements according to 40 CFR 63.7555(c).

6. Specific Reporting Requirements:

The 30-day NO_x rolling average in excess of standard shall be submitted quarterly [401 KAR 59:005 Section 3(3) and 40 CFR 60.49b].

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according to 40 CFR 63.7505(d)

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- b. Any period during which the opacity is equal to or exceeds 20 percent will be reported quarterly, except startup and shutdown.
- c. Pursuant to a requested stack test, the permittee shall provide at least 60 days prior notice of any performance test [40 CFR 60.8(d)].
- d. The permittee shall submit notifications and reports as specified in 40 CFR 63.7545 and 40 CFR 63.7550.

7. Specific Control Equipment Operating Conditions:

- a. The ESP shall be operated in accordance with the manufacturer's specifications and/or standard operating procedures as established in the CAM table for PM/PM₁₀ in Section D.
- b. Records regarding the maintenance of the control equipment shall be maintained.
- c. The permittee shall apply the provisions of Section E, Source Control Equipment Requirements, to the operation of the ESP.

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit EU-44 BPM Chips & Wood Fuel Unloading

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Emission Point	B-1100, B-1101, 700, and 900
Description	BPM truck railcar unloading
Installed	April 1998
Maximum Rated Capacity	2,628,000 tpy, 300 tons/hour (monthly average)
Process Description	Unloading of chips used for the manufacture of pulp and to unload wood fuel
Control Equipment	None

APPLICABLE REGULATIONS:

401 KAR 51:017, Prevention of significant deterioration of air quality.

401 KAR 59:010, New process operations.

1. **Operating Limitations:**

- a. The processing rate through railcar or truck unloading shall not exceed 300 tons/hour [401 KAR 51:017, PSD Permit F-96-003 R1].
- b. Emission rates specified under 2. <u>Emission Limitations</u> represents BACT; hence, all equipment, process or control equipment, associated with the emission unit shall be operated and monitored, see 4. <u>Specific Monitoring Requirements</u>, to maintain emissions below the specified BACT emission rate [401 KAR 51:017, Section 9].

Compliance Demonstration Method:

Refer to **4.** <u>Specific Monitoring Requirements</u> and **5.** <u>Specific Recordkeeping</u> <u>Requirements</u> below.

2. Emission Limitations:

- a. PM/PM₁₀ emissions shall not exceed 0.09 lb/hour and 0.4 tons/year [401 KAR 51:017, PSD Permit F-96-003 R1].
- b. Visible emissions shall not equal or exceed an opacity reading of 20 percent [401 KAR 59:010, Section 3(1)(a)].

Compliance Demonstration Method:

a. For PM/PM₁₀ hourly emission limits:

Hourly Emission Rate = [Monthly Processing Rate (tons) of (Chips & Wood Fuel Unloading) x Emission Factor* (lb/ton) / Monthly hours of operation]

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

 b. For PM/PM₁₀ annual emission limits: Annual Emission Rate = [Sum (any consecutive 12 month) Processing Rate (tons) of (Chips & Wood Fuel Unloading) x Emission Factor* (lb/ton)]

*Based on available emission factors from EPA, NCASI, and the equipment manufacturer

 c. Compliance with the opacity limits shall be demonstrated through the following methods: The permittee shall perform the monitoring and recordkeeping requirements listed under
 4. <u>Specific Monitoring Requirements</u> and 5. <u>Specific Recordkeeping Requirements</u> during all periods.

3. Testing Requirements:

Performance testing of non-HAP using Reference Methods specified in 401 KAR 50:015 shall be conducted if required by the Division [401 KAR 59:005, Section 2(2), and 401 KAR 50:045, Section 1].

4. Specific Monitoring Requirements:

- a. The permittee shall monitor and maintain records of the following information [401 KAR 52:020, Section 10]:
 - (1) The total monthly (each calendar month) usage of chips and wood fuel; and
 - (2) The hours per month of operation for the unit.
- b. Once per calendar day when the unit is operating the permittee shall survey the emissions associated with BPM Chips & Wood Fuel Unloading for visible emissions. If after a sixmonth daily observation period, there has been no visible emissions observed then the survey frequency may be reduced to once per calendar week. If during a reduced weekly frequency survey, visible emissions are observed, then the survey frequency shall return to daily. If during any visible emissions survey, visible emissions are observed, the permittee shall perform an EPA Method 9 as soon as practicable [401 KAR 52:020, Section 10].

5. Specific Recordkeeping Requirements:

- a. Records in the daily/weekly/monthly log shall include, but not limited to, the following [401 KAR 52:020, Section 10]:
 - (1) Whether any air emissions were visible from the unit;
 - (2) Whether the visible emissions were normal for the unit; and
 - (3) The cause of any abnormal emissions and any corrective action taken.

6. Specific Reporting Requirements:

Refer to Section F.

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit EU-45 BPM Chips & Wood Fuel Handling						
Emission Point	B-1200 and B-1201 B-1202, 700, and 900					
Description	Chip screening Chip & wood fuel reclaiming Transfer chip piles					
Installed	April 1998					
Maximum Rated Capacity	2,409,000 tpy, 275 tons/hour (monthly average)					
Process Description	Transports chips to the pulping process and wood fuel to the boilers					
Control Equipment	None					

APPLICABLE REGULATIONS:

401 KAR 51:017, Prevention of significant deterioration of air quality.

401 KAR 59:010, New process operations.

1. **Operating Limitations:**

- a. The processing rate through railcar or truck unloading shall not exceed 275 tons/hour [401 KAR 51:017, PSD Permit F-96-003 R1].
- b. Emission rates specified under 2. <u>Emission Limitations</u> represents BACT; hence, all equipment, process or control equipment, associated with the emission unit shall be operated and monitored, see 4. <u>Specific Monitoring Requirements</u>, to maintain emissions below the specified BACT emission rate [401 KAR 51:017, Section 9].

Compliance Demonstration Method:

Refer to **4.** <u>Specific Monitoring Requirements</u> and **5.** <u>Specific Recordkeeping</u> <u>Requirements</u> below.

2. <u>Emission Limitations</u>:

- a. PM/PM_{10} emissions shall not exceed 0.274 lb/hour and 1.2 tpy [401 KAR 51:017, PSD Permit F-96-003 R1].
- b. Visible emissions shall not equal or exceed an opacity reading of 20% [401 KAR 59:010, Section 3(1)(a)].

Compliance Demonstration Method:

- a. For PM/PM₁₀ hourly emission limits:
- Hourly Emission Rate = [Monthly Processing Rate (tons) of (Chips & Wood Fuel Unloading) x Emission Factor* (lb/ton) / Monthly hours of operation]

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

For PM/PM₁₀ annual emission limits:

Annual Emission Rate = [Sum (any consecutive 12 month) Processing Rate (tons) of (Chips & Wood Fuel Unloading) x Emission Factor * (lb/ton)]

*Based On Available Emission Factors from EPA, NCASI, and Equipment Manufacturer

 b. Compliance with the opacity limits shall be demonstrated through the following methods: The permittee shall perform the monitoring and recordkeeping requirements listed under
 4. <u>Specific Monitoring Requirements</u> and 5. <u>Specific Recordkeeping Requirements</u> during all periods.

3. Testing Requirements:

Performance testing of non-HAPS using Reference Methods specified in 401 KAR 50:015 shall be conducted if required by the Division [401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1].

4. <u>Specific Monitoring Requirements</u>:

- a. The permittee shall monitor and maintain records of the following information [401 KAR 52:020, Section 10].
 - (1) The total monthly (each calendar month) chip processing for the unit; and
 - (2) The hours per month of operation for the unit.
- b. Once per calendar day when the unit is operating the permittee shall survey the emissions associated with BPM Chips & Wood Fuel Handling for visible emissions. If after a sixmonth daily observation period, there has been no visible emissions observed then the survey frequency may be reduced to once per calendar week. If during a reduced weekly frequency survey, visible emissions are observed, then the survey frequency shall return to daily. If during any visible emissions survey, visible emissions are observed, the permittee shall perform a Method 9, Appendix A of 40 CFR 60, as soon as practicable [401 KAR 52:020, Section 10].

5. Specific Recordkeeping Requirements:

Records in the daily/weekly/monthly log shall include, but are not limited to, the following [401 KAR 52:020, Section 10]:

- (1) Whether any air emissions were visible from the unit;
- (2) Whether the visible emissions were normal for the unit; and
- (3) The cause of any abnormal emissions and any corrective action taken.

6. Specific Reporting Requirements:

Refer to Section F.

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit EU-48	BPM Methanol Storage Tank
Emission Point	B-1500
Description	Methanol storage tank
Installed	February 1998
Maximum Rated Capacity	< 20,000 gallons maximum storage; 6,176,020 gallons/year
Process Description	Storage of methanol until utilized to manufacture ClO ₂
Control Equipment	None

APPLICABLE REGULATIONS:

401 KAR 60:005, Section 2(2)(r), 40 C.F.R. 60.110b to 60.117b (Subpart Kb), Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984.

401 KAR 63:002, Section 2(4)(kkk), 40 C.F.R. 63.2330 to 63.2406, Tables 1 to 12 (Subpart EEEE), National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline).

- 1. <u>Operating Limitations</u>: None
- 2. <u>Emission Limitations</u>: None
- 3. <u>Testing Requirements</u>: None
- 4. <u>Specific Monitoring Requirements</u>: None

5. Specific Recordkeeping Requirements:

- a. The facility shall keep readily accessible records showing the dimensions of the storage vessels and an analysis showing the capacity of the storage vessels [40 CFR 60.116b(b)].
- b. The facility shall keep documentation, including a record of the annual average true vapor pressure of the total Table 1 organic HAP in the stored organic liquid, that verifies the storage tank is not required to be controlled under this subpart. The documentation must be kept up-to-date and must be in a form suitable and readily available for expeditious inspection and review according to 40 CFR 63.10(b)(1), including records stored in electronic form in a separate location [40 CFR 63.2343(b)(3)].

6. Specific Reporting Requirements:

None

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit EU-57	Wood Chip Barge Unloading and Transfer
Emission Point	Barge unloading system consisting of 4 transfer points
Description	Wood chips are unloaded from barge using claim-shell crane to a conveyor, transferred to a hopper and dropped to another conveyor to deliver the chips to the existing wood chip handling area
Installed	Spring 2012
Maximum Rated Capacity	1,000 tons wood chips per hour; and 2,628,000 tons wood chips per year at 40% moisture
Process Description	Transports chips from barge unloading terminal to wood chip handling area in Emission Unit 44
Control Equipment	None

Deleted: 750

APPLICABLE REGULATIONS:

401 KAR 63:010, Fugitive emissions.

1. **Operating Limitations**:

- a. No person shall cause, suffer, or allow any material to be handled, processed, transported, or stored; a building or its appurtenances to be constructed, altered, repaired, or demolished, or a road to be used without taking reasonable precaution to prevent particulate from becoming airborne [401 KAR 63:010 Section 3(1)].
- b. The permittee shall not unload more than 2,628,000 tons of chips per year [401 KAR 52:020, Section 10].

Compliance Demonstration Methods:

- a. The permittee shall keep track of the monthly amount of wood chips unloaded from the barge terminal.
- b. Operating procedures shall be maintained so that dust is not emitted from the transfer points in a manner and amount as to cause a nuisance.
- c. Such reasonable precautions shall include, when applicable, but not be limited to the following:
 - (1) Wood chip handling and delivery: Use of enclosures and/or wet suppression.
 - (2) Plant roadways: Use of wet suppression, surface treatment, sweeping, speed control and/or paving.

2. <u>Emission Limitations</u>: None

3. Testing Requirements:

None

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

4. <u>Specific Monitoring Requirements</u>: None

5. <u>Specific Recordkeeping Requirements</u>: The permittee shall maintain records of the amount of wood chips unloaded at the barge terminal per calendar month (tons/month) [401 KAR 52:020, Section 10].

6. Specific Reporting Requirements:

Refer to Section F.

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emergency use engines – Diesel (Existing)							
Emission Unit	DescriptionManufacture /ConstructionRated Capacity hp>/< 500 		Emission Unit Name				
A58-03	Caterpillar 3306 PC	1997	385	< 500 hp	BPM recovery emergency generator		
A58-04	Continental TMD27	1995	66	< 500 hp	BPM lime kiln no. 3 generator		
A58-05	Caterpillar 3306	2001	382	< 500 hp	BPM turbine emergency generator		
A58-06	Caterpillar 3304PC	1979	142	< 500 hp	BPM Recaust emergency generator		
A58-08	Caterpillar NHC-4-1P	1966	332	< 500 hp	KMM Fire pond emergency engine		
A58-09	Caterpillar 3412	1996	896	> 500 hp	FPM K-2 emergency generator		
A58-10	Generac SD010	2004/2007	18.8	< 500 hp	Guard shack emergency generator		

Horsepower (hp)

APPLICABLE REGULATIONS:

401 KAR 63:002, Section 2(4)(eeee), 40 C.F.R. 63.6580 to 63.6675, Tables 1a to 8, and Appendix A (Subpart ZZZZ), National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.

<u>Note</u>: D.C. Circuit Court [*Delaware v. EPA*, 785 F. 3d 1 (D.C. Cir. 2015)] has vacated the provisions in 40 CFR 63, Subpart ZZZZ that contain the 100-hour exemption for operation of emergency engines for purposes of emergency demand response under 40 CFR 63.6640(f)(2)(ii)-(iii). The D.C. Circuit Court issued the mandate for the vacatur on May 4, 2016.

1. **Operating Limitations:**

- a. If you own or operate an existing stationary reciprocating internal combustion engine (RICE) with a site rating of equal to or less than 500 brake horsepower (HP) located at a major source of HAP emissions, you must comply with the emission limitations and other requirements in Table 2c to this subpart which apply to you [40 CFR 63.6602].
- b. The permittee must meet the following requirements, [Table 2c to Subpart ZZZZ of Part 63, Item 1]:
 - (1) Except during periods of startup the permittee must:
 - (i) Change oil and filter every 500 hours of operation or annually, whichever comes first;
 - (ii) Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first: and
 - (iii)Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- (2) During periods of startup permittee must minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.
- c. The permittee must be in compliance with the emission limitations, operating limitations, and other requirements in 40 CFR 63, Subpart ZZZZ that apply, at all times [40 CFR 63.6605(a)].
- d. The permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source [40 CFR 63.6605(b)].
- e. Each affected unit must be operated according to the requirements in 40 CFR 63.6640 (f)(1) through (4). In order for the engine to be considered an emergency stationary RICE under this subpart, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in 40 CFR 63.6640(f)(1) through (4), is prohibited. If you do not operate the engine according to the requirements in 40 CFR 63.6640(f)(1) through (4), the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines [40 CFR 63.6640(f)].
 - (1) There is no limit on the use of emergency stationary reciprocating internal combustion engine (RICE) in emergency situations [40 CFR 63.6640(f)(1)].
 - (2) The permittee may operate the emergency stationary RICE for any combination of the purposes specified in 40 CFR 63.6640(f)(2)(i), for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by 40 CFR 63.6640(f)(3) and (4) counts as part of the 100 hours per calendar year allowed by this 40 CFR 63.6640(f)(2) [40 CFR 63.6640(f)(2)].
 - (i) Emergency stationary RICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the permittee maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year [40 CFR 63.6640 (f)(2)(i)].

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

(3) Emergency stationary RICE located at major sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in 40 CFR 63.6640(f)(2). The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity [40 CFR 63.6640(f)(3)].

Compliance Demonstration Methods:

- a. Refer to **4.** <u>Specific Monitoring Requirements</u> and **5.** <u>Specific Recordkeeping</u> <u>Requirements</u> for compliance with **1.** <u>Operating Limitations</u> (a), (b), (c) and (g).
- b. For 1. <u>Operating Limitations</u> (c) and (d), the permittee must:
 - (1) Operate and maintain the stationary RICE according to the manufacturer's emissionrelated operating and maintenance instructions; or
 - (2) Develop and follow a maintenance plan which must provide, to the extent practicable, for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

2. <u>Emission Limitations</u>:

None

3. <u>Testing Requirements</u>: None

4. Specific Monitoring Requirements:

- a. Permittee must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions [40 CFR 63.6625(e)].
- b. Permittee must install a non-resettable hour meter if one is not already installed [40 CFR 63.6625 (f)].
- c. The permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c to this subpart as described in 40 CFR 63.6625(i) [40 CFR 63.6625(i)].

5. Specific Recordkeeping Requirements:

a. The permittee must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that the permittee operated and maintained the stationary RICE and after-treatment control device (if any) according to its own maintenance plan [40 CFR 63.6655(e)].

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

b. The permittee must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The permittee must document how many hours are spent for emergency operation; including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for the purposes specified in 40 CFR 63.6640(f)(2)(ii) or (iii), the permittee must keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes [40 CFR 63.6655(f)].

6. Specific Reporting Requirements:

- a. The permittee must report each instance in which you did not meet each emission limitation or operating limitation in Table 2c to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in 40 CFR 63.6650 [40 CFR 63.6640(b)].
- b. The permittee must submit each report in Table 7 of 40 CFR 63, Subpart ZZZZ that applies [40 CFR 63.6650(a)].
- c. See Section F.6.

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emergency use engines – Natural gas 4SRB (New)							
Emission Unit	Emission Unit Description Manufacture /Construction Date R Ca		Rated Capacity	>/< 500 hp	Purpose		
A58-11	Cummins WSG-1068	2011	176 hp	< 500 hp	Server room generator		

Horsepower (hp)

APPLICABLE REGULATIONS:

401 KAR 63:002, Section 2(4)(eeee), 40 C.F.R. 63.6580 to 63.6675, Tables 1a to 8, and Appendix A (Subpart ZZZZ), National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.

401 KAR 60:005, Section 2(2)(eeee), 40 C.F.R. 60.4230 to 60.4248, Tables 1 to 4 (Subpart JJJJ), Standards of Performance for Stationary Spark Ignition Internal Combustion Engines.

<u>Note</u>: D.C. Circuit Court [*Delaware v. EPA*, 785 F. 3d 1 (D.C. Cir. 2015)] has vacated the provisions in 40 CFR 60, Subpart JJJJ that contain the 100-hour exemption for operation of emergency engines for purposes of emergency demand response under 40 CFR 60.4243 (d)(2)(ii)-(iii)]. The D.C. Circuit Court issued the mandate for the vacatur on May 4, 2016.

1. **Operating Limitations:**

- a. For engines built on or after Jan 1, 2010, the permittee must install a non-resettable hour meter prior to startup of the engine [40 CFR 60.4237(b)].
- b. The permittee may operate the engines using propane for a maximum of 100 hours per year as an alternative fuel solely during emergency operations, but must keep records of such use. If propane is used for more than 100 hours per year in an engine that is not certified to the emission standards when using propane, the owners and operators are required to conduct a performance test to demonstrate compliance with the emission standards of 40 CFR 60.4233 [40 CFR 60.4243(e)].
- c. The permittee must operate the emergency stationary internal combustion engine (ICE) according to the requirements in 40 CFR 60.4243(d)(1) through (d)(3). In order for the engine to be considered an emergency stationary ICE, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in 40 CFR 60.4243(d)(1) through (3), is prohibited [40 CFR 60.4243(d)].
 - (1) There is no time limit on the use of emergency stationary ICE in emergency situations.
 - (2) The permittee may operate the emergency stationary ICE for any combination of the purposes specified in 40 CFR 60.4243(d)(2)(i) through (iii), for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by 40 CFR 60.4243(d)(3) counts as part of the 100 hours per calendar year allowed by 40 CFR 60.4243(d)(2).

SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- (3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in 40 CFR 60.4243(d)(2). Except as provided in 40 CFR 60.4243(d)(3)(i), the 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.
- d. For emergency stationary spark ignition (SI) ICE with a maximum engine power of greater than 19 KW (25 HP), the permittee may not install engines that do not meet the applicable requirements in 40 CFR 60.4233 after January 1, 2011 [40 CFR 60.4236(c)]

Compliance Demonstration Method:

The permittee shall submit all notification, recordkeeping and reporting requirements of 40 CFR 60.4245(a)(1) through(4) and 40 CFR 60.4245(e) as applicable.

2. Emission Limitations:

a. The engines must comply with the emission standards in Table 1 to 40 CFR Part 60, Subpart JJJJ for their emergency stationary SI ICE. The limits for EP 58(11) is as follows [40 CFR 60.4233(e)]:

		Emission standards					
Engine type	Maximum	g/HP-hr			ppmvd at 15% O ₂		
Engine type	power	NOx	СО	voc	NOx	СО	voc
Emergency	HP≥130	2.0	4.0	1.0	160	540	86

b. The permittee must meet these emissions standards for the life of the engine [40 CFR 60.4234].

<u>Compliance Demonstration:</u>

- a The engines must have been purchased certified to the emission standards in 40 CFR 60.4231(a) or Table 1 of 40 CFR Part 60, Subpart JJJJ for the same engine class and maximum engine power [40 CFR 60.4243(a) or (b)(1)].
- b. The engines' settings must only be adjusted according to and consistent with the manufacturer's instructions. The engines must be operated and maintained according to manufacturer's emission-related written instructions [40 CFR 60.4243(a), (a)(1) and/or (b)(1)].

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

3. Testing Requirements:

- a. To satisfy the requirements for an initial performance test pursuant to 40 CFR 60.8, the permittee shall submit to the Division a copy of the manufacturer's certified emissions certificate supplied with the engine within 60 days of achieving maximum load but no later than 180 days after installation.
- b. If the permittee has purchased a non-certified engine or does not operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's written emission-related instructions, then the permittee shall perform initial performance testing as indicated in 40 CFR 60.4243.

4. Specific Monitoring Requirements:

Pursuant to 401 KAR 52:020, Section 10, the permittee shall monitor the fuel usage, in mmscf, and hours of operation on a monthly basis.

5. <u>Specific Recordkeeping Requirements</u>:

- Records of hours spent for emergency operation, including what classified the operation as an emergency, shall be maintained. Hours spent on non-emergency situations shall be maintained [40 CFR 60.4245(b)].
- b. The permittee shall maintain records of maintenance conducted on the engines [40 CFR 60.4243(b)(1) and 40 CFR 60.4245(a)(2)].
- c. The permittee shall keep records of engine manufacturer data including compliance with the standards [40 CFR 60.4245(a)(3)].

6. <u>Specific Reporting Requirements</u>:

See Section F.

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Non-emergency use engines – Diesel (Existing)							
Emission Unit	Description	Manufacture /Construction Date Rated >/< 500 hp		Purpose			
A58-02	Caterpillar 3306 PC	1979	249	< 500 hp	BPM Fire pond engine		
A58-07	Caterpillar 3306	1996	287	< 500 hp	FPM Fire pond engine		

Horsepower (hp)

APPLICABLE REGULATIONS:

401 KAR 63:002, Section 2(4)(eeee), 40 C.F.R. 63.6580 to 63.6675, Tables 1a to 8, and Appendix A (Subpart ZZZZ), National Emission Standards for Hazardous Air Pollutants for **Stationary Reciprocating Internal Combustion Engines**.

Note: D.C. Circuit Court [*Delaware v. EPA*, 785 F. 3d 1 (D.C. Cir. 2015)] has vacated the provisions in 40 CFR 63, Subpart ZZZZ 60 that contain the 100-hour exemption for operation of emergency engines for purposes of emergency demand response under 40 CFR 63.6640(f) (2)(ii)-(iii). The D.C. Circuit Court issued the mandate for the vacatur on May 4, 2016.

1. **Operating Limitations:**

- a. To preclude the applicability of 401 KAR 51:017, when operating emission unit 58c, the permittee shall not exceed the following hours of operation based on a 12-month rolling total [Synthetic minor limit]:
 - (1) Emission point 58 (02) 1,500 hours
 - (2) Emission point 58 (07) 1,500 hours
- b. The permittee must comply with the applicable emission limitations, operating limitations, and other requirements no later than May 3, 2013 [40 CFR 63.6595(a)].
- c. The permittee must be in compliance with the emission limitations, operating limitations, and other requirements in this subpart that apply to you at all times [40 CFR 63.6605(a)].
- d. At all times the permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source [40 CFR 63.6605(b)].

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- e. The permittee must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions [40 CFR 63.6625(e)].
- f. The permittee must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Table 2c, to this subpart apply [40 CFR 63.6625(h)].
- g. Table 8 to this subpart shows which parts of the General Provisions in 40 CFR 63.1 through 63.15 apply to the permittee [40 CFR 63.6665].

Compliance Demonstration Methods:

- a. Compliance with **1**. <u>Operating Limitations</u>, paragraphs a, shall be demonstrated by fulfilling the following:
 - (1) 4. Specific Monitoring Requirements, paragraph c; and
 - (2) 5. <u>Specific Recordkeeping Requirements</u>, paragraphs e.
- b. Compliance with 1. <u>Operating Limitations</u>, paragraphs b through g shall be demonstrated by fulfilling the 6. <u>Specific Reporting Requirements</u>, paragraphs j and k.

2. <u>Emission Limitations</u>:

- a. The permittee must comply with the emission limitations and other requirements in Table 2c to this subpart which apply to you. Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three one-hour runs using the testing requirements and procedures in 40 CFR 63.6620 and Table 4 to this subpart [40 CFR 63.6602].
- b. The permittee must limit the concentration of CO in the stationary RICE exhaust to 230 ppmvd or less at 15 percent O₂ [Item 3 of Table 2c to 40 CFR 63, Subpart ZZZZ].

Compliance Demonstration Methods:

- a. Compliance with **2**. <u>Emission Limitations</u>, paragraphs a and b, shall be demonstrated by fulfilling the following requirements:
 - (1) 3. <u>Testing Requirements;</u>
 - (2) 4. Specific Monitoring Requirements; and
 - (3) 6. Specific Reporting Requirements, paragraphs b, c, and h.

3. Testing Requirements:

a. The permittee must conduct any initial performance test or other initial compliance demonstration according to Tables 4 and 5 to this subpart that apply to the permittee within 180 days after the compliance date that is specified for your stationary RICE in 40 CFR 63.6595 and according to the provisions in 40 CFR 63.7(a)(2) [40 CFR 63.6612(a)].

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- b. A permittee is not required to conduct an initial performance test on a unit for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (b)(1) through (4) of this section [40 CFR 63.6612 (b)].
 - The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly [40 CFR 63.6612(b)(1)].
 - (2) The test must not be older than 2 years [40 CFR 63.6612(b)(2)].
 - (3) The test must be reviewed and accepted by the Administrator [40 CFR 63.6612 (b)(3)].
 - (4) Either no process or equipment changes must have been made since the test was performed, or the permittee must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes [40 CFR 63.6612(b)(4)].
- c. The permittee must conduct each performance test in Table 4 of this subpart that applies to you [40 CFR 63.6620(a)].
- d. Each performance test must be conducted according to the requirements specified in Table 4 to this subpart. If permittee owns or operates a non-operational stationary RICE that is subject to performance testing, the permittee does not need to start up the engine solely to conduct the performance test. The permittee of a non-operational engine can conduct the performance test when the engine is started up again [40 CFR 63.6620(b)].
- e. The permittee must conduct three separate test runs for each performance test required in this section, as specified in 40 CFR 63.7(e)(3). Each test run must last at least 1 hour, unless otherwise specified in this subpart [40 CFR 63.6620(d)].
- f. The permittee must normalize the CO concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen, or an equivalent percent carbon dioxide (CO₂). If pollutant concentrations are to be corrected to 15 percent oxygen and CO₂ concentration is measured in lieu of oxygen concentration measurement, a CO₂ correction factor is needed. Calculate the CO₂ correction factor as described in paragraphs (e)(2)(i) through (iii) of this section [40 CFR 63.6620(e)(2)].
- g. The permittee must demonstrate initial compliance with each emission limitation, operating limitation, and other requirement that applies to you according to item 12 in Table 5 of this subpart [40 CFR 63.6630(a)].

4. Specific Monitoring Requirements:

- a. Except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities, the permittee must monitor continuously at all times that the stationary RICE is operating. 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 [40 CFR 63.6635(b)].
- b. The permittee may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

calculations used to report emission or operating levels. The permittee must, however, use all the valid data collected during all other periods [40 CFR 63.6635(c)].

c. The permittee shall maintain a meter on both emission point 58 (02) and emission point 58 (07) to record the hours that each emission point is in operation.

5. Specific Recordkeeping Requirements:

- a. The permittee must keep the records described in paragraphs (a)(1) through (a)(5) of this section [40 CFR 63.6655(a)].
 - (1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in 40 CFR 63.10(b)(2)(xiv) [40 CFR 63.6655(a)(1)].
 - (2) Records of the occurrence and duration of each malfunction of operation (*i.e.*, process equipment) or the air pollution control and monitoring equipment [40 CFR 63.6655(a)(2)].
 - (3) Records of performance tests and performance evaluations as required in 40 CFR 63.10(b)(2)(viii) [40 CFR 63.6655(a)(3)].
 - (4) Records of all required maintenance performed on the air pollution control and monitoring equipment [40 CFR 63.6655(a)(4)].
 - (5) Records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR 63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation [40 CFR 63.6655(a)(5)].
- b. The permittee records must be in a form suitable and readily available for expeditious review according to 40 CFR 63.10(b)(1) [40 CFR 63.6660(a)].
- c. As specified in 40 CFR 63.10(b)(1), the permittee must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record [40 CFR 63.6660(b)].
- d. The permittee must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR 63.10(b)(1) [40 CFR 63.6660 (c)].
- e. On a monthly basis, the permittee shall maintain a record of the total hours of operation the previous 12 months, for emission point 58 (02) and emission point 58 (07).

6. Specific Reporting Requirements:

- a. The permittee must meet the applicable notification requirements in 40 CFR 63.6645 and in 40 CFR part 63, Subpart A [40 CFR 63.6595(c)].
- b. The permittee must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in 40 CFR 63.6645 [40 CFR 63.6630(c)].

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- c. The permittee must report each instance in which permittee did not meet each emission limitation or operating limitation in Table 2c to this subpart that applies to the permittee. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in 40 CFR 63.6650. If the permittee changes the catalyst, the permittee must reestablish the values of the operating parameters measured during the initial performance test. When the permittee reestablishes the values of the operating parameters, the permittee must also conduct a performance test to demonstrate that the permittee is meeting the required emission limitation applicable to the permittee's stationary RICE [40 CFR 63.6640(b)].
- d. The permittee must also report each instance in which you did not meet the requirements in Table 8 to this subpart that apply to permittee [40 CFR 63.6640(e)].
- e. The permittee must submit all of the notifications in 40 CFR 63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply to permittee by the dates specified [40 CFR 63.6645(a)].
- f. If permittee is required to conduct a performance test, the permittee must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in 40 CFR 63.7(b)(1) [40 CFR 63.6645 (g)].
- g. If permittee is required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to this subpart, the permittee must submit a Notification of Compliance Status according to 40 CFR 63.9(h)(2)(ii) [40 CFR 63.6645 (h)].
- h. The permittee must submit each report in Table 7 of this subpart that applies to the permittee [40 CFR 63.6650(a)].
- i. Unless the Administrator has approved a different schedule for submission of reports under 40 CFR 63.10(a), the permittee must submit each report by the date in Table 7 of this subpart and according to the requirements in paragraphs (b)(1) through (b)(9) of this section [40 CFR 63.6650(b)].
- j. The Compliance report must contain the information in paragraphs (c)(1) through (6) of this section [40 CFR 63.6650(c)].
- k. For each deviation from an emission or operating limitation that occurs for a stationary RICE where you are not using a CMS to comply with the emission or operating limitations in this subpart, the Compliance report must contain the information in paragraphs (c)(1) through (4) of this section and the information in paragraphs (d)(1) and (2) of this section [40 CFR 63.6650(d)].
- Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6 (a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

source submits a Compliance report pursuant to Table 7 of this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the Compliance report includes all required information concerning deviations from any emission or operating limitation in this subpart, submission of the Compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority [40 CFR 63.6650(f)].

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit EU-59 Backup Boiler	
Emission Point	Cleaver-Brooks package boiler; Model NB-701D-130; SN RT-4123
Description	358.6 MMBtu/hour boiler firing gas 1 fuels
Installation	4 th quarter 2018
Maximum Rated Capacity	0.3586 mmscf/hour
Process Description	Backup boiler
Control Equipment	None

APPLICABLE REGULATIONS:

401 KAR 59:015, New indirect heat exchangers.

401 KAR 60:005, Section 2(2)(c), 40 C.F.R. 60.40b to 60.49b (Subpart Db), Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units

401 KAR 63:002, Section 2(4)(iiii), 40 C.F.R. 63.7480 to 63.7575, Tables 1 to <u>15</u> (Subpart DDDDD), National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters.

1. **Operating Limitations:**

- a. The permittee shall fire only natural gas fuel, with a potential SO₂ emission rate of 0.32 lb/MMBtu heat input or less. Pursuant to 40 CFR 60.42b(k)(2), this will exempt permittee from the SO₂ emissions limit in 40 CFR 60.42b(k)(1) [401 KAR 52:020, Section 10].
- b. The permittee must meet the requirements in 40 CFR 63.7500(a)(1) and (3). The permittee must meet these requirements at all times the affected unit is operating [40 CFR 63.7500(a)].
 - (1) The permittee must meet each work practice standard in Table 3 to this subpart that applies to your boiler, for each boiler at your source, except as provided under 40 CFR 63.7522 [40 CFR 63.7500(a)(1)].
 - (2) At all times, you must operate and maintain any affected source (as defined in 40 CFR 63.7490), including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source [40 CFR 63.7500(a)(3)].
- c. The permittee must demonstrate initial compliance with the applicable work practice standards in Table 3 to 40 CFR 63, Subpart DDDDD, within the annual schedule as specified in 40 CFR 63.7515(d) following the initial compliance date specified in 40 CFR

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

63.7495(a). Thereafter, you are required to complete the applicable annual, biennial, or 5-year tune-up as specified in 40 CFR 63.7515(d) [40 CFR 63.7510(g)].

d. The permittee must conduct a tune-up of the boiler every 5 years according to 40 CFR
 63.7540(a)(10)(i) through 40 CFR 63.7540(a)(10)(vi). The burner inspection specified in 40
 CFR 63.7540(a)(10)(i) may be delayed until the next scheduled or unscheduled unit shutdown, but each burner must be inspected at least once every 72 months. The oxygen trim level must be set no lower than the oxygen concentration measured during the most recent tune-up [40
 CFR 63.7540(a)(12)].

Each 5-year tune-up specified in §63.7540(a)(12) must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed affected source (as defined in §63.7490), the first 5-year tune-up must be no later than 61 months after April 1, 2013 or the initial startup of the new or reconstructed affected source, whichever is later [40 CFR 63.7515(d)].

Compliance Demonstration Methods:

- . If <u>the</u> boiler has a <u>continuous oxygen trim system that maintains an optimum air to fuel</u> ratio, the permittee must conduct a tune-up of the boiler <u>every 5 years</u> to demonstrate continuous compliance as specified in 40 CFR 63.7540(a)(10)(i) through (vi). The <u>permittee</u> must conduct the tune-up while burning the type of fuel (or fuels in case of units that routinely burn a mixture) that provided the majority of the heat input to the boiler over the 12 months prior to the tune-up [40 CFR 63.7540(a)(10)].
 - (1) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may perform the burner inspection any time prior to the tune-up or delay the burner inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection. At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment [40 CFR 63.7540(a)(10)(i)];
 - (2) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available [40 CFR 63.7540(a)(10)(ii)];
 - (3) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown) [40 CFR 63.7540(a)(10)(iii)];
 - (4) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_X requirement to which the unit is subject [40 CFR 63.7540(a)(10)(iv)];
 - (5) Measure the concentrations in the effluent stream of CO in part per million by volume (ppmv), and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer [40 CFR 63.7540(a)(10)(v)]; and
 - (6) Maintain on-site and submit, if requested by the Administrator, a report containing the information in 40 CFR 63.7540(a)(10)(vi)(A) through (C) [40 CFR 63.7540 (a)(10)(vi)],

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The permittee must conduct an annual performance tune-up according to 40 CFR 63.7540(a)(10). Each annual tune-up specified in 40 CFR 63.7540(a)(10) must be no more than 13 months after the previous tune-up. For a new or reconstructed affected source (as defined in 40 CFR 63.7490), the first annual tune-up must be no later than 13 months after April 1, 2013 or the initial startup of the new or reconstructed affected source, whichever is later [40 CFR 63.7515(d)]....

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE **REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

- The concentrations of CO in the effluent stream in ppmv, and oxygen in volume (i) percent, measured at high fire or typical operating load, before and after the tuneup of the boiler or process heater [40 CFR 63.7540(a)(10)(vi)(B)];
- (ii) A description of any corrective actions taken as a part of the tune-up [40 CFR 63.7540 (a)(10)(vi)(A)]; and
- (iii) The type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel used by each unit [40 CFR 63.7540(a)(10)(vi)(C)].
- b. Refer to 4. Specific Monitoring Requirements; 5. Specific Recordkeeping Requirements and 6. Specific Reporting Requirements below.

2. Emission Limitations:

- a. The permittee shall not cause emissions of PM/PM10 in excess of 0.10 lb/MMBtu [401 KAR 59:015, Section 4(1)(b)].
- b. The permittee shall not cause emissions of PM/PM₁₀ in excess of 20 percent opacity [401 KAR 59:015, Section 5(1)(b)].
- c. The permittee shall not cause emissions of SO2 in excess of 0.80 lb/MMBtu [401 KAR 59:015, Section 4(1)(b)].
- d. On and after the date on which the initial performance test is completed or is required to be completed under 40 CFR 60.8, whichever date is first, no permittee shall cause to be discharged into the atmosphere from that affected facility any gases that contain NOx (expressed as NO₂) in excess of 0.20 lb/MMBtu heat input [40 CFR 60.44b(1) and 40 CFR 60.44b(l)(1)].
- e. For the purpose of 40 CFR 60.44b(i), the NO_X standards under this section apply all times including periods of startup, shutdown, or malfunction [40 CFR 60.44b(h)].
- f. To preclude applicability of 401 KAR 51:017 Section 8 through 16, emissions from the boiler shall not exceed the following tons per year based on 12-month rolling total: 38.0
 - (1) NO_X
 - (2) CO 87.9
 - (3) PM_{2.5} 8.0

Compliance Demonstration Methods:

- a. Refer to 3. Testing Requirements; 4. Specific Monitoring Requirements; 5. Specific Record keeping Requirements and 6. Specific Reporting Requirements below.
- b. The permittee is assumed to be in compliance with opacity and SO₂ limits when burning natural gas.
- c. Compliance with 2. Emission Limitations d, is determined on a 30-day rolling average basis [40 CFR 60.44b(i)].

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

d. For compliance with the **2.** Emission Limitations f, maximum fuel usage rate shall not exceed 2,093.66 mmscf/year [401 KAR 52:020, Section 10].

3. Testing Requirements:

- a. Performance testing of PM/PM₁₀, and NO_X using reference methods specified in 401 KAR 50:015, shall be conducted. See Section G.4. The rate of fuel burned and heat capacity of the fuel shall be documented and reported with the testing results. The results shall include the lb/MMBtu of PM/PM₁₀, and NO_X [401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1].
- b. To determine compliance with the emission limits for NO_X required under 40 CFR 60.44b, the permittee shall conduct the performance test as required under 40 CFR 60.8 using the continuous system for monitoring NO_X under 40 CFR 60.48(b) [40 CFR 60.46b(e)].

4. <u>Specific Monitoring Requirements</u>:

- a. The permittee shall install, calibrate, maintain, and operate a CEMS for measuring NOx and O_2 (or CO₂) emissions discharged to the atmosphere, and shall record the output of the system [40 CFR 60.48b(b)(1)].
- b. The permittee shall monitor and record the following [401 KAR 52:020, Section 10]:
 - (1) The hours per month of operation for the unit; and
 - (2) The total monthly (each calendar month) heat input (MMBtu) to the boiler including the monthly usage rate of natural gas.

5. Specific Recordkeeping Requirements:

- a. The permittee shall determine, record and maintain the following records [401 KAR 52:020, Section 10]
 - (1) One-hour and thirty-day average NOx concentrations;
 - (2) Monthly and 12-month rolling total of natural gas usage in MMscf;
 - (3) Monthly and 12-month rolling totals of NOx, CO, and PM2.5 emissions.
- b. The permittee of an affected facility who elects to demonstrate that the affected facility combusts only natural gas that is known to contain an insignificant amount of sulfur in 40 CFR 60.42b(j) or 40 CFR 60.42b(k) shall obtain and maintain at the affected facility fuel receipts (such as a current, valid purchase contract, tariff sheet, or transportation contract) from the fuel supplier that certify that the oil meets the definition of distillate oil and gaseous fuel meets the definition of natural gas as defined in 40 CFR 60.41b and the applicable sulfur limit. Reports shall be submitted to the Administrator certifying that only very low sulfur oil meeting this definition, natural gas, wood, and/or other fuels that are known to contain insignificant amounts of sulfur were combusted in the affected facility during the reporting period [40 CFR 60.49b(r)(1)].
- c. The permittee must keep records according to 40 CFR 63.7555(a)(1) and (2) [40 CFR 63.7555(a)].
 - (1) A copy of each notification and report that permittee submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

of Compliance Status or semiannual compliance report that permittee submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv) [40 CFR 63.7555(a)(1)].
(2) Records of compliance demonstrations and performance evaluations as required in 40 CFR 63.10(b)(2)(viii) [40 CFR 63.7555 (a)(2)].

- d. The permittee records must be in a form suitable and readily available for expeditious review, according to 40 CFR 63.10(b)(1) [40 CFR 63.7560(a)].
- e. As specified in 40 CFR 63.10(b)(1), permittee must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record [40 CFR 63.7560(b)].
- f. The permittee must keep each record on site, or they must be accessible from on site (for example, through a computer network), for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 450 CFR 63.10(b)(1). Permittee can keep the records off site for the remaining 3 years [40 CFR 63.7560(c)].

6. Specific Reporting Requirements:

- a. The 30-day NOx rolling average in excess of standard shall be submitted quarterly [401 KAR 59:005 Section 3(3) and 40 CFR 60.49b(g)(3)].
- b. The permittee shall submit the reporting and notices pursuant to 40 CFR 60.49b(a) and (h).
- c. The permittee must submit to the Administrator all of the notifications in 40 CFR 63.7(b) and (c), 63.8(e), (f)(4) and (6), and 63.9(b) through (h) that apply to you by the dates specified [40 CFR 63.7545(a)].
- d. As specified in 40 CFR 63.9(b)(4) and (5), if permittee starts up a new or reconstructed affected source on or after January 31, 2013, you must submit an Initial Notification not later than 15 days after the actual date of startup of the affected source [40 CFR 63.7545(c)].
- e. You must submit each report in Table 9 to this subpart that applies to you [40 CFR 63.7550(a)].

. Unless the EPA Administrator has approved a different schedule for submission of reports under 40 CFR 63.10(a), permittee must submit each report, according to 40 CFR 63.7550(h), by the date in Table 9 to this subpart and according to the requirements in 40 CFR 63.7550(b)(1) through (4). For units that are subject only to a requirement to conduct subsequent <u>5-year</u> tune-up according to 40 CFR 63.7540(a)(10), and not subject to emission limits or Table 4 operating limits, you may submit only <u>an every 5-year</u> compliance report, as specified in 40 CFR 63.7550(b)(1) through (4), instead of a semiannual compliance report [40 CFR 63.7550(b)].

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- g. A compliance report must contain the following information depending on how the facility chooses to comply with the limits set in this rule [40 CFR 63.7550(c)].
 - If the facility is subject to the requirements of a tune up you must submit a compliance report with the information in 40 CFR 63.7550(c)(5)(i) through (iii), (xiv) and (xvii) [40 CFR 63.7550(c)(1)].
 - (i) Company and Facility name and address [40 CFR 63.7550(c)(5)(i)].
 - Process unit information, emissions limitations, and operating parameter limitations [40 CFR 63.7550(c)(5)(ii)].
 - (iii) Date of report and beginning and ending dates of the reporting period [40 CFR 63.7550(c)(5)(iii)].
 - (iv) Include the date of the most recent tune-up for each unit subject to only the requirement to conduct a 5-year tune-up according to 40 CFR 63.7540(a)(10). Include the date of the most recent burner inspection if it was not done annually and was delayed until the next scheduled or unscheduled unit shutdown [40 CFR 63.7550(c)(5)(xiv)].
 - (v) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report [40 CFR 63.7550(c)(5)(xvii)].
- h. The permittee must submit the reports according to the procedures specified in 40 CFR 63.7550(h)(1) through (3) [40 CFR 63.7550(h)].
- i. Refer to Section F.

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SECTION C - INSIGNIFICANT ACTIVITIES

The following listed activities have been determined to be insignificant activities for this source pursuant to 401 KAR 52:020, Section 6. Although these activities are designated as insignificant the permittee must comply with the applicable regulation. Process and emission control equipment at each insignificant activity subject to an opacity standard shall be inspected monthly and a qualitative visible emissions evaluation made. Results of the inspection, evaluation, and any corrective action shall be recorded in a log.

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FACILITY DESCRIPTION	CAPACITY (size/rate)	Applicable Regulations	
			Deleted: KMM chip preparation-ceased operation
		*	Deleted: 1,000 tons/day
▼	-		Deleted: 401 KAR 63:010
τ	۲		Deleted: KMM HO screen conveyor fan- ceased operation 1,500 tons/day
Demineralization	4.000.000 gallons/day	none	Deleted: 1,500 tons/day
Definiterunzunon	1,000,000 guilons, duy		Deleted: 401 KAR 63:010
¥	V		Deleted: KMM Recycle pulp area-ceased operation
▼			Deleted: 550 tons/day
	· · · · · · · · · · · · · · · · · · ·		Deleted: none
KMM fuel oil tank	158,000 gallons	none	Deleted: KMM condensate
KMM used oil tank	1,000 gallons	none	Deleted: 8,000 gallons
•			Deleted: none
	Υ	▼	Deleted: KMM mineral spirits tank- ceased operation
KMM weak liquor tank	Temporary storage tank	none	Deleted: 8,000 gallons
KMM kerosene	300 gallons	none	Deleted: none
D 1 1 4 1 1011	110.000 13/	none	Deleted: KMM sulfite storage hopper- ceased operation
Residual inert landfills	110,000 yd ³ /year	none	Deleted: 7,100 ft ³
▼	V		Deleted: none
DDM abamical prop area	600.000 A DP top/year	V	Deleted: Biospan methane generator- ceased operation
BFM chemical prep area	000,000 ADF ton/year	none	Deleted: 2,400 m ³ /day
BPM dryer machine fugitives	460 ADP ton/day	401 KAR 63:010	Deleted: none
BPM fuel oil storage tank	300,650 gallons	none	
BPM road diesel fuel storage tank	10,000 gallons	none	
BPM kerosene storage tank	300 gallons	none	
PCC plant	850 MD ton/day	401 KAR 63:010	

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SECTION C - INSIGNIFICANT ACTIVITIES (CONTINUED)

FACILITY DESCRIPTION	CAPACITY (size/rate)	Applicable Regulations
BPM contaminated water & filtrate storage tank	70 ODP ton/hour	none
K-1 Machine stock preparation tanks	292,000 ADP ton/year	none
K-1 machine chemical preparation	243,000 ODP ton/year	none
K-2 machine chemical preparation	694,980 ODP ton/year	none
Plant cooling towers	18,000,000 gallons/day	none
Rollover chip dump ventilation system	13,160 cfm	none
H-2 Paper machine vacuum pumps (2)	55.2 ADP ton/hr	none
Unit 42 – BPM bio-fuel boiler sludge processing	3.69 lb/hour sludge blend rate	none
Pulp dryer steam/condensate vent	Same as pulp dryer 167,900 ADP ton/year	none
H-1 vacuum pumps	6,000 cfm each (2 pumps)	none
Dregs filter hood exhaust fan	7,300 cfm	none
Mud filter hood exhaust fan	12,600 cfm	none
White liquor clarifiers D-509 D-510	1,057.479 gallons 794,291 gallons	none
BPM used oil tank	2000 gallons	none

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SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS

- 1. As required by Section 1b of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26; compliance with annual emissions and processing limitations contained in this permit, shall be based on emissions and processing rates for any twelve (12) consecutive months.
- 2. PM, SO₂, NO_x, CO, VOC, and visible (opacity) emissions, measured by applicable reference methods, or an equivalent or alternative method specified in 40 C.F.R. Chapter I, or by a test method specified in the state implementation plan shall not exceed the respective limitations specified herein.
- 3. The Method 9 readings shall be performed by a representative of the permittee certified in Visible Emissions Evaluations. The permittee shall maintain a list of all individuals that are certified Visible Emissions Evaluators and their date of certification.
- 4. 401 KAR 63:021, *Existing sources emitting toxic air pollutants*, effective date January 19, 1999, applies to sources in existence on the effective date of the regulation which were issued a permit with conditions based on 401 KAR 63:022. The source is required to comply with all conditions based on 401 KAR 63:022 unless it can demonstrate that a condition is no longer necessary to protect human health and the environment. Pursuant to the State-only regulation 401 KAR 63:021, the source wide emissions of toxic air pollutants shall not exceed the limits specified in the table below.

Hazardous or Toxic Air Pollutant	Hazardous or Toxic Air Pollutant Emission Rate Limits (lb/hr)
ClO ₂	3.24
Hydrogen chloride	358.8

Emissions Unit	Control unit/ requirement
Recovery Boiler #4	Shall comply with vendor operation specifications
Hogged Fuel Boiler #3	Shall comply with vendor operation specifications
Lime kiln no. 3	Shall comply with vendor operation specifications
Smelt Tank #4	High efficiency venturi scrubber or equivalent
Bleach Plant #3	Horizontal type spray scrubber or equivalent (shall monitor PSI of air to nozzle and flow rate to nozzle)

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SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS (CONTINUED)

Compliance Demonstration Method:

- a. Compliance with the source-wide emission limits shall be demonstrated by initial calculations of maximum controlled source-wide emission rates. Any time an affected facility is not vented through its control device (listed in Section B), calculations shall be updated. Calculations shall also be updated upon application for permit renewal. For those pollutants with no emission sources in service, calculations are not required until equipment is re-started.
- b. Retain calculations of maximum controlled source-wide emission rates of the pollutants listed above.
- c. Retain maintenance records for all air pollution control equipment controlling emissions of the pollutants listed above.
- 5. a. Pursuant to 40 CFR 64.6, the facility sent a Compliance Assurance Monitoring, (Table below) showing the monitoring approach for PM/PM₁₀ emissions control from the BPM recovery Boiler/furnace No. 3 and BPM recovery Boiler/furnace No. 4 using an ESP for each emissions unit. The permittee shall conduct this monitoring and fulfill the obligations to achieve compliance with an emission limitation for PM₁₀ at emission point EU 27 and EU29.

Item	Opacity	Number of ESP fields in operation	Work Practice Standard
	MONITORING APP	PROACH	
Indicator	Opacity	Number of ESP fields in operation and loss of power to individual fields.	Maintain proper operation of automatic voltage control (AVC)
Measurement Approach	Continuously measured using a COMS.	The presence of current across each ESP field shall be monitored instrumentally.	Maintain records indicating proper operation of AVC.
Indicator Range	Indicator range of 20% and 35%. An excursion is defined as any ten (10) six (6) minute average opacity measurements equal to or greater than 20%. Excursion also occurs if opacity measurements exceed 35% for 2% of the semiannual operating time or concurrent indication of ESP field loss and increase in opacity above the permitted limits. The permittee shall initiate an investigation corrective action following standard operating procedures; and semi-annual reporting requirements.	The indicator for each field is ≥1, indicating that the field is in operation.	NA

SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS (CONTINUED)

QIP Threshold	Excursions of 5% of the total continuous data recording period in any 6-month period.	NA	NA
	PERFORMANCE C	RITERIA	
Data Representativeness	Direct parameter measurement provides data representativeness		
Verification of Operational Status	Provided by following guidelines established by manufacturer recommendation or SOP, monitoring, recordkeeping, or compliance testing as required by the Division.		
QA/QC Practices and Criteria	If threshold is triggered, a QIP shall be developed and implemented. Details of the QA/QC practices shall be made available in the facility maintenance plans. Control device parameters will be maintained operated in accordance with SOPs and manufacturer's specifications. Opacity and cu measurement instrumentation will be operated maintained according to manufacturer recommendation. External and internal ESP inspections will occur no more than every 24 months. Records of all inspections shall be maintained.		eters will be maintained and e with SOPs and ications. Opacity and current entation will be operated and to manufacturer ernal and internal ESP no more than every 24 l inspections shall be
Monitoring Frequency	Monitored continuously		
Reporting	Monitored data reported to Division on semiannual basis. All 6-minute average opacity measurements above 35% shall be reported on a semiannual basis. Periods when average of ten (10) consecutive 6-minute average opacity measurements exceed 20% and periods when opacity measurements exceed 35% for more than 2 percent operating time within any semiannual period shall be reported on a semiannual basis. When no exceedances have occurred, statements of no exceedances shall be submitted on a semiannual basis.		

b. Pursuant to 40 CFR 64.6, the facility sent a Compliance Assurance Monitoring, (Table below) showing the monitoring approach for PM/PM₁₀ emissions control from the BPM Lime Kiln No. 3 using an ESP. The permittee shall conduct this monitoring and fulfill the obligations to achieve compliance with an emission limitation for PM₁₀ at emission point EU 36.

Item	Opacity	Number of ESP fields in operation	Work Practice Standard
MONITORING APPROACH			
Indicator	Opacity	Number of ESP fields in operation and loss of power to individual fields.	Maintain proper operation of automatic voltage control (AVC)
Measureme nt Approach	Continuously measured using a COMS.	The presence of current across each ESP field shall be monitored instrumentally.	Maintain records indicating proper operation of AVC.

SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS (CONTINUED)

Indicator Range	Indicator range of 20%. An excursion is defined as any ten (10) consecutive six (6) minute average opacity measurements equal to or greater than 20%.	The indicator for each field is ≥ 1 , indicating that the field is in operation.	NA
	Excursion also occurs if opacity measure for 3% of the semiannual operating time indication of ESP field loss and increase permitted limits. The permittee shall ini- corrective action following standard op- and semi-annual reporting requirements	rements exceed 20% e or concurrent e in opacity above the itiate an investigation, erating procedures; s.	
QIP Threshold	Excursions of 5% of the total continuous data recording period in any 6-month period.	NA	
	PERFORM	ANCE CRITERIA	
Data Representat iveness	Direct parameter measurement provides	s data representativenes:	5
Verificatio n of Operational Status	Provided by following guidelines estable recordkeeping, or compliance testing as	lished by manufacturer is required by the Divisio	recommendation or SOP, monitoring, n.
QA/QC Practices and Criteria	If threshold is triggered, a QIP shall be developed and implemented. Details of the QA/QC practices shall be made available in the facility maintenance plans. Control device parameters will be maintained and operated in accordance with SOPs and manufacturer's specifications. Opacity and current measurement instrumentation will be operated and maintained according to manufacturer recommendation. External and internal ESP inspections will occur no more than every 24 months. Records of all inspections shall be maintained.		eters will be maintained and operated DPs and manufacturer's specifications. neasurement instrumentation will be leed according to manufacturer ernal and internal ESP inspections will very 24 months. Records of all aintained.
Monitoring Frequency	Monitored continuously		
Reporting	Monitored data reported to Division on consecutive 6-minute average opacity n measurements exceed 20% for more tha shall be reported on a semiannual basis, exceedances shall be submitted on a seri	semiannual basis. Perio neasurements exceed 20 an 3 percent operating ti . When no exceedances miannual basis.	ds when the average of ten (10) % and periods when opacity me within any semiannual period have occurred, statements of no

c. Pursuant to 40 CFR 64.6, the facility sent a Compliance Assurance Monitoring, (Table below) showing the monitoring approach for PM/PM₁₀ and SO₂ emissions control from the BPM Smelt Tank No. 3 using a scrubber. The permittee shall conduct this monitoring and fulfill the obligations to achieve compliance with an emission limitation for PM₁₀ at emission point EU 28.

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SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS (CONTINUED)

Indicator	Indicator 1 Pressure drop across scrubber	Indicator 2 Scrubber liquid flow rate	Indicator 3 Scrubber pH (SO ₂ specific)
	MONITORING A	APPROACH	
Measurement Approach	Pressure drop across scrubber via scrubber differential pressure measured using a pressure gauge comparing the upstream and downstream pressures.	Scrubber liquid flow rate measured using an in-line magnetic flow meter.	Scrubber liquid pH (SO ₂ specific)
Indicator Range	Excursion is defined as a three-hour rolling average differential pressure greater than -7.45, inches of water**. An excursion will trigger an investigation, corrective action and reporting requirement.	An excursion is defined as a three-hour rolling average liquid flow rate less than 158, gpm*. An excursion will trigger an investigation, corrective action and reporting requirement.	pH shall be a minimum of 11.0.
	PERFORMANCE	CRITERIA	1
Data Representativeness	Representative data are provided by di location.	irect parameter measurement and	d/or instrument
Verification of Operational Status	By following guidelines established by recordkeeping, or compliance testing	y manufacturer specification or a as required by the Division.	SOP, monitoring,
QA/QC Practices and Criteria	Control device parameters will be maintained and operated in accordance with manufacturer recommendations and SOPs. Each control device will be inspected in accordance with manufacturer recommendations and SOPs. Records of inspections shall be maintained.	Control device parameters will be maintained and operated in accordance with manufacturer recommendations and SOPs. Each control device will be inspected in accordance with manufacturer recommendations and SOPs. Records of inspections shall be maintained.	Monitoring instrumentation will be maintained and operated in accordance with manufacturer recommendations and SOPs.
	PERFORMANCE	CRITERIA	
Monitoring Frequency	Monitored continuously via CMS. A three-hour rolling average will be calculated from this data.	Monitored continuously via CMS. A three-hour rolling average will be calculated from this data.	Once per 12-hour shift
Data Collection Procedure	Differential pressure monitored continuously and recorded electronically.	Scrubber liquid flow rate monitored continuously and recorded electronically.	Instrument reading manually recorded
Reporting	Monitored data shall be reported to the and periods when the three-hour rollin are below the minimum shall be repor three-hour rolling averages when the a	e Division on a semiannual basis ng average flow rate and differer ted as well as the total duration differential pressure is below the	s. Any pH excursion, tial pressure values of time or number of minimum value.

* Gallons per minute (gpm) indicator range is based on <u>average values during the most recent compliance test</u> performed in 2018, ** Indicator range is based on the average values during the most recent compliance test performed in 2018, **Deleted:** engineering tests performed during October 2002.

Deleted: of August 2008

SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS (CONTINUED)

d. Pursuant to 40 CFR 64.6, the facility sent a Compliance Assurance Monitoring, (Table below) showing the monitoring approach for PM/PM₁₀ and SO₂ emissions control from the BPM Smelt Tank No. 4 using a wet scrubber. The permittee shall conduct this monitoring and fulfill the obligations to achieve compliance with an emission limitation for PM/PM₁₀ and SO₂ at emission point EU 30.

Indicator	Indicator 1 Scrubber pressure differential	Indicator 2 Scrubber liquid flow rate	Indicator 3 Scrubber pH	
	MONITOR	ING APPROACH		
Measurement Approach	Pressure drop across scrubber via scrubber differential pressure measured using a pressure gauge comparing the upstream and downstream pressures.	Scrubber liquid flow rate measured using an in-line magnetic flow meter.	Scrubber liquid pH (SO ₂ specific)	
Indicator Range	Excursion is defined as a three-hour rolling average differential pressure greater than -0.15, inches of water**. Excursion is defined as a three-hour rolling average liquid flow rate less than 309, gpm*. An excursion will trigger an investigation, corrective action and reporting requirement.		pH shall be a minimum of 11.0.	
PERFORMANCE CRITERIA				
Data Representativeness	Representative data are provided	by direct parameter measurem	ent and/or instrument location.	
Verification of Operational Status	By following guidelines established by manufacturer specification or SOP, monitoring, recordkeeping, or compliance testing as required by the Division.			
QA/QC Practices and Criteria	Control device parameters will be maintained and operated in accordance with manufacturer recommendations and SOPs. Each control device will be inspected in accordance with manufacturer recommendations and SOPs. Records of inspections shall be maintained.	Control device parameters will be maintained and operated in accordance with manufacturer recommendations and SOPs. Each control device will be inspected in accordance with manufacturer recommendations and SOPs. Records of inspections shall be maintained.	Control device parameters will be maintained and operated in accordance with manufacturer recommendations and SOPs. Each control device will be inspected in accordance with manufacturer recommendations and SOPs. Records of inspections shall be maintained.	
Monitoring Frequency	Monitored continuously via CMS. A three-hour rolling average will be calculated from this data.	Monitored continuously via CMS. A three-hour rolling average will be calculated from this data.	Once per 12-hour shift	

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SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS (CONTINUED)

Indicator	Indicator 1 Scrubber pressure differential	Indicator 2 Scrubber liquid flow rate	Indicator 3 Scrubber pH
Data Collection Procedure	Differential pressure monitored continuously and recorded electronically.	Scrubber liquid flow rate monitored continuously and recorded electronically.	Instrument reading manually recorded
Reporting	Monitored data shall be reported to the Division on a semiannual basis. Any pH excursion, and periods when the three-hour rolling average flow rate and differential pressure values are below the minimum shall be reported as well as the total duration of time or number of three-hour rolling average when the differential pressure is below the minimum value.		

* gallons per minute (gpm) indicator range is based on the average values during the most recent compliance test performed in 2018,
** Indicator range is based on the average values during the most recent compliance test performed in 2018.

e. Pursuant to 40 CFR 64.6, the facility sent a Compliance Assurance Monitoring, (Table below) showing the monitoring approach for PM/PM₁₀ and SO₂ emissions control from the BPM NCG/SOG incinerator using a wet scrubber. The permittee shall conduct this monitoring and fulfill the obligations to achieve compliance with an emission limitation for PM/PM₁₀ and SO₂ at emission point EU 40.

Indicator	Indicator 1 Scrubber liquid pH	Indicator 2 Scrubber liquid flow rate	
	MONITORING APPROAC	CH	
Measurement Approach	Scrubber liquid pH	Scrubber liquid flow rate measured using an in-line magnetic flow meter.	
Indicator Range	An excursion is defined as failure to record the pH and/or a three-hour rolling average scrubber pH less than 9.0. An excursion will trigger an investigation, corrective action and reporting requirement.	An excursion is defined as a three-hour rolling average liquid flow rate less than 250 gpm [*] . An excursion will trigger an investigation, corrective action and reporting requirement.	
PERFORMANCE CRITERIA			
Data Representativeness	Direct parameter measurement and instrument location.	Direct parameter measurement and instrument location.	
Verification of Operational Status	pH is recorded continuously	Scrubber liquid flow rate is recorded continuously	
QA/QC Practices and Criteria	Control device parameters will be maintained and operated in accordance with SOPs. Monitoring instrumentation and control device parameters will be maintained and operated in accordance with manufacturer recommendations and SOPs. Each control device will be inspected in accordance with manufacturer recommendations and SOPs. Records of all inspections shall be maintained.		
Monitoring Frequency	Monitored continuously via CMS. One (1)-hour averages will be calculated from this data.		

Deleted: engineering tests performed during October 2002.

Deleted: of August 2008

SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS (CONTINUED)

Indicator	Indicator 1 Scrubber liquid pH	Indicator 2 Scrubber liquid flow rate	
Data Collection Procedure	Scrubber liquid pH monitored continuously and recorded electronically.	Scrubber liquid flow rate monitored continuously and recorded electronically.	

*The indicator range is based on engineering evaluation and data from prior actual performance test, performed August 2002.

f. Pursuant to 40 CFR 64.6, the facility sent a Compliance Assurance Monitoring, (Table below) showing the monitoring approach for PM/PM₁₀ emissions control BPM bio-fuel boiler using an ESP. The permittee shall conduct this monitoring and fulfill the obligations to achieve compliance with an emission limitation for PM/PM₁₀ at emission point EU 42.

Item Opacity		Number of ESP fields in operation		
	MONITORING APPROACH			
Indicator Opacity		Number of ESP fields in operation and loss of power to individual fields		
Measurement Approach	Continuously measured using a COMS. Data collected electronically	Use of instrument to measure current across each ESP field, data recorded electronically.		
Indicator Range	Indicator range of 20%. An excursion is defined as any three (3) consecutive 6-minute average opacity measurements equal to or greater than 20%. Excursion also occurs if there is concurrent indication of ESP field loss of current and increase in opacity above the permitted limits. The permittee shall initiate an investigation, corrective action following procedures established in work instruction; and semi-annual reporting requirements.	Indicator ≥1, indicating that the field is in operation. An excursion is defined as a concurrent indication of ESP field loss of current and an increase in opacity above the permitted limits. The permittee shall initiate an investigation, corrective action following procedures established in work instruction; and semi-annual reporting requirements.		
QIP Excursions of 5% of the total continuous data Threshold recording period in any rolling 3-month period.		NA		
PERFORMANCE CRITERIA				
Data Representati veness	Direct parameter measurement provides data representativeness	Direct parameter measurement provides data representativeness		
Verification of Operational Status	Provided by following guidelines established by manufacturer recommendation or SOP, monitoring, recordkeeping, or compliance testing as required by the Division.	Provided by following guidelines established by manufacturer recommendation or SOP, monitoring, recordkeeping, or compliance testing as required by the Division.		
QA/QC Practices and Criteria	If threshold is triggered, a QIP shall be developed and implemented. Details of the QA/QC practices shall be made available in the facility maintenance plans.	Current measurement instrumentation shall be maintained and operated according to manufacturer recommendation. The ESP shall be inspected internally and externally no more than every 24 months. Records of all inspections shall be maintained.		

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SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS (CONTINUED)

Monitoring Frequency	Monitored continuously	Monitored continuously	
Reporting	Monitored data shall be reported to the Division on a semiannual basis. Periods when th consecutive 6-minute average opacity measurements exceed 20% shall be reported on a basis.		

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SECTION E - SOURCE CONTROL EQUIPMENT REQUIREMENTS

- 1. Pursuant to 401 KAR 50:055, Section 2(5), at all times, including periods of startup, shutdown and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Division which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.
- 2. At all times, the permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source [40 CFR 63.453(q)].
- 3. *Recordkeeping of malfunctions*. The permittee must maintain the following records of malfunctions [40 CFR 63.454(g)]:
 - (1) Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment.
 - (2) Records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR 63.453(q), 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)].
- 4. Malfunction reporting requirements. If a malfunction occurred during the reporting period, the report must include the number, duration and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by the permittee during a malfunction of an affected source to minimize emissions in accordance with 40 CFR 63.453(q), including actions taken to correct a malfunction [40 CFR 63.455(g)].

SECTION F - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS

- 1. Pursuant to Section 1b-IV-1 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26, when continuing compliance is demonstrated by periodic testing or instrumental monitoring, the permittee shall compile records of required monitoring information that include:
 - a. Date, place as defined in this permit, and time of sampling or measurements;
 - b. Analyses performance dates;
 - c. Company or entity that performed analyses;
 - d. Analytical techniques or methods used;
 - e. Analyses results; and
 - f. Operating conditions during time of sampling or measurement.
- 2 Records of all required monitoring data and support information, including calibrations, maintenance records, and original strip chart recordings, and copies of all reports required by the Division for Air Quality, shall be retained by the permittee for a period of five (5) years and shall be made available for inspection upon request by any duly authorized representative of the Division for Air Quality [Sections 1b-IV-2 and 1a-8 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
- 3. In accordance with the requirements of 401 KAR 52:020, Section 3(1)h, the permittee shall allow authorized representatives of the Cabinet to perform the following during reasonable times:
 - a. Enter upon the premises to inspect any facility, equipment (including air pollution control equipment), practice, or operation;
 - b. To access and copy any records required by the permit:
 - c. Sample or monitor, at reasonable times, substances or parameters to assure compliance with the permit or any applicable requirements.

Reasonable times are defined as during all hours of operation, during normal office hours; or during an emergency.

- 4. No person shall obstruct, hamper, or interfere with any Cabinet employee or authorized representative while in the process of carrying out official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.
- 5. Summary reports of any monitoring required by this permit shall be submitted to the Regional Office listed on the front of this permit at least every six (6) months during the life of this permit, unless otherwise stated in this permit. For emission units that were still under construction or which had not commenced operation at the end of the 6-month period covered by the report and are subject to monitoring requirements in this permit, the report shall indicate that no monitoring was performed during the previous six months because the emission unit was not in operation [Sections 1b-V-1 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

SECTION F - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS (CONTINUED)

- 6 The semi-annual reports are due by January 30th and July 30th of each year. All reports shall be certified by a responsible official pursuant to 401 KAR 52:020, Section 23. If continuous emission and opacity monitors are required by regulation or this permit, data shall be reported in accordance with the requirements of 401 KAR 59:005, General Provisions, Section 3(3). All deviations from permit requirements shall be clearly identified in the reports.
- In accordance with the provisions of 401 KAR 50:055, Section 1, the owner or operator shall notify the Regional Office listed on the front of this permit concerning startups, shutdowns, or malfunctions as follows:
 - a. When emissions during any planned shutdowns and ensuing startups will exceed the standards, notification shall be made no later than three (3) days before the planned shutdown, or immediately following the decision to shut down, if the shutdown is due to events which could not have been foreseen three (3) days before the shutdown.
 - b. When emissions due to malfunctions, unplanned shutdowns and ensuing startups are or may be in excess of the standards, notification shall be made as promptly as possible by telephone (or other electronic media) and shall be submitted in writing upon request.
- 8 The permittee shall promptly report deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken shall be submitted to the Regional Office listed on the front of this permit. Where the underlying applicable requirement contains a definition of prompt or otherwise specifies a time frame for reporting deviations, that definition or time frame shall govern. Where the underlying applicable requirement does not identify a specific time frame for reporting deviations, prompt reporting, as required by Sections 1b-V, 3 and 4 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26, shall be defined as follows:
 - a. For emissions of a HAP or a toxic air pollutant (as identified in an applicable regulation) that continue for more than an hour in excess of permit requirements, the report must be made within 24 hours of the occurrence.
 - b. For emissions of any regulated air pollutant, excluding those listed in F.8.a., that continue for more than two hours in excess of permit requirements, the report must be made within 48 hours.
 - c. All deviations from permit requirements, including those previously reported, shall be included in the semiannual report required by F.6.
- 9. Pursuant to 401 KAR 52:020, Title V permits, Section 21, the permittee shall annually certify compliance with the terms and conditions contained in this permit, by completing and returning a Compliance Certification Form (DEP 7007CC) (or an alternative approved by the regional office) to the Regional Office listed on the front of this permit and the U.S. EPA in accordance with the following requirements:
 - a. Identification of the term or condition;
 - b. Compliance status of each term or condition of the permit;
 - c. Whether compliance was continuous or intermittent;
 - The method used for determining the compliance status for the source, currently and over the reporting period.

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SECTION F - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS (CONTINUED)

- e. For an emissions unit that was still under construction or which has not commenced operation at the end of the 12-month period covered by the annual compliance certification, the permittee shall indicate that the unit is under construction and that compliance with any applicable requirements will be demonstrated within the timeframes specified in the permit.
- f. The certification shall be submitted by January 30th of each year. Annual compliance certifications shall be sent to the following addresses:

Division for Air Quality Owensboro Regional Office 3032 Alvey Park Drive W. Suite 700 Owensboro, KY 42303 U.S. EPA Region 4 Air Enforcement Branch Atlanta Federal Center 61 Forsyth St. SW Atlanta, GA 30303-8960

10. In accordance with 401 KAR 52:020, Section 22, the permittee shall provide the Division with all information necessary to determine its subject emissions within 30 days of the date the Kentucky Emissions Inventory System (KYEIS) emissions survey is mailed to the permittee.

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SECTION G - GENERAL PROVISIONS

1. General Compliance Requirements

- a. The permittee shall comply with all conditions of this permit. Noncompliance shall be a violation of 401 KAR 52:020, Section 3(1)(b), and a violation of Federal Statute 42 USC 7401 through 7671q (the Clean Air Act). Noncompliance with this permit is grounds for enforcement action including but not limited to termination, revocation and reissuance, revision or denial of a permit [Section 1a-3 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
- b. The filing of a request by the permittee for any permit revision, revocation, reissuance, or termination, or of a notification of a planned change or anticipated noncompliance, shall not stay any permit condition [Section 1a-6 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
- c. This permit may be revised, revoked, reopened and reissued, or terminated for cause in accordance with 401 KAR 52:020, Section 19. The permit will be reopened for cause and revised accordingly under the following circumstances:
 - (1) If additional applicable requirements become applicable to the source and the remaining permit term is three (3) years or longer. In this case, the reopening shall be completed no later than eighteen (18) months after promulgation of the applicable requirement. A reopening shall not be required if compliance with the applicable requirement is not required until after the date on which the permit is due to expire, unless this permit or any of its terms and conditions have been extended pursuant to 401 KAR 52:020, Section 12;
 - (2) The Cabinet or the United States Environmental Protection Agency (U. S. EPA) determines that the permit must be revised or revoked to assure compliance with the applicable requirements;
 - (3) The Cabinet or the U. S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit;
 - (4) New requirements become applicable to a source subject to the Acid Rain Program.

Proceedings to reopen and reissue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. Reopenings shall be made as expeditiously as practicable. Reopenings shall not be initiated before a notice of intent to reopen is provided to the source by the Division, at least thirty (30) days in advance of the date the permit is to be reopened, except that the Division may provide a shorter time period in the case of an emergency.

- d. The permittee shall furnish information upon request of the Cabinet to determine if cause exists for modifying, revoking and reissuing, or terminating the permit; or to determine compliance with the conditions of this permit [Sections 1a- 7 and 8 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
- e. Emission units described in this permit shall demonstrate compliance with applicable requirements if requested by the Division [401 KAR 52:020, Section 3(1)(c)].

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SECTION G - GENERAL PROVISIONS (CONTINUED)

- f. The permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to the permitting authority [401 KAR 52:020, Section 7(1)].
- g. Any condition or portion of this permit which becomes suspended or is ruled invalid as a result of any legal or other action shall not invalidate any other portion or condition of this permit [Section 1a-14 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
- h. The permittee shall not use as a defense in an enforcement action the contention that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance [Section 1a-4 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
- i. All emission limitations and standards contained in this permit shall be enforceable as a practical matter. All emission limitations and standards contained in this permit are enforceable by the U.S. EPA and citizens except for those specifically identified in this permit as state-origin requirements. [Section 1a-15 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
- j. This permit shall be subject to suspension if the permittee fails to pay all emissions fees within 90 days after the date of notice as specified in 401 KAR 50:038, Section 3(6) [Section 1a-10 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
- k. Nothing in this permit shall alter or affect the liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance [401 KAR 52:020, Section 11(3) 2].
- 1. This permit does not convey property rights or exclusive privileges [Section 1a-9 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
- m. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by the Cabinet or any other federal, state, or local agency.
- n. Nothing in this permit shall alter or affect the authority of U.S. EPA to obtain information pursuant to Federal Statute 42 USC 7414, Inspections, monitoring, and entry [401 KAR 52:020, Section 11(3) 4.].
- Nothing in this permit shall alter or affect the authority of U.S. EPA to impose emergency orders pursuant to Federal Statute 42 USC 7603, Emergency orders [401 KAR 52:020, Section 11(3) 1.].

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SECTION G - GENERAL PROVISIONS (CONTINUED)

- p. This permit consolidates the authority of any previously issued PSD, NSR, or Synthetic Minor source preconstruction permit terms and conditions for various emission units and incorporates all requirements of those existing permits into one single permit for this source.
- q. Pursuant to 401 KAR 52:020, Section 11, a permit shield shall not protect the owner or operator from enforcement actions for violating an applicable requirement prior to or at the time of permit issuance. Compliance with the conditions of this permit shall be considered compliance with:
 - (1) Applicable requirements that are included and specifically identified in this permit; and
 - (2) Non-applicable requirements expressly identified in this permit.
- 2. Permit Expiration and Reapplication Requirements
 - a. This permit shall remain in effect for a fixed term of five (5) years following the original date of issue. Permit expiration shall terminate the source's right to operate unless a timely and complete renewal application has been submitted to the Division at least six (6) months prior to the expiration date of the permit. Upon a timely and complete submittal, the authorization to operate within the terms and conditions of this permit, including any permit shield, shall remain in effect beyond the expiration date, until the renewal permit is issued or denied by the Division [401 KAR 52:020, Section 12].
 - b. The authority to operate granted shall cease to apply if the source fails to submit additional information requested by the Division after the completeness determination has been made on any application, by whatever deadline the Division sets [401 KAR 52:020, Section 8(2)].
- 3. Permit Revisions
 - a. A minor permit revision procedure may be used for permit revisions involving the use of economic incentive, marketable permit, emission trading, and other similar approaches, to the extent that these minor permit revision procedures are explicitly provided for in the State Implementation Plan (SIP) or in applicable requirements and meet the relevant requirements of 401 KAR 52:020, Section 14(2).
 - b. This permit is not transferable by the permittee. Future owners and operators shall obtain a new permit from the Division for Air Quality. The new permit may be processed as an administrative amendment if no other change in this permit is necessary, and provided that a written agreement containing a specific date for transfer of permit responsibility coverage and liability between the current and new permittee has been submitted to the permitting authority within ten (10) days following the transfer.

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SECTION G - GENERAL PROVISIONS (CONTINUED)

4. Construction, Start-Up, and Initial Compliance Demonstration Requirements

Pursuant to a duly submitted application the Kentucky Division for Air Quality hereby authorizes the construction of the equipment described herein, emission units EU-59 in accordance with the terms and conditions of Permit V-18-007.

- Construction of any process and/or air pollution control equipment authorized by Permit V-18-007 shall be conducted and completed only in compliance with the conditions of Permit V-18-007.
- b. Within thirty (30) days following commencement of construction and within fifteen (15) days following start-up and attainment of the maximum production rate specified in the permit application, or within fifteen (15) days following the issuance date of Permit V-18-007, whichever is later, the permittee shall furnish to the Regional Office listed on the front of Permit V-18-007 in writing, notification of the following:
 - (1) The date when construction commenced.
 - (2) The date of start-up of the affected facilities listed in this permit.
 - (3) The date when the maximum production rate specified in the permit application was achieved.
- c. Pursuant to 401 KAR 52:020, Section 3(2), unless construction is commenced within eighteen (18) months after Permit V-18-007 is issued, or begins but is discontinued for a period of eighteen (18) months or is not completed within a reasonable timeframe then the construction and operating authority granted by Permit V-18-007 for those affected facilities for which construction was not completed shall immediately become invalid. Upon written request, the Cabinet may extend these time periods if the source shows good cause.
- d. Pursuant to 401 KAR 50:055, Section 2(1)(a), an owner or operator of any affected facility subject to any standard within the administrative regulations of the Division for Air Quality shall-demonstrate compliance with the applicable standard(s) within sixty (60) days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial start-up of such facility. Pursuant to 401 KAR 52:020, Section 3(3)(c), sources that have not demonstrated compliance within the timeframes prescribed in 401 KAR 50:055, Section 2(1)(a), shall operate the affected facility only for purposes of demonstrating compliance unless authorized under an approved compliance plan or an order of the cabinet.
- e. Permit V-18-007 shall allow time for the initial start-up, operation, and compliance demonstration of the affected facilities listed herein. However, within sixty (60) days after achieving the maximum production rate at which the affected facilities will be operated but not later than 180 days after initial start-up of such facilities, the permittee shall conduct a performance demonstration on the affected facilities in accordance with 401 KAR 50:055, General compliance requirements. Testing must also be conducted in accordance with General Provisions G.5 of Permit V-18-007.
- f. Terms and conditions in Permit V-18-007 established pursuant to the construction authority of 401 KAR 51:017 or 401 KAR 51:052 shall not expire.

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SECTION G - GENERAL PROVISIONS (CONTINUED)

5. Testing Requirements

- a. Pursuant to 401 KAR 50:045, Section 2, a source required to conduct a performance test shall submit a completed Compliance Test Protocol form, DEP form 6028, or a test protocol a source has developed for submission to other regulatory agencies, in a format approved by the cabinet, to the Division's Frankfort Central Office a minimum of sixty (60) days prior to the scheduled test date. Pursuant to 401 KAR 50:045, Section 7, the Division shall be notified of the actual test date at least thirty (30) days prior to the test.
- b. Pursuant to 401 KAR 50:045, Section 5, in order to demonstrate that a source is capable of complying with a standard at all times, any required performance test shall be conducted under normal conditions that are representative of the source's operations and create the highest rate of emissions. If [When] the maximum production rate represents a source's highest emissions rate and a performance test is conducted at less than the maximum production rate, a source shall be limited to a production rate of no greater than 110 percent of the average production rate during the performance tests. If and when the facility is capable of operation at the rate specified in the application, the source may retest to demonstrate compliance at the new production rate. The Division for Air Quality may waive these requirements on a case-by-case basis if the source demonstrates to the Division's satisfaction that the source is in compliance with all applicable requirements.
- c. Results of performance test(s) required by the permit shall be submitted to the Division by the source or its representative within forty-five days or sooner if required by an applicable standard, after the completion of the fieldwork.

6. Acid Rain Program Requirements

- a. If an applicable requirement of Federal Statute 42 USC 7401 through 7671q (the Clean Air Act) is more stringent than an applicable requirement promulgated pursuant to Federal Statute 42 USC 7651 through 7651o (Title IV of the Act), both provisions shall apply, and both shall be state and federally enforceable.
- b. The permittee shall comply with all applicable requirements and conditions of the Acid Rain Permit and the Phase II permit application (including the Phase II NOx compliance plan and averaging plan, if applicable) incorporated into the Title V permit issued for this source. The source shall also comply with all requirements of any revised or future acid rain permit(s) issued to this source.

7. Emergency Provisions

- a. Pursuant to 401 KAR 52:020, Section 24(1), an emergency shall constitute an affirmative defense to an action brought for the noncompliance with the technology-based emission limitations if the permittee demonstrates through properly signed contemporaneous operating logs or relevant evidence that:
 - (1) An emergency occurred and the permittee can identify the cause of the emergency;
 - (2) The permitted facility was at the time being properly operated;

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SECTION G - GENERAL PROVISIONS (CONTINUED)

- (3) During an emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
- (4) Pursuant to 401 KAR 52:020, 401 KAR 50:055, and KRS 224.1-400, the permittee notified the Division as promptly as possible and submitted written notice of the emergency to the Division when emission limitations were exceeded due to an emergency. The notice shall include a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.
- (5) This requirement does not relieve the source of other local, state or federal notification requirements.
- b. Emergency conditions listed in General Condition G.7.a above are in addition to any emergency or upset provision(s) contained in an applicable requirement [401 KAR 52:020, Section 24(3)].
- c. In an enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof [401 KAR 52:020, Section 24(2)].

8. Ozone Depleting Substances

- a. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:
 - Persons opening appliances for maintenance, service, repair, or disposal shall comply with the required practices contained in 40 CFR 82.156.
 - (2) Equipment used during the maintenance, service, repair, or disposal of appliances shall comply with the standards for recycling and recovery equipment contained in 40 CFR 82.158.
 - (3) Persons performing maintenance, service, repair, or disposal of appliances shall be certified by an approved technician certification program pursuant to 40 CFR 82.161.
 - (4) Persons disposing of small appliances, MVACs, and MVAC-like appliances (as defined at 40 CFR 82.152) shall comply with the recordkeeping requirements pursuant to 40 CFR 82.166
 - (5) Persons owning commercial or industrial process refrigeration equipment shall comply with the leak repair requirements pursuant to 40 CFR 82.156.
 - (6) Owners/operators of appliances normally containing 50 or more pounds of refrigerant shall keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.166.
- b. If the permittee performs service on motor (fleet) vehicle air conditioners containing ozone-depleting substances, the source shall comply with all applicable requirements as specified in 40 CFR 82, Subpart B, *Servicing of Motor Vehicle Air Conditioners*.

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SECTION G - GENERAL PROVISIONS (CONTINUED)

9. Risk Management Provisions

a. The permittee shall comply with all applicable requirements of 401 KAR Chapter 68, Chemical Accident Prevention, which incorporates by reference 40 CFR Part 68, Risk Management Plan provisions. If required, the permittee shall comply with the Risk Management Program and submit a Risk Management Plan to:

RMP Reporting Center P.O. Box 10162 Fairfax, VA 22038

b. If requested, submit additional relevant information to the Division or the U.S. EPA.

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SECTION H - ALTERNATE OPERATING SCENARIOS

None

SECTION I – COMPLIANCE SCHEDULE

None

APPENDIX D

COPIES OF PERMIT MODIFICATION APPLICATIONS / CORRESPONDENCE SUBMITTED AFTER ISSUANCE OF V-18-007

Domtar Paper Company, LLC Hawesville Mill P.O. Box 130 Hawesville, KY 42348 USA Tel (270) 927-6961 Fax (270) 927-9929



August 14th, 2018

Ms. Durga Patil Division for Air Quality 300 Sower Blvd., 2nd Floor Frankfort, Kentucky 40601

RE: Domtar Paper Company, Hawesville, Kentucky A.I. # 43431, Title V Permit No. V-12-036 R2 Notification of Off-Permit Change

Dear Ms. Patil:

Domtar Paper Company (Domtar), located in Hawesville, Kentucky, currently operates under Title V Permit V-12-036 (R2).

Domtar exhausts the gas steam from the No.4 Smelt Dissolving Tank (EU30) through a wet Ducon Dynamic type scrubber for the control of PM, SO2, and TRS emissions. The scrubber currently is not equipped with a mist elimination system for liquid entrainment. Domtar is proposing the installation of a scrubber mist elimination system using a "Radial Spin Vane" type system to increase liquid entrainment. This improved capture of the exhausting liquid is expected to also improve the capture of the suspended solids decreasing the potential particulate emissions.

The permit conditions specific to the scrubber are for monitoring and recording of specific operational parameters listed under EU30's Specific Monitoring Requirements, Specific Recordkeeping Requirements and within the Compliance Assurance Monitoring (CAM) plan. At this point, it is not known if any changes to the operational parameters including scrubber pressure drop or differential pressure, scrubber liquid supply pressure, or pH will change due to the installation. Domtar does foresee a potential decrease in scrubber liquid flow. All parameters will be established or verified during the upcoming 5-year performance/compliance testing to occur in late 2018 early 2019.

No additional changes to the permit are necessary, including emission limits and compliance demonstration methods. The new Spin Vane mist elimination system will provide improved exhausting liquid entrainment and an equivalent, if not better, level of PM control as well as providing operational flexability.

This change qualifies as an Off-Permit Change in accordance with 401 KAR 52:020, Section 17 because it meets the following criteria:

- (a) The change is not a modification under Title I of the Act;
- (b) The change is not subject to the Acid Rain Program;
- (c) The change does not violate any existing terms or conditions of the permit; and
- (d) The change meets all applicable requirements.

Domtar is proposing to begin implementing reconfiguration in September 2018. For any questions regarding this submittal, you may contact me at (270) 927-7387.

Sincerely,

Adam Krieg O Environmental Engineer



June 7, 2019

Ms. Durga Patil, Supervisor Chemical Section, Permit Review Branch Kentucky Division for Air Quality 300 Sower Blvd., 2nd Floor Frankfort, KY 40601

RE: Domtar Paper Company, LLC – Hawesville, KY A.I. 43431 Minor Permit Modification Application – Title V Permit V-18-007

Dear Ms. Patil,

On behalf of Domtar Paper Company, LLC, Kenvirons, Inc. is submitting this application for a minor permit revision for Domtar Paper Company, located in Hawesville, Kentucky. This application covers the No. 3 Recovery Boiler (EU27) generating bank replacement project that we discussed in our meeting with the Division on May 1, 2019, and also includes proposed revisions to permit language for the Backup Boiler (EU 59).

Please do not hesitate to contact Mr. Adam Krieg at 270-927-7387 or me at 502-695-4357 for any questions relating to this permit application.

Very Sincerely,

Clinos P. Wath

Chris Wathen, P.E. Vice President

cc: Sean Lane, Domtar Adam Krieg, P.E., Domtar



MINOR MODIFICATION AIR PERMIT APPLICATION NO. 3 RECOVERY BOILER GENERATING BANK TUBE REPLACEMENT PROJECT AND PACKAGE BOILER TUNE-UP PROVISIONS

> DOMTAR PAPER COMPANY, LLC HAWESVILLE, KENTUCKY

> > **Prepared For:**

DOMTAR PAPER COMPANY, LLC HAWESVILLE, KENTUCKY

By:

KENVIRONS, INC. FRANKFORT, KENTUCKY

PROJECT NUMBER 2019003

JUNE 2019



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1.0 INTRODUCTION

Domtar Paper Company, located in Hawesville, Kentucky, is planning a project to rebuild the generating bank in the No.3 Recovery Boiler at the mill. Availability of the No. 3 Recovery Boiler is critical since the boiler is a key unit for recovery of pulping chemicals and steam generation at the mill. This project will include replacing many of the boiler tubes in the unit which have become thin due to corrosion over time, with tube replacement integral for safe operation of the boiler without significant unplanned downtime due to generating bank failure. The project is necessary to assure future availability of the boiler to mill to facilitate both production demands and energy demands.

Additionally, Domtar wishes to revise some of the language in Title V Permit No. V-18-007 for the Backup Boiler (Emission Unit 59) to reflect the proper regulatory option applicable to the unit for conducting boiler tune-ups.

As described in Section 4 of this application, the No. 3 Recovery Boiler project along with the proposed change to permit language for the Backup Boiler will qualify as a minor permit revision. Therefore, this document is a minor permit revision application to permit V-18-007 for (a) the No. 3 Recovery Boiler generating bank tube replacement project and (b) changes to the boiler tune-up requirements for the Backup Boiler.

1.1 NO. 3 RECOVERY BOILER

The No. 3 Recovery Boiler, constructed in 1985, is currently permitted as Emission Unit 27 in Title V Permit No. V-18-007. The project will not increase the firing rate of the boiler and will not affect emissions of regulated air pollutants. However, U.S. EPA Region IV has previously determined¹ for another pulp and paper mill that such a significant project on a recovery boiler does not qualify as routine maintenance or repair, and may be subject to review under the Prevention of Significant Deterioration (PSD) regulations due to increasing the life of the boiler and possibly the utilization of the boiler. If the project results in an increase in emissions of a PSD regulated pollutant above the PSD significant levels in 401 KAR 51:017, the project will be subject to PSD review.

In order to determine whether the project will trigger a PSD review, it is necessary to compare pre-project existing actual emissions to post-project projected actual emissions. This analysis is performed in accordance with the New Source Review (NSR) procedures in 401 KAR 51:017, Section (1)(4), 401 KAR 51:001 (20)(b) for baseline actual emissions, and 401 KAR 51:001 (199)(a)

¹ September 14, 2001 letter from Greg Worley of U.S. EPA Region IV to Barry Stephens of the Tennessee Department of Environment and Conservation, Division of Air Pollution Control

for future projected actual emissions. Accordingly, for this project analysis, baseline actual emissions are calculated as the maximum amount emitted for each PSD regulated pollutant during any consecutive 24-month period within the 10 years preceding the project. Projected actual emissions are calculated as the maximum annual rate, in tons per year, at which an existing emissions unit is projected to emit a regulated NSR pollutant in any 1 of the 5 years, in a 12 month period, following completion of the project.

If the difference between the projected actual emissions and baseline actual emissions results in a significant emissions increase for any PSD regulated pollutant, then a PSD analysis is required. If calculated emissions increases for all PSD regulated pollutants are less than the respective significant levels, then PSD review is not triggered.

1.2 BACKUP BOILER

The Backup Boiler (Package Boiler), which is listed under Emission Unit 59 in Title V Permit No. V-18-007, is currently subject to regulatory requirements under 40 CFR 63, Subpart DDDDD that require regular tune-ups to be conducted on the boiler. The current permit language requires annual boiler tune-ups in accordance with Subpart DDDDD. Since the boiler is equipped with a continuous oxygen trim system that maintains an optimum air to fuel ratio, Subpart DDDDD specifies a 5-year frequency for boiler tune-ups as opposed to annual tune-ups as currently required in the permit. Domtar wished to change the permit language to remove the requirement for annual tune-ups and replace that language with the requirement for conducting the tune-ups every five years.

2.0 REGULAORY APPLICABILITY

This section addresses applicable regulations for the No. 3 Recovery Boiler and Backup Boiler, respectively, which are relevant to the proposed project and permit language for these two emission units.

2.1 NO. 3 RECOVERY BOILER

2.1.1 PREVENTION OF SIGNIFICANT DETERIORATION

The requirements for the prevention of significant deterioration of air quality (PSD) are contained in 401 KAR 51:017 and apply to any new major stationary source or major modification of an existing major stationary source located in an area designated attainment or unclassifiable. A project that modifies an existing emission unit at an existing major stationary source, such as Domtar, is classified as a "major modification" if the project results in a significant emissions increase of a regulated NSR pollutant. 401 KAR 51:001 Section 1(114).

Title V Permit V-18-007 lists 401 KAR 51:017 as an applicable regulation due to the PSD provisions being triggered when the No. 3 Recovery Boiler was originally permitted as a new source of emissions at the mill. The No. 3 Recovery Boiler commenced operation in 1985.

As Section 3 of this application shows, the generating bank tube replacement project will not constitute a major modification under 401 KAR 51:017, therefore the PSD provisions will not be triggered for this project.

2.1.2 NEW SOURCE PERFORMANCE STANDARDS (NSPS)

40 CFR 60, Subpart Db - Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units

This NSPS applies to the No. 3 Recovery Boiler since it is a subject steam generating unit, however it is exempt from the requirements of 40 CFR 60, Subpart Db for NOx and SO₂ emissions based on the federally enforceable limit on annual capacity factor for combusting natural gas.

40 CFR 60, Subpart BB - Standards of Performance for Kraft Pulp Mills

This NSPS applies to the No. 3 Recovery Boiler since it is a recovery boiler at a Kraft Pulp mill that commenced construction, reconstruction, or modification after September 24, 1976, and on or before May 23, 2013. Subpart BB regulates emissions of PM and TRS from the No. 3 Recovery Boiler, and requires continuous monitoring for opacity and TRS. This regulation will still apply to the

No. 3 Recovery Boiler after completion of the generating bank project since the project will not constitute a "reconstruction" of the unit as described in Section 2.4 of this application.

2.1.3 MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY STANDARDS (MACT)

40 CFR 63, Subpart MM - National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills

This MACT standard applies to the No. 3 Recovery Boiler since it is part of an existing chemical recovery system (as defined in §63.861) located at a Kraft or soda pulp mill. Subpart MM regulates emissions of PM as a surrogate for metal Hazardous Air Pollutants (HAPs), and requires continuous monitoring of opacity and parametric monitoring of control system (ESP) and operational parameters. The existing source provisions under this regulation will still apply to the No. 3 Recovery Boiler after completion of the generating bank project since the project will not constitute a "reconstruction" of the unit as described in Section 2.4 of this application and will not trigger the requirements for new sources under Subpart MM.

2.1.4 NON-APPLICABLE REGULATIONS

If the generating bank tube replacement project for the No. 3 Recovery Boiler constitutes a reconstruction of the boiler, then the requirements under 40 CFR 60 Subpart BBa (for recovery boilers that commence construction, reconstruction or modification after May 23, 2013) would apply. The requirements of 40 CFR 63, Subpart MM for new or reconstructed recovery boilers would also apply if the project constitutes a reconstruction of the boiler since the unit would be considered a new unit that commenced operation after March 13, 2001.

Based upon the definitions for "reconstruction" under 40 CFR 60.15 and 40 CFR 63.2, the project will not constitute a reconstruction of the boiler since the fixed capital cost of the new components will not exceed 50 percent of the fixed capital cost that would be required to construct a comparable entirely new boiler.

The estimated cost of the generating bank tube replacement project for the No. 3 Recovery Boiler is \$3,650,000. The estimated low-end cost for a comparable entirely new recovery boiler is \$90,000,000. The generating bank replacement project cost represents at most 4 percent of the fixed capital cost that would be required to construct a comparable entirely new recovery boiler. Therefore, the project will not constitute reconstruction under the applicable NSPS and MACT standards and the provisions of 40 CFR 60, Subpart BBa and the new source provisions under 40 CFR 63, Subpart MM will not be triggered.

2.2 BACKUP BOILER

40 CFR 63, Subpart DDDDD - National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

This MACT standard applies to the Backup Boiler since it is an industrial boiler located at a major source of HAPs. Since the boiler burns only natural gas, a "gas 1" fuel as defined in the regulations, the unit is not subject to the emission limits or operating limits under Subpart DDDDD. The boiler is, however, subject to the work practice standards under Subpart DDDDD that require annual, biennial, or 5-year boiler tune-ups in addition to inspection requirements.

The current permit requires that a tune-up of the boiler be conducted annually in accordance with 40 CFR 63.7540(10). However, 40 CFR 63.7540(12) states the following for boilers equipped with oxygen trim systems:

If your boiler or process heater has a continuous oxygen trim system that maintains an optimum air to fuel ratio, or a heat input capacity of less than or equal to 5 million Btu per hour and the unit is in the units designed to burn gas 1; units designed to burn gas 2 (other); or units designed to burn light liquid subcategories, or meets the definition of limited-use boiler or process heater in §63.7575, you must conduct a tune-up of the boiler or process heater every 5 years as specified in paragraphs (a)(10)(i) through (vi) of this section to demonstrate continuous compliance.

The Backup Boiler is equipped with an oxygen trim system that maintains the optimum air to fuel ratio, therefore the provisions for conducting a tune-up every five years should apply as opposed to the annual tune-up requirement. Domtar is therefore requesting that the relevant permit language be modified to eliminate the annual tune-up requirement and replace with the 5-year tune-up requirement.

3.0 EMISSION CALCULATION PROCEDURES FOR RECOVERY BOILER NO. 3 TUBE REPLACEMENT PROJECT

In order to demonstrate whether the No. 3 Recovery Boiler generating bank tube replacement project will trigger PSD review, an emissions analysis is performed in accordance with the New Source Review (NSR) procedures in 401 KAR 51:017, Section (1)(4), 401 KAR 51:001 (20)(b) for baseline actual emissions, and 401 KAR 51:001 (199)(a) for future projected actual emissions. If the difference between the projected actual emissions and baseline actual emissions results in a significant emissions increase for any PSD regulated pollutant, then a PSD analysis is required. If calculated emissions increases for all PSD regulated pollutants are less than the respective significant levels, then PSD review is not triggered.

Table 1 presents a summary of the calculated emissions increases for the project using the above methodology.

Table 1

Pollutant	Baseline Actual Emissions, tons/year	Future Projected Actual Emissions, tons/year	Change in Emissions, tons/year	PSD Significant Increase Level, tons/year
PM	115.9	124.7	8.7	25
PM10	79.6	86.6	7.1	15
PM _{2.5}	53.9	58.6	4.8	10
SO ₂	29.3	9.2	-20.1	40
NOx	344.3	368.3	24.0	40
CO	353.0	396.7	43.7	100
CO ₂ e	480270.9	539717.9	59447.0	75000
VOC	20.5	23.0	2.5	40
H ₂ SO ₄	5.0	5.6	0.6	7
TRS	8.781	6.818	-1.963	10
Lead	0.004	0.004	0.0004	0.6

Summary of Changes in Emissions No. 3 Recovery Boiler Generating Bank Tube Replacement Project

The emission calculations were performed as follows:

Throughputs:

• Monthly tons of black liquor solids for 2009-2018 totaled and provided by Domtar.
Existing Emissions for Recovery Boiler No. 3 for January 2009 – December 2018:

- PM Calculated using tested values. For 2009-2012, the 2008 test value for filterable PM (0.518 lb/ton BLS) was used; for 2013-2017, the 2013 test value for filterable PM (0.55 lb/ton BLS) was used; and for 2018 the 2018 test value for filterable PM (0.385 lb/ton BLS) was used. Total PM emissions including condensable PM was calculated by adding 0.13 lb/ton BLS to the filterable values, based upon the emission factor for condensable PM from recovery boilers in Table 4-12 of NCASI Technical Bulletin 1020.
- PM₁₀ Calculated by applying the percent of PM₁₀ listed in Table 4-12 of NCASI Technical Bulletin 1020 for ESP control (49.5%) to the filterable PM value, then adding the condensable portion of 0.13 lb/ton BLS.
- PM_{2.5} Calculated by applying the percent of PM_{2.5} listed in Table 4-12 of NCASI Technical Bulletin 1020 for ESP control (33.8%) to the filterable PM value, then adding the condensable portion of 0.13 lb/ton BLS.
- SO₂ Calculated using tested values. For 2009-2012, the 2008 test value (0.00687 lb/ton BLS) was used; for 2013-2017, the 2013 test value (0.0267 lb/ton BLS) was used; and for 2018, the 2018 test value (0.32 lb/ton BLS²) was used.
- NOx Calculated using tested values. For 2009-2012, the 2009 test value (2.11 lb/ton BLS) was used; for 2013-2017, the 2013 test value (1.92 lb/ton BLS) was used; and for 2018, the 2018 test value (1.178 lb/ton BLS) was used.
- CO Calculated using a pre-2009 test value of 2.07 lb/ton BLS (no test data for CO during the 2009-2018 baseline period).
- VOC Calculated using a pre-2009 test value of 0.12 lb/ton BLS (no test data for VOC during the 2009-2018 baseline period).
- H₂SO₄ Calculated using an emission factor of 0.0293 lb/ton BLS from NCASI, Master Summary Table for Pulp & Paper Mills, Air Toxics, March, 2009.

² This value is based upon the averages of the second and third test runs conducted in 2018. The first run (10.8 lb/ton BLS) was discarded as non-representative of historical test values and the second and third test runs.

- TRS Calculated using tested values. For 2009-2012, the 2008 test value (0.015 lb/ton BLS) was used; for 2013-2017, the 2013 test value (0.052 lb/ton BLS) was used; and for 2018, the 2018 test value (0.0399 lb/ton BLS) was used.
- Lead Calculated using an emission factor of 2.10 x 10⁻⁵ lb/ton BLS from NCASI, Master Summary Table for Pulp & Paper Mills, Air Toxics, March, 2009.
- Greenhouse Gases (GHGs) GHGs were calculated as CO₂e in short tons and include the sum of emissions from CO₂ emissions, CH₄, and N₂O. CO₂e in short tons was calculated as the sum of CO₂ emissions x 1, CH₄ emissions x 25, and N₂O emissions x 298 using the multipliers in Table A-1 of 40 CFR 98. CO₂e in metric tons was calculated by dividing short tons by 1.1023. Emissions for individual components of CO₂e were calculated using emission factors from 40 CFR 98, Subpart AA, Table AA-1 for hardwood, converted to lb/ton BLS (assumed 7,500 Btu/lb for black liquor HHV) as follows:

CO₂e Component	Emission Factor	Basis	CO ₂ e Multiplier
CO ₂	3099 lb/ton BLS	40 CFR Part 98	1
CH4	0.063 lb/ton BLS	40 CFR Part 98	25
N ₂ O	0.014 lb/ton BLS	40 CFR Part 98	298

- Baseline actual emissions for all pollutants were calculated based upon the highest consecutive 24-month period from January 2009 through December 2018. The resulting periods were chosen for baseline actual emissions:
- PM, PM₁₀, PM_{2.5}, CO, VOC, H₂SO₄, TRS, Lead, CO₂e October, 2015 through September, 2017
- SO₂ January, 2017 through December, 2018
- NOx July, 2011 through June, 2013

Projected Future Emissions for Recovery Boiler No. 3:

- Maximum black liquor solids throughput of 1050 tons BLS per day.
- Future utilization set at 100% (operation at 1050 tons BLS/day for 365 days per year).

- PM, PM₁₀, PM_{2.5} Calculated based upon the average of monthly emission factors for PM, PM₁₀, and PM_{2.5} (including condensables) during the baseline period.
- SO₂, NOx, TRS Calculated based upon the average of monthly emission factors during the baseline period.
- CO Calculated using a pre-2009 test value of 2.07 lb/ton BLS (no test data for CO during the 2009-2018 baseline period).
- VOC Calculated using a pre-2009 test value of 0.12 lb/ton BLS (no test data for VOC during the 2009-2018 baseline period).
- H₂SO₄ Calculated using an emission factor of 0.0293 lb/ton BLS from NCASI, Master Summary Table for Pulp & Paper Mills, Air Toxics, March, 2009.
- Lead Calculated using an emission factor of 2.10 x 10⁻⁵ lb/ton BLS from NCASI, Master Summary Table for Pulp & Paper Mills, Air Toxics, March, 2009.
- Greenhouse Gases (GHGs) GHGs were calculated as CO₂e in short tons and include the sum of emissions from CO₂ emissions, CH₄, and N₂O. CO₂e in short tons was calculated as the sum of CO₂ emissions x 1, CH₄ emissions x 25, and N₂O emissions x 298 using the multipliers in Table A-1 of 40 CFR 98. CO₂e in metric tons was calculated by dividing short tons by 1.1023. Emissions for individual components of CO₂e were calculated using emission factors from 40 CFR 98, Subpart AA, Table AA-1 for hardwood, converted to lb/ton BLS (assumed 7,500 Btu/lb for black liquor HHV) as follows:

CO ₂ e Component	Emission Factor	Basis	CO ₂ e Multiplier
CO ₂	3099 lb/ton BLS	40 CFR Part 98	1
CH4	0.063 lb/ton BLS	40 CFR Part 98	25
N ₂ O	0.014 lb/ton BLS	40 CFR Part 98	298

Tables showing the black liquor solids throughput rates for the No. 3 Recovery Boiler, baseline actual emission calculations, and future projected actual calculations are presented in Appendix A.

4.0 CONCLUSIONS AND PROPOSED PERMIT LANGUAGE

Based upon the actual to projected actual emissions analysis, none of the PSD regulated pollutants from the No. 3 Recovery Boiler will increase above the respective PSD significant levels. Even assuming 100% utilization of the boiler at maximum capacity, all calculated increases are less than 50% of the PSD significant levels. Therefore, the No. 3 Recovery Boiler tube replacement project will not trigger PSD review. The only requirement that will apply to Domtar pursuant to the project is the requirement to calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis for five (5) years following resumption of regular operations after the project. This is required under 401 KAR 51:017, Section 16, since the emissions analysis shows one pollutant (NOx) where the future projected actual emissions were calculated to increase more than 50 percent of the PSD significant level.

Based upon discussions during a May 1, 2019 meeting between Domtar representatives and the KDAQ, if the determinations were made that the proposed project did not trigger PSD review and did not constitute reconstruction, then the project would qualify as a Minor Permit Revision under 401 KAR 52:020, Section 14. 401 KAR 52:020, Section 14(3)(d) requires submittal of the minor revision application with a suggested draft permit showing only the information that is new or different than the existing permit. For this project, no changes to the existing Title V Permit (V-18-007) are necessary. The project will entail no changes in applicable regulations, emissions or emission limits, operating limitations, monitoring requirements, recordkeeping requirements, or reporting requirements currently listed in the permit for this emission unit.

For the Backup Boiler, the only change being proposed is revising the existing permit language to remove the language requiring annual boiler tune-ups and replace it with the requirement to perform tune-ups every 5 years since the boiler is equipped with a continuous oxygen trim system. Since the applicable regulation requiring the boiler tune-ups (40 CFR 63 Subpart DDDD) already provides for 5-year tune-ups for units with oxygen trim systems, the proposed changes to existing permit language should also qualify as a Minor Permit Revision under 401 KAR 52:020, Section 14.

Suggested deletions, additions, and modifications to the existing permit language for the Backup Boiler are presented in Appendix B.

A completed DEP7007AI form for this minor permit revision is included in Appendix C, as well as a completed DEP7007V form for the Backup Boiler reflecting the 5-year tune-up requirement instead of the annual tune-up requirement.

5.0 CERTIFICATON BY RESPONSIBLE OFFICIAL – USE OF MINOR PERMIT REVISION PROCEDURES

Pursuant to 401 KAR 52:020 Section 14(3)(c) and 401 KAR 52:020 Section 23, I, the undersigned, hereby certify that I am a responsible official and that, based on information and belief formed after reasonable inquiry, the statements and information contained in this application for revision are true, accurate and complete and that the proposed change in this application meets the criteria for use of minor permit revision procedures. I therefore request this application be processed as a minor permit revision.

Mant Forest

Grant Forrest General Manager

APPENDIX A

EMISSION CALCULATIONS

					Throug	hputs for A	Actual Emis	ssions Cal	culation				
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Tons BLS	2008	31391.3	30065.3	33472.2	33597.0	31452.2	28667.3	31509.6	32565.2	18533.0	28531.5	15909.4	13422.4
	2009	33721.3	20359.8	24182.0	25770.5	28722.7	21697.9	25492.5	29088.7	29373.9	24076.1	19009.6	27033.4
	2010	28148.5	9960.0	26450.8	28264.3	27511.5	28417.0	28567.2	24598.2	28499.7	18828.5	26397.7	29269.1
	2011	26007.0	26589.3	24947.5	26589.6	28477.7	22004.8	30277.8	21486.4	29661.2	26642.0	28006.6	29658.5
	2012	31233.5	29326.8	23011.7	27335.8	30956.2	20750.1	26234.0	18584.9	27201.4	30314.0	30400.7	31273.9
	2013	30515.8	25872.6	31239.7	28530.5	31900.0	28082.1	29611.7	15930.4	26001.8	25548.3	30378.1	27051.0
	2014	30468.4	27524.7	28001.8	30026.1	29610.5	23165.6	24954.5	28067.5	16068.8	27663.6	25165.2	24068.0
	2015	25523.3	23049.7	23784.0	23616.7	27886.6	27578.2	26450.6	28839.0	14003.8	32507.4	29050.3	29824.5
	2016	28223.4	28778.8	30684.2	29705.9	25923.2	29567.0	27732.3	28226.1	26213.6	27868.5	27635.1	28344.1
	2017	29583.3	25213.2	19759.4	29032.2	29677.3	28503.6	30022.2	31299.5	28680.5	30417.4	24478.8	28906.6
	2018	28070.4	25360.5	27772.4	29096.5	29476.7	28613.1	30117.8	30848.5	16794.4	31221.3	29432.9	31138.5

Domtar Paper Company - Emissions Analysis for No. 3 Recovery Boiler Tube Replacement 2008 Actual Emissions

	Calculation	Emission														
Pollutant	Basis	Factor	Units	Reference	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec
PM	Test	0.648	lb/ton BLS	1	10.2	9.7	10.8	10.9	10.2	9.3	10.2	10.6	6.0	9.2	5.2	4.3
PM10	Test/EF	0.451	lb/ton BLS	2	7.1	6.8	7.5	7.6	7.1	6.5	7.1	7.3	4.2	6.4	3.6	3.0
PM2.5	Test/EF	0.305	lb/ton BLS	3	4.8	4.6	5.1	5.1	4.8	4.4	4.8	5.0	2.8	4.4	2.4	2.0
SO2	Test	0.00687	lb/ton BLS	4	0.11	0.10	0.11	0.12	0.11	0.10	0.11	0.11	0.06	0.10	0.05	0.05
NOx	Test	1.53	lb/ton BLS	5	24.01	23.00	25.61	25.70	24.06	21.93	24.10	24.91	14.18	21.83	12.17	10.27
CO	Test	2.07	lb/ton BLS	6	32.49	31.1	34.6	34.8	32.6	29.7	32.6	33.7	19.2	29.5	16.5	13.9
CO2e	Calculated	Calculated	metric tons	10	44208.5	42341.1	47139.1	47314.8	44294.2	40372.3	44375.1	45861.7	26100.1	40181.0	22405.3	18902.8
VOC	Test	0.12	lb/ton BLS	6	1.9	1.8	2.0	2.0	1.9	1.7	1.9	2.0	1.1	1.7	1.0	0.8
H2SO4	EF	0.0293	lb/ton BLS	NCASI	0.5	0.4	0.5	0.5	0.5	0.4	0.5	0.5	0.3	0.4	0.2	0.2
TRS	Test	0.015	lb/ton BLS	7	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1
Pb	EF	2.10E-05	lb/ton BLS	NCASI	0.0003	0.0003	0.0004	0.0004	0.0003	0.0003	0.0003	0.0003	0.0002	0.0003	0.0002	0.0001

0.518 lb/ton BLS July 30, 2008 test. Condensable PM = 0.13 lb/ton BLS (NCASI TB 1020, Table 4-12) added to filterable PM value. 1 Tested value for total filterable PM = 2 PM10 calculated by applying the percent of PM10 listed in NCASI TB (49.5%) for ESP control to the filterable PM value, then adding the condensable value of 0.13 lb/ton BLS 3 PM2.5 calculated by applying the percent of PM10 listed in NCASI TB (33.8%) to the filterable PM value, then adding the condensable value of 0.13 lb/ton BLS

4 July 30, 2008 test value

5 July 30, 2008 test value

6 Pre-2008 test value

7 August 14, 2008 test value

Calculation of Emissions for Individual CO2e Constituents

	Calculation	Emission														
Pollutant	Basis	Factor	Units	Reference	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CO2	EF	3099	lb/ton BLS	8	48640.8	46586.2	51865.2	52058.5	48735.2	44420.0	48824.1	50459.7	28716.9	44209.5	24651.6	20798.0
CH4	EF	0.063	lb/ton BLS	8	1.0	0.9	1.1	1.1	1.0	0.9	1.0	1.0	0.6	0.9	0.5	0.4
N2O	EF	0.014	lb/ton BLS	8	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1
CO2e	Calculation	See Reference	tons	9	48731.0	46672.6	51961.4	52155.1	48825.6	44502.4	48914.6	50553.3	28770.1	44291.5	24697.3	20836.6
CO2e	Calculation	See Reference	metric tons	10	44208.5	42341.1	47139.1	47314.8	44294.2	40372.3	44375.1	45861.7	26100.1	40181.0	22405.3	18902.8

8 Emission Factors from 40 CFR 98, Subpart AA, Table AA-1 for hardwood, converted to lb/ton BLS (assumed 7,500 Btu/lb for black liquor HHV)

9 Based upon Table A-1 of 40 CFR 98, with multipliers of 1 for CO2, 25 for CH4, and 298 for N2O.

Domtar Paper Company - Emissions Analysis for No. 3 Recovery Boiler Tube Replacement 2009 Actual Emissions

	Calculation	Emission														
Pollutant	Basis	Factor	Units	Reference	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec
PM	Test	0.648	lb/ton BLS	1	10.9	6.6	7.8	8.3	9.3	7.0	8.3	9.4	9.5	7.8	6.2	8.8
PM10	Test/EF	0.451	lb/ton BLS	2	7.6	4.6	5.5	5.8	6.5	4.9	5.7	6.6	6.6	5.4	4.3	6.1
PM2.5	Test/EF	0.305	lb/ton BLS	3	5.1	3.1	3.7	3.9	4.4	3.3	3.9	4.4	4.5	3.7	2.9	4.1
SO2	Test	0.00687	lb/ton BLS	4	0.12	0.07	0.08	0.09	0.10	0.07	0.09	0.10	0.10	0.08	0.07	0.09
NOx	Test	2.11	lb/ton BLS	5	35.58	21.48	25.51	27.19	30.30	22.89	26.89	30.69	30.99	25.40	20.06	28.52
CO	Test	2.07	lb/ton BLS	6	34.90	21.1	25.0	26.7	29.7	22.5	26.4	30.1	30.4	24.9	19.7	28.0
CO2e	Calculated	Calculated	metric tons	10	47489.8	28672.7	34055.6	36292.7	40450.3	30557.3	35901.2	40965.7	41367.3	33906.4	26771.3	38071.3
VOC	Test	0.12	lb/ton BLS	6	2.0	1.2	1.5	1.5	1.7	1.3	1.5	1.7	1.8	1.4	1.1	1.6
H2SO4	EF	0.0293	lb/ton BLS	NCASI	0.5	0.3	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.3	0.4
TRS	Test	0.015	lb/ton BLS	7	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2
Pb	EF	2.10E-05	lb/ton BLS	NCASI	0.0004	0.0002	0.0003	0.0003	0.0003	0.0002	0.0003	0.0003	0.0003	0.0003	0.0002	0.0003
H2SO4 TRS Pb	EF Test EF	0.0293 0.015 2.10E-05	Ib/ton BLS Ib/ton BLS Ib/ton BLS	NCASI 7 NCASI	0.5 0.2 0.0004	0.3 0.1 0.0002	0.4 0.2 0.0003	0.4 0.2 0.0003	0.4 0.2 0.0003	0.3 0.2 0.0002	0.4 0.2 0.0003	0.4 0.2 0.0003	0.4 0.2 0.0003	0.4 0.2 0.0003	0.3 0.1 0.0002	

0.518 lb/ton BLS July 30, 2008 test. Condensable PM = 0.13 lb/ton BLS (NCASI TB 1020, Table 4-12) added to filterable PM value. 1 Tested value for total filterable PM 2 PM10 calculated by applying the percent of PM10 listed in NCASI TB (49.5%) for ESP control to the filterable PM value, then adding the condensable value of 0.13 lb/ton BLS 3 PM2.5 calculated by applying the percent of PM10 listed in NCASI TB (33.8%) to the filterable PM value, then adding the condensable value of 0.13 lb/ton BLS

4 July 30, 2008 test value

5 December 11, 2009 test value

6 Pre-2008 test value

7 August 14, 2008 test value

Calculation of Emissions for Individual CO2e Constituents

	Calculation	Emission														
Pollutant	Basis	Factor	Units	Reference	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CO2	EF	3099	lb/ton BLS	8	52251.1	31547.4	37470.0	39931.4	44505.8	33620.9	39500.6	45072.9	45514.8	37305.9	29455.4	41888.3
CH4	EF	0.063	lb/ton BLS	8	1.1	0.6	0.8	0.8	0.9	0.7	0.8	0.9	0.9	0.8	0.6	0.9
N2O	EF	0.014	lb/ton BLS	8	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2
CO2e	Calculation	See Reference	tons	9	52348.0	31605.9	37539.5	40005.5	44588.4	33683.3	39573.9	45156.5	45599.2	37375.0	29510.0	41966.0
CO2e	Calculation	See Reference	metric tons	10	47489.8	28672.7	34055.6	36292.7	40450.3	30557.3	35901.2	40965.7	41367.3	33906.4	26771.3	38071.3

8 Emission Factors from 40 CFR 98, Subpart AA, Table AA-1 for hardwood, converted to lb/ton BLS (assumed 7,500 Btu/lb for black liquor HHV)

9 Based upon Table A-1 of 40 CFR 98, with multipliers of 1 for CO2, 25 for CH4, and 298 for N2O.

Domtar Paper Company - Emissions Analysis for No. 3 Recovery Boiler Tube Replacement 2010 Actual Emissions

	Calculation	Emission														
Pollutant	Basis	Factor	Units	Reference	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec
PM	Test	0.648	lb/ton BLS	1	9.1	3.2	8.6	9.2	8.9	9.2	9.3	8.0	9.2	6.1	8.6	9.5
PM10	Test/EF	0.451	lb/ton BLS	2	6.3	2.2	6.0	6.4	6.2	6.4	6.4	5.5	6.4	4.2	5.9	6.6
PM2.5	Test/EF	0.305	lb/ton BLS	3	4.3	1.5	4.0	4.3	4.2	4.3	4.4	3.8	4.3	2.9	4.0	4.5
SO2	Test	0.00687	lb/ton BLS	4	0.10	0.03	0.09	0.10	0.09	0.10	0.10	0.08	0.10	0.06	0.09	0.10
NOx	Test	2.11	lb/ton BLS	5	29.70	10.51	27.91	29.82	29.02	29.98	30.14	25.95	30.07	19.86	27.85	30.88
CO	Test	2.07	lb/ton BLS	6	29.13	10.3	27.4	29.3	28.5	29.4	29.6	25.5	29.5	19.5	27.3	30.3
CO2e	Calculated	Calculated	metric tons	10	39641.7	14026.8	37250.8	39804.8	38744.5	40019.8	40231.3	34641.8	40136.2	26516.2	37175.9	41219.8
VOC	Test	0.12	lb/ton BLS	6	1.7	0.6	1.6	1.7	1.7	1.7	1.7	1.5	1.7	1.1	1.6	1.8
H2SO4	EF	0.0293	lb/ton BLS	NCASI	0.4	0.1	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4
TRS	Test	0.015	lb/ton BLS	7	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2
Pb	EF	2.10E-05	lb/ton BLS	NCASI	0.0003	0.0001	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0002	0.0003	0.0003

0.518 lb/ton BLS July 30, 2008 test. Condensable PM = 0.13 lb/ton BLS (NCASI TB 1020, Table 4-12) added to filterable PM value. 1 Tested value for total filterable PM 2 PM10 calculated by applying the percent of PM10 listed in NCASI TB (49.5%) for ESP control to the filterable PM value, then adding the condensable value of 0.13 lb/ton BLS 3 PM2.5 calculated by applying the percent of PM10 listed in NCASI TB (33.8%) to the filterable PM value, then adding the condensable value of 0.13 lb/ton BLS

4 July 30, 2008 test value

5 December 11, 2009 test value

6 Pre-2008 test value

7 August 14, 2008 test value

Calculation of Emissions for Individual CO2e Constituents

	Calculation	Emission														
Pollutant	Basis	Factor	Units	Reference	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CO2	EF	3099	lb/ton BLS	8	43616.1	15433.1	40985.5	43795.6	42629.0	44032.1	44264.9	38115.0	44160.2	29174.7	40903.2	45352.5
CH4	EF	0.063	lb/ton BLS	8	0.9	0.3	0.8	0.9	0.9	0.9	0.9	0.8	0.9	0.6	0.8	0.9
N2O	EF	0.014	lb/ton BLS	8	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2
CO2e	Calculation	See Reference	tons	9	43697.0	15461.7	41061.6	43876.8	42708.1	44113.8	44346.9	38185.7	44242.1	29228.8	40979.0	45436.6
CO2e	Calculation	See Reference	metric tons	10	39641.7	14026.8	37250.8	39804.8	38744.5	40019.8	40231.3	34641.8	40136.2	26516.2	37175.9	41219.8

8 Emission Factors from 40 CFR 98, Subpart AA, Table AA-1 for hardwood, converted to lb/ton BLS (assumed 7,500 Btu/lb for black liquor HHV)

9 Based upon Table A-1 of 40 CFR 98, with multipliers of 1 for CO2, 25 for CH4, and 298 for N2O.

Domtar Paper Company - Emissions Analysis for No. 3 Recovery Boiler Tube Replacement 2011 Actual Emissions

	Calculation	Emission														
Pollutant	Basis	Factor	Units	Reference	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec
PM	Test	0.648	lb/ton BLS	1	8.4	8.6	8.1	8.6	9.2	7.1	9.8	7.0	9.6	8.6	9.1	9.6
PM10	Test/EF	0.451	lb/ton BLS	2	5.9	6.0	5.6	6.0	6.4	5.0	6.8	4.8	6.7	6.0	6.3	6.7
PM2.5	Test/EF	0.305	lb/ton BLS	3	4.0	4.1	3.8	4.1	4.3	3.4	4.6	3.3	4.5	4.1	4.3	4.5
SO2	Test	0.00687	lb/ton BLS	4	0.09	0.09	0.09	0.09	0.10	0.08	0.10	0.07	0.10	0.09	0.10	0.10
NOx	Test	2.11	lb/ton BLS	5	27.44	28.05	26.32	28.05	30.04	23.22	31.94	22.67	31.29	28.11	29.55	31.29
CO	Test	2.07	lb/ton BLS	6	26.92	27.5	25.8	27.5	29.5	22.8	31.3	22.2	30.7	27.6	29.0	30.7
CO2e	Calculated	Calculated	metric tons	10	36625.8	37445.9	35133.7	37446.2	40105.3	30989.5	42640.3	30259.4	41772.0	37520.1	39441.7	41768.2
VOC	Test	0.12	lb/ton BLS	6	1.6	1.6	1.5	1.6	1.7	1.3	1.8	1.3	1.8	1.6	1.7	1.8
H2SO4	EF	0.0293	lb/ton BLS	NCASI	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.4	0.4	0.4	0.4
TRS	Test	0.015	lb/ton BLS	7	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Pb	EF	2.10E-05	lb/ton BLS	NCASI	0.0003	0.0003	0.0003	0.0003	0.0003	0.0002	0.0003	0.0002	0.0003	0.0003	0.0003	0.0003

0.518 lb/ton BLS July 30, 2008 test. Condensable PM = 0.13 lb/ton BLS (NCASI TB 1020, Table 4-12) added to filterable PM value. 1 Tested value for total filterable PM 2 PM10 calculated by applying the percent of PM10 listed in NCASI TB (49.5%) for ESP control to the filterable PM value, then adding the condensable value of 0.13 lb/ton BLS 3 PM2.5 calculated by applying the percent of PM10 listed in NCASI TB (33.8%) to the filterable PM value, then adding the condensable value of 0.13 lb/ton BLS

4 July 30, 2008 test value

5 December 11, 2009 test value

6 Pre-2008 test value

7 August 14, 2008 test value

Calculation of Emissions for Individual CO2e Constituents

	Calculation	Emission														
Pollutant	Basis	Factor	Units	Reference	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CO2	EF	3099	lb/ton BLS	8	40297.9	41200.2	38656.2	41200.6	44126.2	34096.5	46915.4	33293.1	45960.0	41281.8	43396.2	45955.9
CH4	EF	0.063	lb/ton BLS	8	0.8	0.8	0.8	0.8	0.9	0.7	1.0	0.7	0.9	0.8	0.9	0.9
N2O	EF	0.014	lb/ton BLS	8	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
CO2e	Calculation	See Reference	tons	9	40372.6	41276.6	38727.9	41277.0	44208.0	34159.7	47002.4	33354.9	46045.2	41358.4	43476.6	46041.1
CO2e	Calculation	See Reference	metric tons	10	36625.8	37445.9	35133.7	37446.2	40105.3	30989.5	42640.3	30259.4	41772.0	37520.1	39441.7	41768.2

8 Emission Factors from 40 CFR 98, Subpart AA, Table AA-1 for hardwood, converted to lb/ton BLS (assumed 7,500 Btu/lb for black liquor HHV)

9 Based upon Table A-1 of 40 CFR 98, with multipliers of 1 for CO2, 25 for CH4, and 298 for N2O.

Domtar Paper Company - Emissions Analysis for No. 3 Recovery Boiler Tube Replacement 2012 Actual Emissions

	Calculation	Emission														
Pollutant	Basis	Factor	Units	Reference	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec
PM	Test	0.648	lb/ton BLS	1	10.1	9.5	7.5	8.9	10.0	6.7	8.5	6.0	8.8	9.8	9.8	10.1
PM10	Test/EF	0.451	lb/ton BLS	2	7.0	6.6	5.2	6.2	7.0	4.7	5.9	4.2	6.1	6.8	6.9	7.0
PM2.5	Test/EF	0.305	lb/ton BLS	3	4.8	4.5	3.5	4.2	4.7	3.2	4.0	2.8	4.1	4.6	4.6	4.8
SO2	Test	0.00687	lb/ton BLS	4	0.11	0.10	0.08	0.09	0.11	0.07	0.09	0.06	0.09	0.10	0.10	0.11
NOx	Test	2.11	lb/ton BLS	5	32.95	30.94	24.28	28.84	32.66	21.89	27.68	19.61	28.70	31.98	32.07	32.99
CO	Test	2.07	lb/ton BLS	6	32.33	30.4	23.8	28.3	32.0	21.5	27.2	19.2	28.2	31.4	31.5	32.4
CO2e	Calculated	Calculated	metric tons	10	43986.2	41301.0	32407.4	38497.2	43595.8	29222.5	36945.5	26173.3	38307.9	42691.3	42813.5	44043.2
VOC	Test	0.12	lb/ton BLS	6	1.9	1.8	1.4	1.6	1.9	1.2	1.6	1.1	1.6	1.8	1.8	1.9
H2SO4	EF	0.0293	lb/ton BLS	NCASI	0.5	0.4	0.3	0.4	0.5	0.3	0.4	0.3	0.4	0.4	0.4	0.5
TRS	Test	0.015	lb/ton BLS	7	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2
Pb	EF	2.10E-05	lb/ton BLS	NCASI	0.0003	0.0003	0.0002	0.0003	0.0003	0.0002	0.0003	0.0002	0.0003	0.0003	0.0003	0.0003

0.518 lb/ton BLS July 30, 2008 test. Condensable PM = 0.13 lb/ton BLS (NCASI TB 1020, Table 4-12) added to filterable PM value. 1 Tested value for total filterable PM 2 PM10 calculated by applying the percent of PM10 listed in NCASI TB (49.5%) for ESP control to the filterable PM value, then adding the condensable value of 0.13 lb/ton BLS 3 PM2.5 calculated by applying the percent of PM10 listed in NCASI TB (33.8%) to the filterable PM value, then adding the condensable value of 0.13 lb/ton BLS

4 July 30, 2008 test value

5 December 11, 2009 test value

6 Pre-2008 test value

7 August 14, 2008 test value

Calculation of Emissions for Individual CO2e Constituents

	Calculation	Emission														
Pollutant	Basis	Factor	Units	Reference	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CO2	EF	3099	lb/ton BLS	8	48396.2	45441.8	35656.6	42356.9	47966.7	32152.3	40649.6	28797.4	42148.6	46971.5	47105.9	48458.9
CH4	EF	0.063	lb/ton BLS	8	1.0	0.9	0.7	0.9	1.0	0.7	0.8	0.6	0.9	1.0	1.0	1.0
N2O	EF	0.014	lb/ton BLS	8	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.2
CO2e	Calculation	See Reference	tons	9	48486.0	45526.1	35722.7	42435.4	48055.7	32211.9	40725.0	28850.8	42226.8	47058.7	47193.3	48548.8
CO2e	Calculation	See Reference	metric tons	10	43986.2	41301.0	32407.4	38497.2	43595.8	29222.5	36945.5	26173.3	38307.9	42691.3	42813.5	44043.2

8 Emission Factors from 40 CFR 98, Subpart AA, Table AA-1 for hardwood, converted to lb/ton BLS (assumed 7,500 Btu/lb for black liquor HHV)

9 Based upon Table A-1 of 40 CFR 98, with multipliers of 1 for CO2, 25 for CH4, and 298 for N2O.

Domtar Paper Company - Emissions Analysis for No. 3 Recovery Boiler Tube Replacement 2013 Actual Emissions

	Calculation	Emission														
Pollutant	Basis	Factor	Units	Reference	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec
PM	Test	0.680	lb/ton BLS	1	10.4	8.8	10.6	9.7	10.8	9.5	10.1	5.4	8.8	8.7	10.3	9.2
PM10	Test/EF	0.467	lb/ton BLS	2	7.1	6.0	7.3	6.7	7.4	6.6	6.9	3.7	6.1	6.0	7.1	6.3
PM2.5	Test/EF	0.316	lb/ton BLS	3	4.8	4.1	4.9	4.5	5.0	4.4	4.7	2.5	4.1	4.0	4.8	4.3
SO2	Test	0.0267	lb/ton BLS	4	0.41	0.35	0.42	0.38	0.43	0.37	0.40	0.21	0.35	0.34	0.41	0.36
NOx	Test	1.92	lb/ton BLS	5	29.30	24.84	29.99	27.39	30.62	26.96	28.43	15.29	24.96	24.53	29.16	25.97
CO	Test	2.07	lb/ton BLS	6	31.58	26.8	32.3	29.5	33.0	29.1	30.6	16.5	26.9	26.4	31.4	28.0
CO2e	Calculated	Calculated	metric tons	10	42975.6	36436.4	43995.0	40179.7	44924.9	39548.2	41702.3	22434.9	36618.5	35979.8	42781.6	38096.1
VOC	Test	0.12	lb/ton BLS	6	1.8	1.6	1.9	1.7	1.9	1.7	1.8	1.0	1.6	1.5	1.8	1.6
H2SO4	EF	0.0293	lb/ton BLS	NCASI	0.4	0.4	0.5	0.4	0.5	0.4	0.4	0.2	0.4	0.4	0.4	0.4
TRS	Test	0.052	lb/ton BLS	7	0.8	0.7	0.8	0.7	0.8	0.7	0.8	0.4	0.7	0.7	0.8	0.7
Pb	EF	2.10E-05	lb/ton BLS	NCASI	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0002	0.0003	0.0003	0.0003	0.0003

0.55 lb/ton BLS October 24, 2013 test. Condensable PM = 0.13 lb/ton BLS (NCASI TB 1020, Table 4-12) added to filterable PM value. 1 Tested value for total filterable PM 2 PM10 calculated by applying the percent of PM10 listed in NCASI TB (49.5%) for ESP control to the filterable PM value, then adding the condensable value of 0.13 lb/ton BLS 3 PM2.5 calculated by applying the percent of PM10 listed in NCASI TB (33.8%) to the filterable PM value, then adding the condensable value of 0.13 lb/ton BLS

4 October 24, 2013 test value

5 October 24, 2013 test value

6 Pre-2008 test value

7 September 12, 2013 test value

Calculation of Emissions for Individual CO2e Constituents

	Calculation	Emission														
Pollutant	Basis	Factor	Units	Reference	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CO2	EF	3099	lb/ton BLS	8	47284.3	40089.5	48405.9	44208.1	49429.0	43513.2	45883.4	24684.2	40289.9	39587.1	47070.8	41915.5
CH4	EF	0.063	lb/ton BLS	8	1.0	0.8	1.0	0.9	1.0	0.9	0.9	0.5	0.8	0.8	1.0	0.9
N2O	EF	0.014	lb/ton BLS	8	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2
CO2e	Calculation	See Reference	tons	9	47372.0	40163.9	48495.7	44290.1	49520.7	43593.9	45968.5	24730.0	40364.6	39660.6	47158.1	41993.3
CO2e	Calculation	See Reference	metric tons	10	42975.6	36436.4	43995.0	40179.7	44924.9	39548.2	41702.3	22434.9	36618.5	35979.8	42781.6	38096.1

8 Emission Factors from 40 CFR 98, Subpart AA, Table AA-1 for hardwood, converted to lb/ton BLS (assumed 7,500 Btu/lb for black liquor HHV)

9 Based upon Table A-1 of 40 CFR 98, with multipliers of 1 for CO2, 25 for CH4, and 298 for N2O.

Domtar Paper Company - Emissions Analysis for No. 3 Recovery Boiler Tube Replacement 2014 Actual Emissions

	Calculation	Emission														
Pollutant	Basis	Factor	Units	Reference	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec
PM	Test	0.680	lb/ton BLS	1	10.4	9.4	9.5	10.2	10.1	7.9	8.5	9.5	5.5	9.4	8.6	8.2
PM10	Test/EF	0.467	lb/ton BLS	2	7.1	6.4	6.5	7.0	6.9	5.4	5.8	6.5	3.7	6.5	5.9	5.6
PM2.5	Test/EF	0.316	lb/ton BLS	3	4.8	4.3	4.4	4.7	4.7	3.7	3.9	4.4	2.5	4.4	4.0	3.8
SO2	Test	0.0267	lb/ton BLS	4	0.41	0.37	0.37	0.40	0.40	0.31	0.33	0.37	0.21	0.37	0.34	0.32
NOx	Test	1.92	lb/ton BLS	5	29.25	26.42	26.88	28.83	28.43	22.24	23.96	26.94	15.43	26.56	24.16	23.11
CO	Test	2.07	lb/ton BLS	6	31.53	28.5	29.0	31.1	30.6	24.0	25.8	29.0	16.6	28.6	26.0	24.9
CO2e	Calculated	Calculated	metric tons	10	42908.8	38763.2	39435.0	42285.9	41700.6	32624.3	35143.5	39527.5	22629.7	38958.8	35440.3	33895.0
VOC	Test	0.12	lb/ton BLS	6	1.8	1.7	1.7	1.8	1.8	1.4	1.5	1.7	1.0	1.7	1.5	1.4
H2SO4	EF	0.0293	lb/ton BLS	NCASI	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.2	0.4	0.4	0.4
TRS	Test	0.052	lb/ton BLS	7	0.8	0.7	0.7	0.8	0.8	0.6	0.6	0.7	0.4	0.7	0.6	0.6
Pb	EF	2.10E-05	lb/ton BLS	NCASI	0.0003	0.0003	0.0003	0.0003	0.0003	0.0002	0.0003	0.0003	0.0002	0.0003	0.0003	0.0003

0.55 lb/ton BLS October 24, 2013 test. Condensable PM = 0.13 lb/ton BLS (NCASI TB 1020, Table 4-12) added to filterable PM value. 1 Tested value for total filterable PM 2 PM10 calculated by applying the percent of PM10 listed in NCASI TB (49.5%) for ESP control to the filterable PM value, then adding the condensable value of 0.13 lb/ton BLS 3 PM2.5 calculated by applying the percent of PM10 listed in NCASI TB (33.8%) to the filterable PM value, then adding the condensable value of 0.13 lb/ton BLS

4 October 24, 2013 test value

5 October 24, 2013 test value

6 Pre-2008 test value

7 September 12, 2013 test value

Calculation of Emissions for Individual CO2e Constituents

	Calculation	Emission														
Pollutant	Basis	Factor	Units	Reference	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CO2	EF	3099	lb/ton BLS	8	47210.8	42649.6	43388.7	46525.5	45881.4	35895.2	38667.0	43490.5	24898.6	42864.8	38993.5	37293.3
CH4	EF	0.063	lb/ton BLS	8	1.0	0.9	0.9	0.9	0.9	0.7	0.8	0.9	0.5	0.9	0.8	0.8
N2O	EF	0.014	lb/ton BLS	8	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2
CO2e	Calculation	See Reference	tons	9	47298.4	42728.7	43469.2	46611.8	45966.5	35961.7	38738.7	43571.2	24944.8	42944.3	39065.8	37362.5
CO2e	Calculation	See Reference	metric tons	10	42908.8	38763.2	39435.0	42285.9	41700.6	32624.3	35143.5	39527.5	22629.7	38958.8	35440.3	33895.0

8 Emission Factors from 40 CFR 98, Subpart AA, Table AA-1 for hardwood, converted to lb/ton BLS (assumed 7,500 Btu/lb for black liquor HHV)

9 Based upon Table A-1 of 40 CFR 98, with multipliers of 1 for CO2, 25 for CH4, and 298 for N2O.

Domtar Paper Company - Emissions Analysis for No. 3 Recovery Boiler Tube Replacement 2015 Actual Emissions

	Calculation	Emission														
Pollutant	Basis	Factor	Units	Reference	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec
PM	Test	0.680	lb/ton BLS	1	8.7	7.8	8.1	8.0	9.5	9.4	9.0	9.8	4.8	11.1	9.9	10.1
PM10	Test/EF	0.467	lb/ton BLS	2	6.0	5.4	5.5	5.5	6.5	6.4	6.2	6.7	3.3	7.6	6.8	7.0
PM2.5	Test/EF	0.316	lb/ton BLS	3	4.0	3.6	3.8	3.7	4.4	4.4	4.2	4.6	2.2	5.1	4.6	4.7
SO2	Test	0.0267	lb/ton BLS	4	0.34	0.31	0.32	0.32	0.37	0.37	0.35	0.39	0.19	0.43	0.39	0.40
NOx	Test	1.92	lb/ton BLS	5	24.50	22.13	22.83	22.67	26.77	26.48	25.39	27.69	13.44	31.21	27.89	28.63
CO	Test	2.07	lb/ton BLS	6	26.42	23.9	24.6	24.4	28.9	28.5	27.4	29.8	14.5	33.6	30.1	30.9
CO2e	Calculated	Calculated	metric tons	10	35944.5	32461.1	33495.2	33259.5	39272.8	38838.6	37250.5	40614.1	19721.6	45780.3	40911.7	42002.0
VOC	Test	0.12	lb/ton BLS	6	1.5	1.4	1.4	1.4	1.7	1.7	1.6	1.7	0.8	2.0	1.7	1.8
H2SO4	EF	0.0293	lb/ton BLS	NCASI	0.4	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.2	0.5	0.4	0.4
TRS	Test	0.052	lb/ton BLS	7	0.7	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.4	0.8	0.7	0.8
Pb	EF	2.10E-05	lb/ton BLS	NCASI	0.0003	0.0002	0.0002	0.0002	0.0003	0.0003	0.0003	0.0003	0.0001	0.0003	0.0003	0.0003

0.55 lb/ton BLS October 24, 2013 test. Condensable PM = 0.13 lb/ton BLS (NCASI TB 1020, Table 4-12) added to filterable PM value. 1 Tested value for total filterable PM 2 PM10 calculated by applying the percent of PM10 listed in NCASI TB (49.5%) for ESP control to the filterable PM value, then adding the condensable value of 0.13 lb/ton BLS 3 PM2.5 calculated by applying the percent of PM10 listed in NCASI TB (33.8%) to the filterable PM value, then adding the condensable value of 0.13 lb/ton BLS

4 October 24, 2013 test value

5 October 24, 2013 test value

6 Pre-2008 test value

7 September 12, 2013 test value

Calculation of Emissions for Individual CO2e Constituents

	Calculation	Emission														
Pollutant	Basis	Factor	Units	Reference	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CO2	EF	3099	lb/ton BLS	8	39548.3	35715.6	36853.4	36594.1	43210.3	42732.5	40985.3	44686.1	21698.9	50370.2	45013.5	46213.1
CH4	EF	0.063	lb/ton BLS	8	0.8	0.7	0.7	0.7	0.9	0.9	0.8	0.9	0.4	1.0	0.9	0.9
N2O	EF	0.014	lb/ton BLS	8	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2
CO2e	Calculation	See Reference	tons	9	39621.6	35781.8	36921.7	36662.0	43290.4	42811.7	41061.3	44769.0	21739.2	50463.6	45096.9	46298.8
CO2e	Calculation	See Reference	metric tons	10	35944.5	32461.1	33495.2	33259.5	39272.8	38838.6	37250.5	40614.1	19721.6	45780.3	40911.7	42002.0

8 Emission Factors from 40 CFR 98, Subpart AA, Table AA-1 for hardwood, converted to lb/ton BLS (assumed 7,500 Btu/lb for black liquor HHV)

9 Based upon Table A-1 of 40 CFR 98, with multipliers of 1 for CO2, 25 for CH4, and 298 for N2O.

Domtar Paper Company - Emissions Analysis for No. 3 Recovery Boiler Tube Replacement 2016 Actual Emissions

	Emission														
Basis	Factor	Units	Reference	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Test	0.680	lb/ton BLS	1	9.6	9.8	10.4	10.1	8.8	10.1	9.4	9.6	8.9	9.5	9.4	9.6
Test/EF	0.467	lb/ton BLS	2	6.6	6.7	7.2	6.9	6.0	6.9	6.5	6.6	6.1	6.5	6.4	6.6
Test/EF	0.316	lb/ton BLS	3	4.5	4.5	4.8	4.7	4.1	4.7	4.4	4.5	4.1	4.4	4.4	4.5
Test	0.0267	lb/ton BLS	4	0.38	0.38	0.41	0.40	0.35	0.39	0.37	0.38	0.35	0.37	0.37	0.38
Test	1.92	lb/ton BLS	5	27.09	27.63	29.46	28.52	24.89	28.38	26.62	27.10	25.17	26.75	26.53	27.21
Test	2.07	lb/ton BLS	6	29.21	29.8	31.8	30.7	26.8	30.6	28.7	29.2	27.1	28.8	28.6	29.3
alculated	Calculated	metric tons	10	39747.1	40529.3	43212.7	41834.9	36507.8	41639.3	39055.6	39750.9	36916.7	39247.4	38918.7	39917.1
Test	0.12	lb/ton BLS	6	1.7	1.7	1.8	1.8	1.6	1.8	1.7	1.7	1.6	1.7	1.7	1.7
EF	0.0293	lb/ton BLS	NCASI	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Test	0.052	lb/ton BLS	7	0.7	0.7	0.8	0.8	0.7	0.8	0.7	0.7	0.7	0.7	0.7	0.7
EF	2.10E-05	lb/ton BLS	NCASI	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003
Te	Basis Test Est/EF Test Test Test Culated Test EF Test EF	Basis Factor Test 0.680 sst/EF 0.467 sst/EF 0.316 Test 0.0267 Test 1.92 Test 2.07 culated Calculated Test 0.12 EF 0.0293 Test 0.052 EF 2.10E-05	BasisFactorUnitsTest0.680lb/ton BLSst/EF0.467lb/ton BLSst/EF0.316lb/ton BLSTest0.0267lb/ton BLSTest1.92lb/ton BLSTest2.07lb/ton BLSCulatedCalculatedmetric tonsTest0.12lb/ton BLSEF0.0293lb/ton BLSTest0.12lb/ton BLS	BasisFactorUnitsReferenceTest0.680lb/ton BLS1st/EF0.467lb/ton BLS2st/EF0.316lb/ton BLS3Test0.0267lb/ton BLS4Test1.92lb/ton BLS5Test2.07lb/ton BLS6culatedCalculatedmetric tons10Test0.12lb/ton BLS6EF0.0293lb/ton BLS7EF2.10E-05lb/ton BLSNCASI	Basis Factor Units Reference Jan Test 0.680 lb/ton BLS 1 9.6 str/EF 0.467 lb/ton BLS 2 6.6 str/EF 0.316 lb/ton BLS 3 4.5 Test 0.0267 lb/ton BLS 4 0.38 Test 1.92 lb/ton BLS 5 27.09 Test 2.07 lb/ton BLS 6 29.21 culated Calculated metric tons 10 39747.1 Test 0.12 lb/ton BLS 6 1.7 EF 0.0293 lb/ton BLS NCASI 0.4 Test 0.052 lb/ton BLS 7 0.7 EF 2.10E-05 lb/ton BLS NCASI 0.0003	Basis Factor Units Reference Jan Feb Test 0.680 lb/ton BLS 1 9.6 9.8 str/EF 0.467 lb/ton BLS 2 6.6 6.7 str/EF 0.316 lb/ton BLS 3 4.5 4.5 Test 0.0267 lb/ton BLS 4 0.38 0.38 Test 1.92 lb/ton BLS 5 27.09 27.63 Test 2.07 lb/ton BLS 6 29.21 29.8 culated Calculated metric tons 10 39747.1 40529.3 Test 0.12 lb/ton BLS 6 1.7 1.7 EF 0.0293 lb/ton BLS NCASI 0.4 0.4 Test 0.052 lb/ton BLS 7 0.7 0.7 EF 2.10E-05 lb/ton BLS NCASI 0.0003 0.0003	Basis Factor Units Reference Jan Feb Mar Test 0.680 lb/ton BLS 1 9.6 9.8 10.4 sst/EF 0.467 lb/ton BLS 2 6.6 6.7 7.2 sst/EF 0.316 lb/ton BLS 3 4.5 4.5 4.8 Test 0.0267 lb/ton BLS 4 0.38 0.38 0.41 Test 1.92 lb/ton BLS 5 27.09 27.63 29.46 Test 2.07 lb/ton BLS 6 29.21 29.8 31.8 culated Calculated metric tons 10 39747.1 40529.3 43212.7 Test 0.12 lb/ton BLS 6 1.7 1.7 1.8 EF 0.0293 lb/ton BLS NCASI 0.4 0.4 0.4 Test 0.052 lb/ton BLS 7 0.7 0.7 0.8 0.0003 0.0003 0.0003 0.0003 <td>Basis Factor Units Reference Jan Feb Mar Apr Test 0.680 lb/ton BLS 1 9.6 9.8 10.4 10.1 sst/EF 0.467 lb/ton BLS 2 6.6 6.7 7.2 6.9 sst/EF 0.316 lb/ton BLS 3 4.5 4.5 4.8 4.7 Test 0.0267 lb/ton BLS 4 0.38 0.38 0.41 0.40 Test 1.92 lb/ton BLS 5 27.09 27.63 29.46 28.52 Test 2.07 lb/ton BLS 6 29.21 29.8 31.8 30.7 culated Calculated metric tons 10 39747.1 40529.3 43212.7 41834.9 Test 0.12 lb/ton BLS 6 1.7 1.7 1.8 1.8 EF 0.0293 lb/ton BLS NCASI 0.4 0.4 0.4 0.4 0.4 0.4</td> <td>Basis Factor Units Reference Jan Feb Mar Apr May Test 0.680 lb/ton BLS 1 9.6 9.8 10.4 10.1 8.8 est/EF 0.467 lb/ton BLS 2 6.6 6.7 7.2 6.9 6.0 est/EF 0.316 lb/ton BLS 3 4.5 4.5 4.8 4.7 4.1 Test 0.0267 lb/ton BLS 4 0.38 0.38 0.41 0.40 0.35 Test 1.92 lb/ton BLS 5 27.09 27.63 29.46 28.52 24.89 Test 2.07 lb/ton BLS 6 29.21 29.8 31.8 30.7 26.8 culated Calculated metric tons 10 39747.1 40529.3 43212.7 41834.9 36507.8 Test 0.12 lb/ton BLS 6 1.7 1.7 1.8 1.8 1.6 EF <td< td=""><td>Basis Factor Units Reference Jan Feb Mar Apr May Jun Test 0.680 lb/ton BLS 1 9.6 9.8 10.4 10.1 8.8 10.1 set/EF 0.467 lb/ton BLS 2 6.6 6.7 7.2 6.9 6.0 6.9 set/EF 0.316 lb/ton BLS 3 4.5 4.5 4.8 4.7 4.1 4.7 Test 0.0267 lb/ton BLS 4 0.38 0.38 0.41 0.40 0.35 0.39 Test 1.92 lb/ton BLS 5 27.09 27.63 29.46 28.52 24.89 28.38 Test 2.07 lb/ton BLS 6 29.21 29.8 31.8 30.7 26.8 30.6 culated Calculated metric tons 10 39747.1 40529.3 43212.7 41834.9 36507.8 41639.3 Test 0.12 lb/ton BLS<td>Basis Factor Units Reference Jan Feb Mar Apr May Jun Jul Test 0.680 lb/ton BLS 1 9.6 9.8 10.4 10.1 8.8 10.1 9.4 est/EF 0.467 lb/ton BLS 2 6.6 6.7 7.2 6.9 6.0 6.9 6.5 est/EF 0.316 lb/ton BLS 3 4.5 4.5 4.8 4.7 4.1 4.7 4.4 Test 0.0267 lb/ton BLS 4 0.38 0.38 0.41 0.40 0.35 0.39 0.37 Test 1.92 lb/ton BLS 5 27.09 27.63 29.46 28.52 24.89 28.38 26.62 Test 2.07 lb/ton BLS 6 29.21 29.8 31.8 30.7 26.8 30.6 28.7 culated Calculated metric tons 10 39747.1 40529.3 43212.7</td><td>BasisFactorUnitsReferenceJanFebMarAprMayJunJulAugTest0.680lb/ton BLS19.69.810.410.18.810.19.49.6est/EF0.467lb/ton BLS26.66.77.26.96.06.96.56.6est/EF0.316lb/ton 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0.55 lb/ton BLS October 24, 2013 test. Condensable PM = 0.13 lb/ton BLS (NCASI TB 1020, Table 4-12) added to filterable PM value. 1 Tested value for total filterable PM 2 PM10 calculated by applying the percent of PM10 listed in NCASI TB (49.5%) for ESP control to the filterable PM value, then adding the condensable value of 0.13 lb/ton BLS 3 PM2.5 calculated by applying the percent of PM10 listed in NCASI TB (33.8%) to the filterable PM value, then adding the condensable value of 0.13 lb/ton BLS

4 October 24, 2013 test value

5 October 24, 2013 test value

6 Pre-2008 test value

7 September 12, 2013 test value

Calculation of Emissions for Individual CO2e Constituents

	Calculation	Emission														
Pollutant	Basis	Factor	Units	Reference	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CO2	EF	3099	lb/ton BLS	8	43732.2	44592.7	47545.2	46029.3	40168.1	45814.0	42971.3	43736.3	40617.9	43182.3	42820.7	43919.2
CH4	EF	0.063	lb/ton BLS	8	0.9	0.9	1.0	0.9	0.8	0.9	0.9	0.9	0.8	0.9	0.9	0.9
N2O	EF	0.014	lb/ton BLS	8	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
CO2e	Calculation	See Reference	tons	9	43813.3	44675.4	47633.3	46114.6	40242.5	45899.0	43051.0	43817.4	40693.2	43262.4	42900.1	44000.6
CO2e	Calculation	See Reference	metric tons	10	39747.1	40529.3	43212.7	41834.9	36507.8	41639.3	39055.6	39750.9	36916.7	39247.4	38918.7	39917.1

8 Emission Factors from 40 CFR 98, Subpart AA, Table AA-1 for hardwood, converted to lb/ton BLS (assumed 7,500 Btu/lb for black liquor HHV)

9 Based upon Table A-1 of 40 CFR 98, with multipliers of 1 for CO2, 25 for CH4, and 298 for N2O.

Domtar Paper Company - Emissions Analysis for No. 3 Recovery Boiler Tube Replacement 2017 Actual Emissions

	Calculation	Emission														
Pollutant	Basis	Factor	Units	Reference	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec
PM	Test	0.680	lb/ton BLS	1	10.1	8.6	6.7	9.9	10.1	9.7	10.2	10.6	9.8	10.3	8.3	9.8
PM10	Test/EF	0.467	lb/ton BLS	2	6.9	5.9	4.6	6.8	6.9	6.6	7.0	7.3	6.7	7.1	5.7	6.7
PM2.5	Test/EF	0.316	lb/ton BLS	3	4.7	4.0	3.1	4.6	4.7	4.5	4.7	4.9	4.5	4.8	3.9	4.6
SO2	Test	0.0267	lb/ton BLS	4	0.39	0.34	0.26	0.39	0.40	0.38	0.40	0.42	0.38	0.41	0.33	0.39
NOx	Test	1.92	lb/ton BLS	5	28.40	24.20	18.97	27.87	28.49	27.36	28.82	30.05	27.53	29.20	23.50	27.75
CO	Test	2.07	lb/ton BLS	6	30.62	26.1	20.5	30.0	30.7	29.5	31.1	32.4	29.7	31.5	25.3	29.9
CO2e	Calculated	Calculated	metric tons	10	41662.3	35507.8	27827.2	40886.2	41794.7	40141.7	42280.4	44079.2	40390.8	42837.0	34473.6	40709.3
VOC	Test	0.12	lb/ton BLS	6	1.8	1.5	1.2	1.7	1.8	1.7	1.8	1.9	1.7	1.8	1.5	1.7
H2SO4	EF	0.0293	lb/ton BLS	NCASI	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.4
TRS	Test	0.052	lb/ton BLS	7	0.8	0.6	0.5	0.7	0.8	0.7	0.8	0.8	0.7	0.8	0.6	0.7
Pb	EF	2.10E-05	lb/ton BLS	NCASI	0.0003	0.0003	0.0002	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003

0.55 lb/ton BLS October 24, 2013 test. Condensable PM = 0.13 lb/ton BLS (NCASI TB 1020, Table 4-12) added to filterable PM value. 1 Tested value for total filterable PM 2 PM10 calculated by applying the percent of PM10 listed in NCASI TB (49.5%) for ESP control to the filterable PM value, then adding the condensable value of 0.13 lb/ton BLS 3 PM2.5 calculated by applying the percent of PM10 listed in NCASI TB (33.8%) to the filterable PM value, then adding the condensable value of 0.13 lb/ton BLS

4 October 24, 2013 test value

5 October 24, 2013 test value

6 Pre-2008 test value

7 September 12, 2013 test value

Calculation of Emissions for Individual CO2e Constituents

	Calculation	Emission														
Pollutant	Basis	Factor	Units	Reference	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CO2	EF	3099	lb/ton BLS	8	45839.4	39067.8	30617.2	44985.4	45985.0	44166.3	46519.4	48498.6	44440.4	47131.8	37929.9	44790.8
CH4	EF	0.063	lb/ton BLS	8	0.9	0.8	0.6	0.9	0.9	0.9	0.9	1.0	0.9	1.0	0.8	0.9
N2O	EF	0.014	lb/ton BLS	8	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
CO2e	Calculation	See Reference	tons	9	45924.4	39140.2	30674.0	45068.9	46070.2	44248.2	46605.7	48588.5	44522.8	47219.2	38000.2	44873.9
CO2e	Calculation	See Reference	metric tons	10	41662.3	35507.8	27827.2	40886.2	41794.7	40141.7	42280.4	44079.2	40390.8	42837.0	34473.6	40709.3

8 Emission Factors from 40 CFR 98, Subpart AA, Table AA-1 for hardwood, converted to lb/ton BLS (assumed 7,500 Btu/lb for black liquor HHV)

9 Based upon Table A-1 of 40 CFR 98, with multipliers of 1 for CO2, 25 for CH4, and 298 for N2O.

Domtar Paper Company - Emissions Analysis for No. 3 Recovery Boiler Tube Replacement 2018 Actual Emissions

	Calculation	Emission														
Pollutant	Basis	Factor	Units	Reference	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec
PM	Test	0.515	lb/ton BLS	1	7.2	6.5	7.2	7.5	7.6	7.4	7.8	7.9	4.3	8.0	7.6	8.0
PM10	Test/EF	0.385	lb/ton BLS	2	5.4	4.9	5.3	5.6	5.7	5.5	5.8	5.9	3.2	6.0	5.7	6.0
PM2.5	Test/EF	0.260	lb/ton BLS	3	3.7	3.3	3.6	3.8	3.8	3.7	3.9	4.0	2.2	4.1	3.8	4.1
SO2	Test	0.32	lb/ton BLS	4	4.49	4.06	4.44	4.66	4.72	4.58	4.82	4.94	2.69	5.00	4.71	4.98
NOx	Test	1.178	lb/ton BLS	5	16.53	14.94	16.36	17.14	17.36	16.85	17.74	18.17	9.89	18.39	17.34	18.34
CO	Test	2.07	lb/ton BLS	6	29.05	26.2	28.7	30.1	30.5	29.6	31.2	31.9	17.4	32.3	30.5	32.2
CO2e	Calculated	Calculated	metric tons	10	39531.7	35715.3	39111.9	40976.7	41512.2	40295.9	42415.0	43444.1	23651.6	43969.0	41450.5	43852.5
VOC	Test	0.12	lb/ton BLS	6	1.7	1.5	1.7	1.7	1.8	1.7	1.8	1.9	1.0	1.9	1.8	1.9
H2SO4	EF	0.0293	lb/ton BLS	NCASI	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.2	0.5	0.4	0.5
TRS	Test	0.0399	lb/ton BLS	7	0.6	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.3	0.6	0.6	0.6
Pb	EF	2.10E-05	lb/ton BLS	NCASI	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0002	0.0003	0.0003	0.0003

0.385 lb/ton BLS December 3, 2018 Test. Condensable PM = 0.13 lb/ton BLS (NCASI TB 1020, Table 4-12) added to filterable PM value. 1 Tested value for total filterable PM 2 PM10 calculated by applying the percent of PM10 listed in NCASI TB (49.5%) for ESP control to the filterable PM value, then adding the condensable value of 0.13 lb/ton BLS 3 PM2.5 calculated by applying the percent of PM10 listed in NCASI TB (33.8%) to the filterable PM value, then adding the condensable value of 0.13 lb/ton BLS

4 December 3, 2018 test value (average of test runs 2 and 3 - run 1 discarded as non-representative)

5 December 3, 2018 test value

6 Pre-2008 test value

7 December 3, 2018 test value

Calculation of Emissions for Individual CO2e Constituents

	Calculation	Emission														
Pollutant	Basis	Factor	Units	Reference	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CO2	EF	3099	lb/ton BLS	8	43495.1	39296.1	43033.3	45085.0	45674.1	44336.0	46667.5	47799.8	26022.9	48377.3	45606.3	48249.2
CH4	EF	0.063	lb/ton BLS	8	0.9	0.8	0.9	0.9	0.9	0.9	0.9	1.0	0.5	1.0	0.9	1.0
N2O	EF	0.014	lb/ton BLS	8	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2
CO2e	Calculation	See Reference	tons	9	43575.8	39369.0	43113.1	45168.7	45758.8	44418.2	46754.1	47888.4	26071.1	48467.0	45690.9	48338.6
CO2e	Calculation	See Reference	metric tons	10	39531.7	35715.3	39111.9	40976.7	41512.2	40295.9	42415.0	43444.1	23651.6	43969.0	41450.5	43852.5

8 Emission Factors from 40 CFR 98, Subpart AA, Table AA-1 for hardwood, converted to lb/ton BLS (assumed 7,500 Btu/lb for black liquor HHV)

9 Based upon Table A-1 of 40 CFR 98, with multipliers of 1 for CO2, 25 for CH4, and 298 for N2O.

Pollutant	Year				T.2	Month	nly Total Emis	sions ir	n Tons				_							Tr. c	24-N	Month Rolling Tota	l Emissio	ons				
PM	20	Jan F 09 10.9	eb Mar 6.6	7.8	Apr 8.3	May 9.3	Jun Jul 7.0	8.3	Aug 9.4	Sep 9.5	Oct 7.8	Nov 6.2	Dec 8.	Jan B		eb	Mar		Apr	May		Jun Jul		Aug	Sep	Oc	**	Nov
	20	10 9.1 11 8.4	3.2 8.6	8.6 8.1	9.2 8.6	8.9 9.2	9.2	9.3 9.8	8.0	9.2 9.6	6.1 8.6	8.6 9.1	9. 9.	5 6	196.3	198.3	3	198.5	198.	8 .	98.7	198.8	200.4		197.9	198.0	198.8	
	20	12 10.1 13 10.4	9.5 8.8	7.5	8.9 9.7	10.0	6.7 9.5	8.5	6.0 5.4	8.8 8.8	9.8 8.7	9.8 10.3	10.	2	203.6 211.6	209.9	9	208.7 214.3	208. 215.	4 2	209.6	207.1 219.4	206.3 219.7		204.4 218.1	204.0	207.7	
	20	14 10.4	9.4	9.5 8.1	10.2	10.1	7.9	8.5	9.5	5.5	9.4	8.6	8.	2	218.5	218.3	3	220.4	221.	8 2	21.8	223.0	222.9		226.5	223.1	222.7	
	20	16 9.6	9.8	10.4	10.1	8.8	10.1	9.4	9.6	8.9	9.5	9.4	9.	6	212.4	212.8	B	213.7	213.	6 2	12.4	214.5	215.5		215.5	219.0	219.1	
	20	17 10.1	6.5	7.2	9.9	7.6	9.7	10.2	7.9	9.8	10.3	8.3 7.6	9. 8.	0	222.7	223.	7	222.1	223. 217.	8 2	24.5	224.9	220.1		226.9	206.0	231.2	
		Jan F	eb Mar		Apr	May	Jun Jul		Aug	Sep	Oct	Nov	Dec	Jan	5	eb	Mar		Apr	May		Jun Jul		Aug	Sep	01	ct	Nov
PM	20	09 0.648	0.648	0.648	0.648	0.648	0.648	0.648	0.648	0.648	0.648	0.648	0.64	8							_							
lb/ton BLS	20	0.648	0.648	0.648	0.648	0.648	0.648	0.648	0.648	0.648	0.648	0.648	0.64	8														
	20	12 0.648	0.680	0.680	0.648	0.648	0.680	0.640	0.680	0.680	0.680	0.648	0.68	0														
	20	14 0.680 15 0.680	0.680	0.680	0.680	0.680	0.680	0.680	0.680	0.680	0.680	0.680	0.68	0														
	20	16 0.680 17 0.680	0.680	0.680	0.680	0.680	0.680	0.680	0.680	0.680	0.680	0.680	0.68	0														
	20	18 0.515	0.515	0.515	0.515	0.515	0.515	0.515	0.515	0.515	0.515	0.515	0.51	5														
		Jan F	eb Mar		Apr	Мау	Jun Jul		Aug	Sep	Oct	Nov	Dec	Jan	1	eb	Mar		Apr	Мау		Jun Jul		Aug	Sep	Or	ct	Nov
PM10	20	09 7.6 10 6.3	4.6	5.5 6.0	5.8 6.4	6.5 6.2	4.9	5.7	6.6	6.6 6.4	5.4	4.3 5.9	6. 6.	1 6														
	20	11 5.9 12 7.0	6.0 6.6	5.6 5.2	6.0 6.2	6.4 7.0	5.0	6.8 5.9	4.8	6.7 6.1	6.0 6.8	6.3 6.9	6. 7.	7	136.5 141.6	137.9	9	138.1 145.2	138. 145.	3 ·	38.2 45.8	138.3 144.0	139.4 143.5		137.7	137.7	138.3 144.5	
	20	13 7.1	6.0	7.3	6.7	7.4	6.6	6.9	3.7	6.1	6.0	7.1	6.	3	147.1	147.1	1	148.8	149.	4 .	50.5	152.1	152.1		151.0	150.4	150.4	
	20	15 6.0	5.4	5.5	5.5	6.5	6.4	6.2	6.7	3.3	7.6	6.8	7.	0	149.4	148.8	B	147.0	145.	9	44.9	144.8	144.1		147.1	144.3	145.9	
	20	16 6.6 17 6.9	6.7 5.9	4.6	6.9	6.0	6.6	6.5	6.6 7.3	6.1	6.5	6.4 5.7	6. 6.	7	145.7 152.8	146.0	3	146.7 152.4	146. 153.	7	45.7 54.1	147.2 154.3	147.9 155.1		147.9	150.3 159.1	150.3	
	20	18 5.4	4.9	5.3	5.6	5.7	5.5	5.8	5.9	3.2	6.0	5.7	6.	D	156.2	154.3	3	152.5	151.	2 .	50.8	149.4	148.8		148.1	145.2	144.7	
PM10	20	Jan F 09 0.451	eb Mar 0.451	0.451	Apr 0.451	May 0.451	Jun Jul 0.451	0.451	Aug 0.451	Sep 0.451	Oct 0.451	Nov 0.451	Dec 0.45	Jan 1	1	eb	Mar		Apr	May	,	Jun Jul		Aug	Sep	Or	*	Nov
in Ib/ton BLS	20	0.451	0.451	0.451	0.451	0.451	0.451	0.451	0.451	0.451	0.451	0.451	0.45	1														
DRUGH DEC	20	0.451	0.451	0.451	0.451	0.451	0.451	0.451	0.451	0.451	0.451	0.451	0.45	1														
	20	13 0.467	0.467	0.467	0.467	0.467	0.467	0.467	0.467	0.467	0.467	0.467	0.46	7														
	20	15 0.467 16 0.467	0.467 0.467	0.467	0.467	0.467	0.467	0.467	0.467	0.467	0.467	0.467	0.46	7														
	20	17 0.467 18 0.385	0.467	0.467	0.467	0.467	0.467	0.467	0.467	0.467	0.467	0.467	0.46	5							_							
		lan F	eb Mar		Apr	May	lun lui		Aug	Sen	Oct	Nov	Dec	lan		eh	Mar		Anr	May		lun lui		Aug	Sen		ct	Nov
PM2.5	20	09 5.1	3.1	3.7	3.9	4.4	3.3	3.9	4.4	4.5	3.7	2.9	4.	1														
	20	11 4.0	4.1	3.8	4.5	4.3	3.4	4.6	3.3	4.5	4.1	4.0	4.	5	92.4	93.3	3	93.5	93.	6	93.6	93.6	94.3		93.2	93.2	93.6	
	20	12 4.8 13 4.8	4.5	3.5 4.9	4.2	4.7	3.2	4.0	2.8	4.1	4.0	4.6	4.	3	95.8 99.5	98.0	6	98.3	98. 101.	2 '	98.7	97.5	97.1		102.2	101.8	97.8	
	20	14 4.8 15 4.0	4.3 3.6	4.4	4.7	4.7	3.7	3.9	4.4	2.5	4.4	4.0 4.6	3.	7	102.1	102.0	7	102.9 99.5	103. 98.	5 [.] 8	03.4 98.1	103.9 98.0	103.8 97.5		105.4 99.6	103.8	103.6 98.8	
	20	16 4.5 17 4.7	4.5	4.8	4.7	4.1	4.7	4.4	4.5	4.1	4.4	4.4	4.	5	98.7 103.5	98.9	9 B	99.3 103.2	99. 104	2	98.7 04.3	99.7 104.5	100.1 105.0		100.1	101.7	101.8	
	20	18 3.7	3.3	3.6	3.8	3.8	3.7	3.9	4.0	2.2	4.1	3.8	4.	1	105.7	104.5	5	103.2	102.	3 .	02.1	101.1	100.7		100.2	98.3	97.9	
		Jan F	eb Mar		Apr	Мау	Jun Jul		Aug	Sep	Oct	Nov	Dec	Jan	5	eb	Mar		Apr	Мау		Jun Jul		Aug	Sep	Or	ct	Nov
PM2.5 in	20	09 0.305	0.305	0.305	0.305	0.305	0.305	0.305	0.305	0.305	0.305	0.305	0.30	5														
lb/ton BLS	20	11 0.305 12 0.305	0.305	0.305	0.305	0.305	0.305	0.305	0.305	0.305	0.305	0.305	0.30	5														
	20	13 0.316 14 0.316	0.316	0.316	0.316	0.316	0.316	0.316	0.316	0.316	0.316	0.316	0.31	6														
	20	0.316	0.316	0.316	0.316	0.316	0.316	0.316	0.316	0.316	0.316	0.316	0.31	6														
	20	0.316	0.316	0.316	0.316	0.316	0.316	0.316	0.316	0.316	0.316	0.316	0.31	6														
	20	0.260	0.260	0.260	0.260	0.260	0.260	0.260	0.260	0.260	0.260	0.260	0.26															
SO2	20	Jan F 09 0.1	eb Mar 0.1	0.1	Apr 0.1	May 0.1	Jun Jul 0.1	0.1	Aug 0.1	Sep 0.1	Oct 0.1	Nov 0.1	Dec 0.	Jan 1	1	eb	Mar		Apr	May		Jun Jul		Aug	Sep	Oc	*	Nov
	20	10 0.1 11 0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.	1	21	2.	1	21	2	1	21	21	21		21	21	21	
	20	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.	1	2.2	2.2	2	2.2	2.	2	2.2	2.2	2.2		2.2	2.2	2.2	
	20	14 0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.4	0.2	0.4	0.3	0.	3	5.8	6.1	1	6.4	6.	7	7.0	7.2	7.5		7.8	7.9	8.2	
	20	16 0.4	0.4	0.3	0.3	0.4	0.4	0.4	0.4	0.2	0.4	0.4	0.	4	8.3	8.4	4	8.4	8.	4	8.3	8.4	8.5		8.5	8.6	8.6	
	20	17 0.4 18 4.5	0.3 4.1	0.3 4.4	0.4	0.4 4.7	0.4 4.6	0.4 4.8	0.4 4.9	0.4	0.4	0.3 4.7	0. 5.	4 D	8.7 13.1	8.8	B	8.7 20.8	8. 25.	8	8.8 29.5	8.8 33.6	8.9 38.1		42.6	9.1 45.0	9.1 49.6	
		Jan F	eb Mar		Apr	May	Jun Jul		Aug	Sep	Oct	Nov	Dec	Jan		eb	Mar		Apr	May		Jun Jul		Aug	Sep	Or	ct	Nov
SO2	20	09 0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.00	7										-				
lb/ton BLS	20	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.00	7														
	20	13 0.027	0.027	0.007	0.007	0.007	0.027	0.027	0.007	0.007	0.007	0.007	0.00	7														
	20	14 U.U27 15 0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.02	/														
	20	16 0.027 17 0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.02	7														
	20	18 0.320	0.320	0.320	0.320	0.320	0.320	0.320	0.320	0.320	0.320	0.320	0.32	0														
NOT		Jan F	eb Mar	25.5	Apr	May	Jun Jul	26.0	Aug	Sep	Oct	Nov	Dec	Jan	1	eb	Mar		Apr	May		Jun Jul		Aug	Sep	Or	at	Nov
NOX.	20	10 29.7	10.5	27.9	21.2	29.0	30.0	30.1	26.0	30.1	19.9	20.1	30.	9	600.0	0.75			0.1		47.0	617.1			844.4			<u> </u>
	20	12 33.0	∠8.1 30.9	26.3	28.1	30.0 32.7	23.2	31.9 27.7	22.7	31.3	28.1	29.5 32.1	31. 33.	0	639.0 662.9	683.3	3	046.4 679.7	678.	5 6 7 6	×1.0	047.4 674.3	652.4 671.8		665.5	664.1	676.2	
	20	13 29.3 14 29.2	24.8 26.4	30.0 26.9	27.4 28.8	30.6	27.0	28.4	15.3	25.0	24.5	29.2	26.	1	684.4 658.3	681.2	2 B	684.9 656.4	684.	4 6	84.8 52.2	688.5 652.5	685.0 648.8		656.1	671.3 642.9	667.7	
	20	15 24.5 16 27.1	22.1 27.6	22.8 29.5	22.7	26.8 24 9	26.5 28.4	25.4 26.6	27.7	13.4 25.2	31.2 26 8	27.9 26.5	28. 27	6	614.8 599.7	612.1 600 s	9	605.0 603.4	600. 603	3 5	96.4 99.6	595.9 605.7	592.9 608.4	_	605.3 608.6	593.8 618.3	600.4 618.5	
	20	17 28.4	24.2	19.0	27.9	28.5	27.4	28.8	30.0	27.5	29.2	23.5	27.	8	628.9	631.0 624 1	2	627.1	632.	3 6	34.0	634.9 580 7	638.3 571.9		640.7 562.9	654.8 547.6	652.8	<u> </u>
	20	10.3	.4.0	.0.4		17.4	10.8	11.1	10.2	0.9	10.4	11.3	10.		530.8	024.4		011.1	589.	- <u> </u>		300.7	571.0				338.3	-

	D
	Dec
	198 R
201.7	202.6
209.0	209.6
218.7	218.3
221.4	219.5
212.2	213.1
219.9	221.3
229.6	229.3
202.7	201.1
	Dee
	Dec
	Dee
	Dec
	138.3
140.3	140.9
145.4	145.8
151.1	150.8
152.0	150.6
145.6	146.3
150.9	151.9
157.6	157.4
144.0	143.3
	Dec
	Dec
	Dee
	Dec
	02.6
95.0	95.0
98.4	98.7
102.3	102.1
	404.0
102.9	101.9
102.9 98.6	99.0
102.9 98.6 102.2	99.0 102.8
102.9 98.6 102.2 106.7	101.9 99.0 102.8 106.5
102.9 98.6 102.2 106.7 97.4	101.9 99.0 102.8 106.5 97.0
102.9 98.6 102.2 106.7 97.4	101.9 99.0 102.8 106.5 97.0
102.9 98.6 102.2 106.7 97.4	101.9 99.0 102.8 106.5 97.0 Dec
102.9 98.6 102.2 106.7 97.4	99.0 102.8 106.5 97.0 Dec
102.9 98.6 102.2 106.7 97.4	101.9 99.0 102.8 106.5 97.0 Dec
102.9 98.6 102.2 106.7 97.4	101.9 99.0 102.8 106.5 97.0 Dec
102.9 98.6 102.2 106.7 97.4	01.9 99.0 102.8 106.5 97.0 Dec
102.9 98.6 102.2 106.7 97.4	101.9 99.0 102.8 106.5 97.0 Dec
102.9 98.6 102.2 106.7 97.4	01.9 99.0 102.8 106.5 97.0 Dec
102.9 98.6 102.2 106.7 97.4	99.0 99.0 102.8 106.5 97.0 Dec
102.9 98.6 102.2 106.7 97.4	01.9 99.0 102.8 106.5 97.0 Dec
102.9 98.6 102.2 106.7 97.4	01.9 990. 102.8 106.5 97.0 Dec
102.9 98.6 102.2 106.7 97.4	01.9 99.0 102.8 106.5 97.0 Dec
102.9 98.6 102.2 106.7 97.4	01.9 99.0 102.8 106.5 97.0 Dec
102.9 98.6 102.2 106.7 97.4	Dec 2.1
102.9 98.6 102.2 106.7 97.4	Dec
102.9 98.6 102.2 106.7 97.4	Dec
102.9 98.6 102.2 106.7 97.4 2.1 2.2 5.3 8 4	01.9 90.0 102.8 100.5 97.0 Dec 2.1 2.22 5.5 0 0 0 0 0 0 0 0 0 0 0 0 0
102.9 98.6 102.2 106.7 97.4 2.1 2.2 5.3 8.4 8 3	019 9900 1028 1005.5 97.0 Dec Dec
102.9 98.6 102.2 106.7 97.4 2.1 2.2 2.3 8.4 8.3 8.6	01.9 990.0 102.8 1005.6 97.0 Dec 2.1 2.2 5.6 5.6 5.6 8.8 6.0 8.4 8.7
102.9 98.6 102.2 106.7 97.4 97.4 97.4 97.4 97.4 97.4 8.8 8.8 8.8 8.8 9.0	Dec 211 221 255 866 844 8.7 900
102.9 98.6 102.2 106.7 97.4 2.1 2.2 2.5 3.3 8.4 8.4 8.4 9.0 9.0 9.5 3.9	101.9 960.0 102.8 1005.5 97.0 Dec 22.1 22.2 5.5 8.6 8.4 8.4 8.4 8.7 8.0 0 56.6 66.6
102.9 98.6 102.2 106.7 97.4 2.1 2.2 5.3 8.4 8.3 8.6 9.0 53.9	Dec 21
102.9 98.6 102.2 106.7 97.4 2 2.1 2.2 5.3 8.4 8.6 8.9.0 53.9	101.9 90.0 102.8 100.5 97.0 Dec Dec 2.11 2.22 5.5 8.66 8.44 8.7, 9.0 9.66 0 0 0 0 0 0 0 0 0 0 0 0 0
102.9 98.6 102.2 106.7 97.4 97.4 2 106.7 97.4 97.4 8.6 8.4 8.3 8.6 8.9 9.0 9.5 3.9	019 9900 1028 970 Dec 21 2.1 2.2 55 8.6 8.6 8.6 8.6 8.6 8.6 8.6 8.6 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0
102.9 98.6 102.2 106.7 97.4 97.4 2 2.1 2.2 5.3 8.4 8.4 8.3 8.4 8.3 8.4 9.0 5.3.9	101.9 980.0 102.8 1005.5 97.0 Dec Dec 2.11 2.12 5.5 8.6 8.4 8.7 9.0 58.6 Dec
102.9 98.6 102.2 106.7 97.4 2.1 2.2 2.1 2.2 3.3 8.4 8.3 8.6 6 9.0 5.3.9	1019 9900 1028 970 Dec 21 21 21 21 25 55 55 56 84 44 87 7 90 58.8 Dec
102.9 986.6 102.2 106.7 97.4 97.4 2.1 2.2 3.3 8.4 8.3 8.6 9.0 5.3.9	101.9 980.0 102.8 100.5 97.0 Dec 221 222 55 8.6 8.4 8.7 90 56.6 Dec
102.9 98.6 102.2 106.7 97.4 201.0 2.1 2.2 2.1 2.2 2.5 3.3 8.4 8.8 8.6 9.0 53.9	019 900 900 900 900 900 900 900 900 900
102.9 986.6 102.2 106.7 97.4 97.4 2 2.1 2.2 3 8.4 8.3 8.6 6 9.0 53.9	101.9 980.0 102.8 1005.5 97.0 Dec 211 212 55 8.6 8.4 8.7 8.6 8.4 8.7 55 8.6 8.4 8.7 55 8.6 8.4 8.7 55 8.6 8.4 8.7 55 8.6 8.4 8.7 55 8.6 8.4 8.7 55 8.6 8.4 8.7 55 8.6 8.4 8.7 55 8.6 8.4 8.7 55 8.6 8.4 8.7 8.7 8.7 8.7 8.7 8.7 8.7 8.7
102.9 98.6 102.2 106.7 97.4	Dec 21 22 55 866 84 877 90 586 Dec
102.9 986.6 102.2 106.7 97.4	1019 980.0 102.8 100.5 97.0 Dec 2.11 2.22 5.5 8.6 8.7 9.7 9.7 9.7 9.7 9.7 9.7 9.7 9
102.9 986.6 102.2 106.7 97.4	Dec
102.9 986.6	1019 980.0 102.8 100.5 97.0 Dec 2.1 2.2 5.5 8.6.0 8.6.0 58.6 Dec
102.9 986.6 102.2 106.7 97.4	Dec Dec Dec Dec
102.9 986 6 102.2 106.7	101.9 980.0 102.8 100.5 97.0 Dec 2.1 2.2 5.5 8.6 9.7 9.0 9.7 9.0 9.7 9.7 9.7 9.7 9.7 9.7 9.7 9.7
102.9 98.6 98.6 98.6 98.6 98.6 98.6 98.6 98	Dec Cec Cec Cec Cec Cec Cec Cec
102.9 98.6 98.6 102.2 98.6 97.4 97.4 97.4 97.4 97.4 97.4 97.4 97.4	019 900 1028 1005 97.0 Dec 21 22 66 86 87.0 Dec 22 66 86 87.0 Dec 22 22 66 87.0 Dec 22 22 66 87.0 Dec 86.0 Dec 86.
102.9 98.6 102.2 97.4 97.4 97.4 97.4 97.4 97.4 97.4 97.4	Dec Dec Dec Dec Dec Dec Dec Dec Dec
102.9 98.6 98.6 102.2 97.4 97.4 97.4 97.4 97.4 97.4 97.4 97.4	Dec
102.9 98.6 98.6 102.2 97.4 97.4 97.4 97.4 97.4 97.4 97.4 97.4	Dec
102.9 98.6 98.6 102.2 97.4 97.4 97.4 97.4 97.4 97.4 97.4 97.4	Dec
102.9 98.6 98.6 102.2 97.4 97.4 97.4 97.4 97.4 97.4 97.4 97.4	Dec
102.9 98.6 98.6 102.2 98.6 97.4 97.4 97.4 97.4 97.4 97.4 97.4 97.4	Dec Dec Dec Dec Dec C C C C C C C C C C C C C C C C C C C

Pollutant	Year					Mont	hly Total E	missions in	Tons								ġ.	24-	Month Rolling	Total Emissio	ons			_
NOX	200	Jan 2 110	Feb 2 110	Mar 2 110	Apr 2 110	May 2 110	Jun 2 110	Jul 2 110	Aug 2 110	Sep 0	2 110	2 110	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct Nov	_
in	200	0 2.110	2.110	2.110	2.110	2.110	2.110	2.110	2.110	2.110	2.110	2.110	2.110											
lb/ton BLS	201	1 2.110 2 2.110	2.110	2.110	2.110	2.110	2.110	2.110	2.110	2.110	2.110	2.110	2.110					-						-
	201	3 1.920	1.920	1.920	1.920	1.920	1.920	1.920	1.920	1.920	1.920	1.920	1.920											
	201	5 1.920	1.920	1.920	1.920	1.920	1.920	1.920	1.920	1.920	1.920	1.920	1.920											
	201	6 1.920	1.920	1.920	1.920	1.920	1.920	1.920	1.920	1.920	1.920	1.920	1.920					-						_
	201	8 1.178	1.178	1.178	3 1.178	1.178	3 1.178	1.178	1.178	1.178	1.178	1.178	1.178											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Αυα	Sep (oct No	ער	Dec .	lan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sen	Oct Nov	_
со	200	9 34.9	21.1	25.0	26.7	29.1	22.5	26.4	30.1	30.4	24.9	19.7	28.0											
	201	0 29.1 1 26.9	10.3	27.4	29.3 27.5	28.5	5 29.4	29.6	25.5	29.5	19.5	27.3	30.3	626.9	633.4	634.	2 635	.0 634.8	635.1	640.0	632.2	632.5	635.1	
	201	2 32.3	30.4	23.8	3 28.3	3 32.0	21.5	27.2	19.2	28.2	31.4	31.5	32.4	650.3	670.4	666.	8 665	.9 669.4	661.5	659.1	652.9	651.5	663.4	_
	201	4 31.5	28.5	29.0	29.5	30.6	5 29.1	25.8	29.0	16.6	28.6	26.0	20.0	679.5	677.6	682.	685	.6 684.2	686.7	685.4	695.2	683.7	680.9	
	201	5 26.4	23.9	24.6	6 24.4 3 30.7	28.9	28.5	27.4	29.8	14.5	33.6	30.1	30.9	662.9	659.9	652.	2 647	.1 643.0	642.5	639.2	652.6	640.1 666.6	647.3	
	201	7 30.6	26.1	20.5	5 30.0	30.7	29.5	31.1	32.4	29.7	31.5	25.3	29.9	678.0	680.2	676.	1 681	.7 683.5	684.5	688.2	690.7	705.9	703.8	
	201	8 29.1	26.2	28.7	7 30.1	30.5	5 29.6	31.2	31.9	17.4	32.3	30.5	32.2	697.9	694.4	691.	4 690	.7 694.4	693.4	695.9	698.6	688.9	692.3	
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep C	Oct No	VC	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct Nov	
VOC	200	9 2.0 0 1.7	1.2	1.5	5 1.5 5 1.7	1.1	7 1.3	1.5	1.7	1.8	1.4	1.1	1.6											
	201	1 1.6	1.6	1.5	5 1.6	5 1.	7 1.3	1.8	1.3	1.8	1.6	1.7	1.8	36.3	36.7	36.	3 36	.8 36.8	36.8	37.1	36.6	36.7	36.8	
	201	3 1.8	1.6	1.9	1.0	7 1.9	9 1.2	1.8	1.0	1.6	1.5	1.8	1.6	39.1	39.0	39.	4 39	.5 39.7	40.1	40.1	39.7	39.5	39.5	
	201	4 1.8 5 1.5	1.7	1.7	1.8	3 1.8 I 1.7	3 1.4 7 1.7	1.5	1.7	1.0	1.7	1.5	1.4	39.4	39.3 38.3	39. 37.	6 39 8 37	.7 39.7 .5 37.3	39.8 37.2	39.7	40.3 37.8	39.6 37.1	39.5 37.5	
	201	6 1.7	1.7	1.8	3 1.8	3 1.0	6 1.8	1.7	1.7	1.6	1.7	1.7	1.7	37.5	37.6	37.	7 37	.7 37.5	37.9	38.0	38.0	38.6	38.7	_
	201	7 1.8 8 1.7	1.5	1.2	7 1.7	1.8	3 1.7	1.8	1.9	1.7	1.8	1.5	1.7	40.5	39.4 40.3	39. 40.	2 39	.5 39.6	40.2	40.3	40.0	40.9 39.9	40.8	
		lan	Eab	Mar	Apr	May	kup	Int	Aug	Sen (Det No	21/	Dec	20	Eeb	Mar	Apr	May	lup	lot	Aug	San	Oct Nov	_
H2SO4	200	9 0.5	0.3	0.4	0.4	l 0.4	1 0.3	0.4	-lug 0.4	0.4	0.4	0.3	0.4	an	160	Iviai	лрі	imay	Jun	Jui	Aug	Gep		
	201	0 0.4	0.1	0.4	0.4	0.4	1 0.4 1 0.3	0.4	0.4	0.4	0.3	0.4	0.4	8.9	9.0	9.	9	.0 9.0	9.0	9.1	8.9	9.0	9.0	
	201	2 0.5	0.4	0.3	8 0.4	0.9	5 0.3	0.4	0.3	0.4	0.4	0.4	0.5	9.2	9.5	9.	4 9	.4 9.5	9.4	9.3	9.2	9.2	9.4	
	201	4 0.4	0.4	0.5	0.4	0.4	4 0.3	0.4	0.2	0.4	0.4	0.4	0.4	9.5	9.0	9.	5 9 7 9	.7 9.7	9.8	9.8	9.7	9.6	9.6	
	201	5 0.4	0.3	0.3	8 0.3	8 0.4	4 0.4	0.4	0.4	0.2	0.5	0.4	0.4	9.4	9.3	9.	2 9	.2 9.1	9.1	9.0	9.2	9.1	9.2	
	201	7 0.4	0.4	0.4	3 0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	9.6	9.6	9.	5 9	.6 9.7	9.7	9.7	9.8	10.0	10.0	
	201	8 0.4	0.4	0.4	0.4	0.4	1 0.4	0.4	0.5	0.2	0.5	0.4	0.5	9.9	9.8	9.	8 9	.8 9.8	9.8	9.9	9.9	9.8	9.8	_
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep C	Oct No	v	Dec .	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct Nov	_
IRS	200	0 0.2	0.1	0.2	2 0.2	2 0.1	2 0.2	0.2	0.2	0.2	0.2	0.1	0.2											
	201	1 0.2	0.2	0.2	2 0.2	2 0.2	2 0.2	0.2	0.2	0.2	0.2	0.2	0.2	4.4	4.5	4.	5 4	.5 4.5	4.5	4.5	4.5	4.5	4.5	
	201	3 0.8	0.7	0.8	3 0.7	0.8	3 0.7	0.8	0.4	0.7	0.7	0.8	0.2	5.3	5.8	6.	4 7	.0 7.6	8.1	8.7	8.9	9.4	9.8	
	201	4 0.8 5 0.7	0.7	0.7	7 0.8 6 0.6	8 0.8 6 0.7	3 0.6	0.6	0.7	0.4	0.7	0.6	0.6	11.5	12.0	12.	5 13 2 16	.1 13.6	14.1	14.5 15.9	15.1 16.2	15.3 15.9	15.8 16.1	
	201	6 0.7	0.7	0.8	3 0.8	8 0.7	7 0.8	0.7	0.7	0.7	0.7	0.7	0.7	16.1	16.1	16.	2 16	.2 16.1	16.2	16.3	16.3	16.6	16.6	
	201	8 0.6	0.5	0.6	6 0.6	6 0.6	6 0.6	0.6	0.6	0.7	0.6	0.6	0.6	17.2	10.8	16.	7 16	.5 16.5	16.3	16.2	17.2	17.6	17.5	
		lan	Feb	Mar	Apr	May	lup	lul	Δυσ	Sen (oct No	V	Dec	lan	Feb	Mar	Apr	May	lun	lul	Aug	Sen	Oct Nov	_
TRS	200	9 0.015	0.015	0.015	5 0.015	0.015	5 0.015	0.015	0.015	0.015	0.015	0.015	0.015	, an				indy	bun		nug	000		
In Ib/ton BLS	201	1 0.015	0.015	0.015	5 0.015	5 0.01	5 0.015	0.015	0.015	0.015	0.015	0.015	0.015											-
	201	2 0.015	0.015	0.015	0.015	0.01	0.015	0.015	0.015	0.015	0.015	0.015	0.015											_
	201	4 0.052	0.052	0.052	2 0.052	0.05	2 0.052	0.052	0.052	0.052	0.052	0.052	0.052											
	201	5 0.052 6 0.052	0.052	0.052	2 0.052	2 0.052	2 0.052	0.052	0.052	0.052	0.052	0.052	0.052											-
	201	7 0.052	0.052	0.052	2 0.052	0.052	2 0.052	0.052	0.052	0.052	0.052	0.052	0.052					_						
	201	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040											
Pb	200	Jan 0.0004	Feb 0.000	Mar 0.000	Apr 0.0003	May 0.000	Jun 3 0.0002	Jul 0.0003	Aug 0.0003	Sep 0.0003	0.0003	0.0002	Dec 0.0003	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct Nov	
	201	0 0.0003	0.000	0.000	0.0003	0.000	3 0.0003	0.0003	0.0003	0.0003	0.0002	0.0003	0.0003	0.000	0.000	0.00			0.000	0.000	0.000	0.000	0.000	_
	201 201	2 0.0003	0.000	0.000	0.0003	3 0.0003	3 0.0002	0.0003	0.0002	0.0003	0.0003	0.0003	0.0003	0.006	0.006	0.00	7 0.0	0.006	0.006	0.006	0.006	0.006	0.007	_
	201	3 0.0003	0.000	0.000	0.0003	0.000	3 0.0003	0.0003	0.0002	0.0003	0.0003	0.0003	0.0003	0.007	0.007	0.00	7 0.0	0.007	0.007	0.007	0.007	0.007	0.007	
	201	5 0.0003	0.000	0.000	0.0002	0.000	3 0.0003	0.0003	0.0003	0.0002	0.0003	0.0003	0.0003	0.007	0.007	0.00	7 0.0	07 0.007	0.007	0.006	0.007	0.006	0.007	
	201	6 0.0003 7 0.0003	0.000	0.000	0.0003	6 0.0003 8 0.0003	5 0.0003 3 0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.007	0.007	0.00	/ 0.0 7 0.0	0.007	0.007	0.007	0.007	0.007 0.007	0.007	
	201	8 0.0003	0.000	0.000	0.0003	8 0.0003	3 0.0003	0.0003	0.0003	0.0002	0.0003	0.0003	0.0003	0.007	0.007	0.00	7 0.0	0.007	0.007	0.007	0.007	0.007	0.007	_
<u> </u>		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep C	Oct No	v	Dec	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct Nov	
CO2e metric tons	200	9 47489.8 0 39641 7	28672.7 14026 8	34055.6	36292.7 3 39804 P	40450.3	3 30557.3 5 40019.8	35901.2 40231.3	40965.7 34641 8	41367.3	33906.4 26516.2	26771.3	38071.3 41219.8											
	201	1 36625.8	37445.9	35133.7	37446.2	40105.3	3 30989.5	42640.3	30259.4	41772.0	37520.1	39441.7	41768.2	853047.3	861820.4	862898.	5 864052	.0 863706.9	864139.1	870878.3	860171.9	860576.5	864190.2	87
	201	2 43986.2 3 42975.6	41301.0	32407.4	+ 38497.2 0 40179.7	43595.8	29222.5	30945.5 41702.3	261/3.3	36618.5	42091.3 35979.8	42813.5 42781.6	44043.2 38096.1	884902.1 917482.5	9121/6.3	907333. 925334.	906025 3 928067	.+ 910876.7 .8 932887.4	900079.4	896793.6 940508.1	888325.0 932683.6	886496.7 927530.2	9026/1.9 925989.9	90
	201	4 42908.8 5 35944 5	38763.2	39435.0	42285.9	41700.6	32624.3	35143.5 37250 5	39527.5	22629.7 19721 6	38958.8 45780 3	35440.3	33895.0	924580.2 901954 F	922042.4	929069. 887470	9 932858	.7 930963.4	934365.2 874107 6	932563.3 860745 7	945917.5 887025 0	930239.4 871028 1	926506.9 880828.6	91 87
	201	6 39747.1	40529.3	43212.7	41834.9	36507.8	41639.3	39055.6	39750.9	36916.7	39247.4	38918.7	39917.1	879702.9	881469.0	885246.	7 884795	.7 879602.9	888617.9	892530.0	892753.3	907040.3	907328.8	91
	201	/ 41662.3 8 39531 7	35507.8	27827.2	40886.2	41794.	40141.7 40295 9	42280.4 42415.0	44079.2	40390.8 23651.6	42837.0 43969.0	34473.6 41450.5	40709.3 43852.5	922547.1 949652 2	925593.8 944838.3	919925. 940737	927552	.6 930074.4	931377.6 943540.4	936407.5 946899 8	939872.6 950593 0	960541.8 937327 9	957598.4 942049.5	95 94
					1										2		1			1.1150.0				

	Dec
	Dec
	634.9
644.4	647.1
667.5	669.6
683.0	680.3
675.5	668.0
646.0	648.8
669.4	673.8
699.0	698.1
694.2	697.1
	Dec
	36.8
37.4	37.5
38.7	38.8
39.6	39.4
39.2	38.7
37.4	37.6
38.8	39.1
40.5	40.5
40.2	40.4
	Dec
	9.0
9.1	9.2
9.4	9.5
9.7	9.6
9.6	9.5
9.1	9.2
9.5	9.5
9.9	9.9
9.8	9.9
	Dec
	Dec
	Dec
	4.5
4.5	4.5
4.5 4.7	4.5 4.6 4.7
4.5 4.7 10.4	4.5 4.6 4.7 10.9
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Domtar Paper Company - Emissions Analysis for No. 3 Recovery Boiler Tube Replacement Future Projected Actual Emissions

Maximum Liq	uor Throughpu	it, tons BLS/day		1050																
Utilization Fac	ctor			1.000		1	1					1					1			
Pollutant	Calculation Basis	Emission Factor	Units	Reference	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Νον	Dec	Total Future	2-Year Average Actual	Difference	PSD Threshold
PM	Test	0.651	lb/ton BLS	1	10.6	9.6	10.6	10.2	10.6	10.2	10.6	10.6	10.2	10.6	10.2	10.6	124.7	115.9	8.7	25.0
PM10	Test/EF	0.452	lb/ton BLS	2	7.4	6.6	7.4	7.1	7.4	7.1	7.4	7.4	7.1	7.4	7.1	7.4	86.6	79.6	7.1	15.0
PM2.5	Test/EF	0.306	lb/ton BLS	3	5.0	4.5	5.0	4.8	5.0	4.8	5.0	5.0	4.8	5.0	4.8	5.0	58.6	53.9	4.8	10.0
SO2	Test	0.048	lb/ton BLS	4	0.8	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	9.2	29.3	-20.1	40.0
NOx	Test	1.922	lb/ton BLS	5	31.3	28.3	31.3	30.3	31.3	30.3	31.3	31.3	30.3	31.3	30.3	31.3	368.3	344.3	24.0	40.0
CO	Test	2.07	lb/ton BLS	6	33.7	30.4	33.7	32.6	33.7	32.6	33.7	33.7	32.6	33.7	32.6	33.7	396.7	353.0	43.7	100.0
CO2e	Calculation	See notes	metric tons	10	45839.1	41403.0	45839.1	44360.4	45839.1	44360.4	45839.1	45839.1	44360.4	45839.1	44360.4	45839.1	539717.9	480270.9	59447.0	75000.0
VOC	Test	0.12	lb/ton BLS	6	2.0	1.8	2.0	1.9	2.0	1.9	2.0	2.0	1.9	2.0	1.9	2.0	23.0	20.5	2.5	40.0
H2SO4	EF	0.0293	lb/ton BLS	NCASI	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5.6	5.0	0.6	7.0
TRS	Test	0.036	lb/ton BLS	7	0.579	0.523	0.579	0.560	0.579	0.560	0.579	0.579	0.560	0.579	0.560	0.579	6.818	8.781	-1.963	10.000
Pb	EF	2.10E-05	lb/ton BLS	NCASI	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.004	0.0004	0.600

1 Average of monthly PM emission factors from 2009 - 2018

2 PM10 calculated by applying the percent of PM10 listed in NCASI TB 1020 (49.5%) for ESP control to the filterable PM value, then adding the condensable value of 0.13 lb/ton BLS

3 PM2.5 calculated by applying the percent of PM10 listed in NCASI TB 1020 (33.8%) to the filterable PM value, then adding the condensable value of 0.13 lb/ton BLS

4 Average of monthly SO2 emission factors from 2009 - 2018

5 Average of monthly NOx emission factors from 2009 - 2018

6 Pre-2008 test value

7 Average of monthly TRS emission factors from 2009 - 2018

Calculation of Emissions for Individual CO2e Constituents

Pollutant	Calculation Basis	Emission Factor	Units	Reference	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Νον	Dec	Total Future
CO2	EF	3099	lb/ton BLS	4	50436.2	45555.3	50436.2	48809.3	50436.2	48809.3	50436.2	50436.2	48809.3	50436.2	48809.3	50436.2	593845.9
CH4	EF	0.063	lb/ton BLS	AP-42	1.03	0.93	1.03	0.99	1.03	0.99	1.03	1.03	0.99	1.03	0.99	1.03	12.07
N2O	EF	0.014	lb/ton BLS	AP-42	0.23	0.21	0.23	0.22	0.23	0.22	0.23	0.23	0.22	0.23	0.22	0.23	2.68
CO2e	Calculation	See Reference	tons	7	50528.4	45638.5	50528.4	48898.4	50528.4	48898.4	50528.4	50528.4	48898.4	50528.4	48898.4	50528.4	594931.0
CO2e	Calculation	See Reference	metric tons	8	45839.1	41403.0	45839.1	44360.4	45839.1	44360.4	45839.1	45839.1	44360.4	45839.1	44360.4	45839.1	539717.9

8 Emission Factors from 40 CFR 98, Subpart AA, Table AA-1 for hardwood, converted to lb/ton BLS (assumed 7,500 Btu/lb for black liquor HHV)

9 Based upon Table A-1 of 40 CFR 98, with multipliers of 1 for CO2, 25 for CH4, and 298 for N2O.

APPENDIX B

SUGGESTED PERMIT LANGUAGE (BACKUP BOILER)

Emission Unit EU-59	Backup Boiler										
Emission Point	Cleaver-Brooks package boiler; Model NB-701D-130; SN RT-4123										
Description	358.6 MMBtu/hour boiler firing gas 1 fuels										
Installation	4 th quarter 2018										
Maximum Rated Capacity	0.3586 mmscf/hour										
Process Description	Backup boiler										
Control Equipment	None										

APPLICABLE REGULATIONS:

401 KAR 59:015, New indirect heat exchangers.

401 KAR 60:005, Section 2(2)(c), 40 C.F.R. 60.40b to 60.49b (Subpart Db), Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units

401 KAR 63:002, Section 2(4)(iiii), 40 C.F.R. 63.7480 to 63.7575, Tables 1 to 13 (Subpart DDDDD), National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters.

1. **Operating Limitations**:

- a. The permittee shall fire only natural gas fuel, with a potential SO₂ emission rate of 0.32 lb/MMBtu heat input or less. Pursuant to 40 CFR 60.42b(k)(2), this will exempt permittee from the SO₂ emissions limit in 40 CFR 60.42b(k)(1) [401 KAR 52:020, Section 10].
- b. The permittee must meet the requirements in 40 CFR 63.7500(a)(1) and (3). The permittee must meet these requirements at all times the affected unit is operating [40 CFR 63.7500(a)].
 - (1) The permittee must meet each work practice standard in Table 3 to this subpart that applies to your boiler, for each boiler at your source, except as provided under 40 CFR 63.7522 [40 CFR 63.7500(a)(1)].
 - (2) At all times, you must operate and maintain any affected source (as defined in 40 CFR 63.7490), including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source [40 CFR 63.7500(a)(3)].
- c. The permittee must demonstrate initial compliance with the applicable work practice standards in Table 3 to 40 CFR 63, Subpart DDDDD, within the annual schedule as specified in 40 CFR 63.7515(d) following the initial compliance date specified in 40 CFR

63.7495(a). Thereafter, you are required to complete the applicable annual, biennial, or 5-year tune-up as specified in 40 CFR 63.7515(d) [40 CFR 63.7510(g)].

- d. The permittee must conduct an annual performance tune-up according to 40 CFR 63.7540(a)(10). Each annual tune-up specified in 40 CFR 63.7540(a)(10) must be no more than 13 months after the previous tune-up. For a new or reconstructed affected source (as defined in 40 CFR 63.7490), the first annual tune-up must be no later than 13 months after April 1, 2013 or the initial startup of the new or reconstructed affected source, whichever is later [40 CFR 63.7515(d)].
- d. The permittee must conduct a tune-up of the boiler every 5 years according to 40 CFR 63.7540(a)(10)(i) through 40 CFR 63.7540(a)(10)(vi). The burner inspection specified in 40 CFR 63.7540(a)(10)(i) may be delayed until the next scheduled or unscheduled unit shutdown, but each burner must be inspected at least once every 72 months. The oxygen trim level must be set no lower than the oxygen concentration measured during the most recent tune-up [40 CFR 63.7540(a)(12)].
- e. Each 5-year tune-up specified in §63.7540(a)(12) must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed affected source (as defined in §63.7490), the first 5-year tune-up must be no later than 61 months after April 1, 2013 or the initial startup of the new or reconstructed affected source, whichever is later [40 CFR 63.7515(d)].

Compliance Demonstration Methods:

- a. If the boiler has a heat input capacity of 10 MMBtu per hour or greater continuous oxygen trim system that maintains an optimum air to fuel ratio, the permittee must conduct a an annual tune-up of the boiler every 5 years to demonstrate continuous compliance as specified in 40 CFR 63.7540(a)(a)(10)(i) through (vi). Permittee must conduct the tune-up while burning the type of fuel (or fuels in case of units that routinely burn a mixture) that provided the majority of the heat input to the boiler over the 12 months prior to the tune-up [40 CFR 63.7540(a)(10)].
 - (1) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may perform the burner inspection any time prior to the tune-up or delay the burner inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection. At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment [40 CFR 63.7540(a)(10)(i)];
 - (2) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available [40 CFR 63.7540(a)(10)(ii)];
 - (3) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown) [40 CFR 63.7540(a)(10)(iii)];

- (4) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_X requirement to which the unit is subject [40 CFR 63.7540(a)(10)(iv)];
- (5) Measure the concentrations in the effluent stream of CO in part per million by volume (ppmv), and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer [40 CFR 63.7540(a)(10)(v)]; and
- (6) Maintain on-site and submit, if requested by the Administrator, a report containing the information in 40 CFR 63.7540(a)(10)(vi)(A) through (C) [40 CFR 63.7540 (a)(10)(vi)],
 - (i) The concentrations of CO in the effluent stream in ppmv, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tuneup of the boiler or process heater [40 CFR 63.7540(a)(10)(vi)(B)];
 - (ii) A description of any corrective actions taken as a part of the tune-up [40 CFR 63.7540 (a)(10)(vi)(A)]; and
 - (iii) The type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel used by each unit [40 CFR 63.7540(a)(10)(vi)(C)].

b. Refer to 4. <u>Specific Monitoring Requirements</u>; 5. <u>Specific Recordkeeping</u> <u>Requirements</u> and 6. <u>Specific Reporting Requirements</u> below.

2. <u>Emission Limitations</u>:

- a. The permittee shall not cause emissions of PM/PM₁₀ in excess of 0.10 lb/MMBtu [401 KAR 59:015, Section 4(1)(b)].
- b. The permittee shall not cause emissions of PM/PM₁₀ in excess of 20 percent opacity [401 KAR 59:015, Section 5(1)(b)].
- c. The permittee shall not cause emissions of SO₂ in excess of 0.80 lb/MMBtu [401 KAR 59:015, Section 4(1)(b)].
- d. On and after the date on which the initial performance test is completed or is required to be completed under 40 CFR 60.8, whichever date is first, no permittee shall cause to be discharged into the atmosphere from that affected facility any gases that contain NOx (expressed as NO₂) in excess of 0.20 lb/MMBtu heat input [40 CFR 60.44b(l) and 40 CFR 60.44b(l)(1)].
- e. For the purpose of 40 CFR 60.44b(i), the NOx standards under this section apply all times including periods of startup, shutdown, or malfunction [40 CFR 60.44b(h)].

- f. To preclude applicability of 401 KAR 51:017 Section 8 through 16, emissions from the boiler shall not exceed the following tons per year based on 12-month rolling total:
 - (1) NO_X 38.0
 - (2) CO 87.9
 - (3) PM_{2.5} 8.0

Compliance Demonstration Methods:

a. Refer to 3. <u>Testing Requirements</u>; 4. <u>Specific Monitoring Requirements</u>; 5. <u>Specific Record Requirements</u> and 6. <u>Specific Reporting Requirements</u> below.

- b. The permittee is assumed to be in compliance with opacity and SO₂ limits when burning natural gas.
- c. Compliance with **2.** <u>Emission Limitations</u> d, is determined on a 30-day rolling average basis [40 CFR 60.44b(i)].
- d. For compliance with the **2.** <u>Emission Limitations</u> f, maximum fuel usage rate shall not exceed 2,093.66 mmscf/year [401 KAR 52:020, Section 10].

3. <u>Testing Requirements</u>:

- a. Performance testing of PM/PM₁₀, and NO_X using reference methods specified in 401 KAR 50:015, shall be conducted. See Section G.4. The rate of fuel burned and heat capacity of the fuel shall be documented and reported with the testing results. The results shall include the lb/MMBtu of PM/PM₁₀, and NO_X [401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1].
- b. To determine compliance with the emission limits for NOx required under 40 CFR 60.44b, the permittee shall conduct the performance test as required under 40 CFR 60.8 using the continuous system for monitoring NOx under 40 CFR 60.48(b) [40 CFR 60.46b(e)].

4. <u>Specific Monitoring Requirements</u>:

- a. The permittee shall install, calibrate, maintain, and operate a CEMS for measuring NO_X and O₂ (or CO₂) emissions discharged to the atmosphere, and shall record the output of the system [40 CFR 60.48b(b)(1)].
- b. The permittee shall monitor and record the following [401 KAR 52:020, Section 10]:
 - (1) The hours per month of operation for the unit; and
 - (2) The total monthly (each calendar month) heat input (MMBtu) to the boiler including the monthly usage rate of natural gas.

5. <u>Specific Recordkeeping Requirements</u>:

- a. The permittee shall determine, record and maintain the following records [401 KAR 52:020, Section 10]
 - (1) One-hour and thirty-day average NOx concentrations;
 - (2) Monthly and 12-month rolling total of natural gas usage in MMscf;
 - (3) Monthly and 12-month rolling totals of NOx, CO, and PM_{2.5} emissions.
- b. The permittee of an affected facility who elects to demonstrate that the affected facility

combusts only natural gas that is known to contain an insignificant amount of sulfur in 40 CFR 60.42b(j) or 40 CFR 60.42b(k) shall obtain and maintain at the affected facility fuel receipts (such as a current, valid purchase contract, tariff sheet, or transportation contract) from the fuel supplier that certify that the oil meets the definition of distillate oil and gaseous fuel meets the definition of natural gas as defined in 40 CFR 60.41b and the applicable sulfur limit. Reports shall be submitted to the Administrator certifying that only

very low sulfur oil meeting this definition, natural gas, wood, and/or other fuels that are known to contain insignificant amounts of sulfur were combusted in the affected facility during the reporting period [40 CFR 60.49b(r)(1)].

- c. The permittee must keep records according to 40 CFR 63.7555(a)(1) and (2) [40 CFR 63.7555(a)].
 - (1) A copy of each notification and report that permittee submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that permittee submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv) [40 CFR 63.7555(a)(1)].
 - (2) Records of compliance demonstrations and performance evaluations as required in 40 CFR 63.10(b)(2)(viii) [40 CFR 63.7555(a)(2)].
- d. The permittee records must be in a form suitable and readily available for expeditious review, according to 40 CFR 63.10(b)(1) [40 CFR 63.7560(a)].
- e. As specified in 40 CFR 63.10(b)(1), permittee must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record [40 CFR 63.7560(b)].
- f. The permittee must keep each record on site, or they must be accessible from on site (for example, through a computer network), for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 450 CFR 63.10(b)(1). Permittee can keep the records off site for the remaining 3 years [40 CFR 63.7560(c)].

6. <u>Specific Reporting Requirements</u>:

- a. The 30-day NOx rolling average in excess of standard shall be submitted quarterly [401 KAR 59:005 Section 3(3) and 40 CFR 60.49b(g)(3)].
- b. The permittee shall submit the reporting and notices pursuant to 40 CFR 60.49b(a) and (h).
- c. The permittee must submit to the Administrator all of the notifications in 40 CFR 63.7(b) and (c), 63.8(e), (f)(4) and (6), and 63.9(b) through (h) that apply to you by the dates specified [40 CFR 63.7545(a)].
- d. As specified in 40 CFR 63.9(b)(4) and (5), if permittee starts up a new or reconstructed affected source on or after January 31, 2013, you must submit an Initial Notification not later than 15 days after the actual date of startup of the affected source [40 CFR 63.7545(c)].

- e. You must submit each report in Table 9 to this subpart that applies to you [40 CFR 63.7550(a)].
- f. Unless the EPA Administrator has approved a different schedule for submission of reports under 40 CFR 63.10(a), permittee must submit each report, according to 40 CFR 63.7550(h), by the date in Table 9 to this subpart and according to the requirements in 40 CFR 63.7550(b)(1) through (4). For units that are subject only to a requirement to conduct subsequent annual 5-year tune-up according to 40 CFR 63.7540(a)(10), and not subject to emission limits or Table 4 operating limits, you may submit only an annual a 5-year compliance report, as specified in 40 CFR 63.7550(b)(1) through (4), instead of a semi-annual compliance report [40 CFR 63.7550(b)].
- g. A compliance report must contain the following information depending on how the facility chooses to comply with the limits set in this rule [40 CFR 63.7550(c)].
 - If the facility is subject to the requirements of a tune up you must submit a compliance report with the information in 40 CFR 63.7550(c)(5)(i) through (iii), (xiv) and (xvii) [40 CFR 63.7550(c)(1)].
 - (i) Company and Facility name and address [40 CFR 63.7550(c)(5)(i)].
 - (ii) Process unit information, emissions limitations, and operating parameter limitations [40 CFR 63.7550(c)(5)(ii)].
 - (iii) Date of report and beginning and ending dates of the reporting period [40 CFR 63.7550(c)(5)(iii)].
 - (iv) Include the date of the most recent tune-up for each unit subject to only the requirement to conduct an annual, biennial, or a 5-year tune-up according to 40 CFR 63.7540(a)(10). Include the date of the most recent burner inspection if it was not done annually and was delayed until the next scheduled or unscheduled unit shutdown [40 CFR 63.7550(c)(5)(xiv)].
 - (v) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report [40 CFR 63.7550(c)(5)(xvii)].
- h. The permittee must submit the reports according to the procedures specified in 40 CFR 63.7550(h)(1) through (3) [40 CFR 63.7550(h)].
- i. Refer to Section F.

APPENDIX C

PERMIT FORMS

Commonwealth of Kentucky	DEP7007AI								
Natural Resources & Environmental Protection Cabinet Department for Environmental Protection	Administrative Information								
Division for Air Quality 300 Sower Blvd., 2 nd Floor Frankfort, Kentucky 40601	Enter if known AFS Plant ID# 021-091-00005 Agency Use Only								
PERMIT APPLICATION	Date Received								
The completion of this form is required under Regulations 401 KAR 52:020, 52:030, and 52:040 pursuant to KRS 224. Applications are incomplete unless accompanied by copies of all plans, specifications, and drawings requested herein. Failure to supply information required or deemed necessary by the division to enable it to act upon the application shall result in denial of the permit and ensuing administrative and legal action. Applications shall be submitted in triplicate.	Log# Permit#								
1) APPLICATION INFORMATION									
Note: The applicant must be the owner or operator. (The owner/operator may be individual(s) or a corporation.)									
Note: The applicant must be the owner or operator. (The owner/operator may be individual(s) or a corporation.) Name: Domtar Paper Company, LLC.									
Title: Phone: (27	0) 927-6961								
(If applicant is an individual) Mailing Address: 58 Wescor Road Company									
Street or P.O. Box: P.O. Box 130									
City: <u>Hawesville</u> State: <u>KY</u>	Zip Code: 43248-013 0								
 Is the applicant (check one): Owner Operator Owner & Operator * If the applicant is a Corporation or a Limited Liability Corporation, submit a copy of th Kentucky Secretary of State. ** If the applicant is a Limited Partnership, submit a copy of the current Certificate of Limite of State. Person to contact for technical information relating to application: 	r X Corporation/LLC* LP** e current Certificate of Authority from the d Partnership from the Kentucky Secretary								
Name: Adam Krieg, P.E.									
Title: Environmental Engineer Phone: (27)	0) 927-7387								
2) OPERATOR INFORMATION									
Note: The applicant must be the owner or operator. (The owner/operator may be individual(s) or a corporation.)									
Name: Domtar Paper Company, LLC.									
Title: Phone: (27	0) 927-6961								
Mailing Address: 58 Wescor Road Company									
Street or P.O. Box: P.O. Box 130									
City: <u>Hawesville</u> State: <u>KY</u>	Zip Code: <u>42348-0130</u>								

DEP7007AI (Continued)

3) TYPE OF PERMIT APPLICATION
For new sources that currently <i>do not</i> hold <i>any</i> air quality permits in Kentucky and are required to obtain a permit prior to construction pursuant to 401 KAR 52:020, 52:030, or 52:040.
Initial Operating Permit (the permit will authorize both construction and operation of the new source)
Type of Source (<i>Check all that apply</i>): Major Conditional Major Synthetic Minor Minor
For existing sources that do not have a source-wide Operating Permit required by 401 KAR 52:020, 52:030, or 52:040.
Type of Source (<i>Check all that apply</i>): Agior Conditional Major Synthetic Minor Minor
(Check one only) Initial Source-wide Operating Permit Construction of New Facilities at Existing Plant
Construction of New Facilities at Existing Plant Modification of Existing Facilities at Existing Plant
Other (explain)
For existing sources that currently have a source-wide Operating Permit.
Type of Source (<i>Check all that apply</i>): X Major Conditional Major Synthetic Minor Minor
Current Operating Permit # V-18-007
Administrative Revision (describe type of revision requested, e.g. name change):
Permit Renewal Significant Revision Minor Revision
Addition of New Facilities Modification of Existing Facilities
For all construction and modification requiring a permit pursuant to 401 KAR 52:020, 52:030, or 52:040.
Proposed Date for Start Proposed date for of Construction or Modification: March, 2020 Operation Start-up: April, 2020
4) SOURCE INFORMATION
Source Name: Domtar Paper Company, LLC.
Source Street Address: 58 Wescor Road
City: Hawesville Zip Code: 42348-0130 County: Hancock
Primary Standard Industrial Classification (SIC) Category: Production of Bleached Pulp and Fine Paper Primary SIC #: 2611,2621
Pronerty Area Number of
(Acres or Square Feet): 2000 acres Employees: 445
Description of Area Surrounding Source (<i>check one</i>):
Annroximate Distance to Nearest
Residence or Commercial Property: 100 feet from property line
UTM or Standard Location Coordinates: (Include topographical map showing property boundaries)
UTM Coordinates: Zone 16 Horizontal (km) 527.3 Vertical (km) 4193.9
Standard Coordinates: Latitude 37 Degrees 53 Minutes 30 Seconds
Longitude <u>86</u> Degrees <u>41</u> Minutes <u>30</u> Seconds

DEP7007AI

(Continued)

A) SOURCE INFORMATION (CONTINUED)									
Is any part of the source located on federal land?	Yes XNo								
What other environmental permits or registrations d	oes this source currently hold in Kentucky?								
Waste: KYD-046-455-643	Wastewater: KY001718								
Water Withdrawal: 0597 and 0737	Drinking Water: PWS ID#'s 0462387 & 0462386								
Air Ouality: O-87-005. C-90-100. C-88-008. C-93-044	. F-96-003 (Revision 3)								
Solid Waste: 046-00007	, - , - , - , - , - , - , - , - , - , -								
What other environmental permits or registrations does this source need to obtain in Kentucky?									
Not applicable									
5) OTHER REQUIRED INFORMATION									
Indicate the type(s) and number of forms attached as part of this	application.								
 DEP7007A Indirect Heat Exchanger, Turbine, Internal Combustion Engine DEP7007B Manufacturing or Processing Operations DEP7007C Incinerators & Waste Burners DEP7007F Episode Standby Plan DEP7007J Volatile Liquid Storage DEP7007K Surface Coating or Printing Operations DEP7007L Concrete, Asphalt, Coal, Aggregate, Feed, Corn, Flour, Grain, & Fertilizer DEP7007M Metal Cleaning Degreasers DEP7007P Perchloroethylene Dry Cleaning Systems Check other attachments that are part of this application. Required Data Map or Drawing Showing Location Process Flow Diagram and Description Site Plan Showing Stack Data and Locations Emission Calculation Sheets Material Safety Data Sheets (MSDS) 	DEP7007R Emission Reduction Credit DEP7007S Service Stations DEP7007T Metal Plating & Surface Treatment Operations DEP7007V Applicable Requirements & Compliance Activities DEP7007Y Good Engineering Practice (GEP) Stack Height Determination DEP7007AA Compliance Schedule for Noncomplying Emission Units DEP7007BB Certified Progress Report DEP7007DD Insignificant Activities Supplemental Data Stack Test Report Certificate of Authority from the Secretary of State (for Corporations and Limited Liability Companies) Certificate of Limited Partnership from the Secretary of State (for Limited Partnerships) Claim of Confidentiality (See 400 KAR 1:060) Other (Specify)								
Indicate if you expect to emit in any amount hererdous or toy	ic materials or compounds or such materials into the atmosphere from any								
operation or process at this location.	it materials of compounds of such materials into the atmosphere from any								
Pollutants regulated under 401 KAR 57:002 (NESHAP)	Pollutants listed in 401 KAR 63:060 (HAPS)								
Pollutants listed in 40 CFR 68 Subpart F [112(r) pollutants] Other									
Has your company filed an emergency response plan with local and/or state and federal officials outlining the measures that would be implemented to mitigate an emergency release?									
Check whether your company is seeking coverage under a perm	it shield. If "Yes" is checked, applicable requirements must be identified on								
Form DEP7007V. Identify any non-applicable requirements for the application.	r which you are seeking permit shield coverage on a separate attachment to								
	are an arrange and an amount is a summer of								

DEP7007AI		(Continued)	
6) OWNER INFORMATION			
Note: If the applicant is the owner, write "same as applicant" on the name line.			
Name: same as applicant			
Title:	Phone:		
Mailing Address: Company			
Street or P.O. Box:			
City:	State:	Zip Code:	
List names of owners and officers of your company who have an	interest in the company of 5	% or more.	
<u>Name</u>	Position (owner, partn	er, president, CEO, treasurer, etc.)	
None			
(attach another sheet if necessary)	ATUDE DI OCK		
I the undersigned hereby certify under penalty	AT UKE BLOCK	angible official and that I have personally	
i, the undersigned, hereby certify under penalty of law, that I am a responsible official, and that I have personally			
of those individuals with primary responsibility for obtaining the information. Least for that the information is a local distribution of the second se			
and balief two accurate and complete. I among that the information, I certify that the information is on knowledge			
information including the needbility of formation	lat there are significant pe	enalties for submitting false or incomplete	
DV	nment.		
(Authorized Signature)		(Date)	
Grant Forrest		General Manager	
(Typed or Printed Name of Signatory)		(Title of Signatory)	

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Commonwealth of Kentucky Natural Resources & Environmental Protection Cabinet Department for Environmental Protection

DIVISION FOR AIR QUALITY

DEP7007V

Applicable Requirements & Compliance Activities

Domtar Paper Company, Hawesville Operations

SECTION I. EMISSION AND OPERATING STANDARD(S) AND LIMITATION(S

KYEIS	Emission Unit		Origin of Requirement	Applicable Requirement, Standard, Restriction,	Method of Determining Compliance with the
No. ⁽¹⁾	Description ⁽²⁾	Contaminant ⁽³⁾	or Standard ⁽⁴⁾	Limitation, or Exemption ⁽⁵⁾	Emission and Operating Requirement(s) ⁽⁶⁾
59	358.6 mmBtu Backup Boiler	РМ	401 KAR 59:015	PM emissions shall not exceed 0.10 lb/mmBtu	Burn only natural gas, Monitoring, Recordkeeping, & Testing Requirements
		SO2	401 KAR 59:015	SO2 emissions shall not exceed 0.80 lb/mmBtu	Burn only natural gas, Monitoring, Recordkeeping, & Testing Requirements
		Opacity	401 KAR 59:015	Opacity shall not exceed 20%	Burn only natural gas
		PM2.5, Nox, CO	Limit to Preclude 401 KAR 51:017	Limit the annual heat input to 2,093,660 mmBtu/yr based on a 12-month rolling total.	Monitoring and Recordkeeping of the annual natural gas usage and annual heat input on a 12-month rolling total. Burn only natural gas
		SO2	40 CFR 60 Subpart Db	Fire only natural gas with potential SO2 emissions of 0.32 lb/mmBtu or less to preclude applicability of the SO2 emission standards specified by 60.42b(k)(1). [60.42b(k)(2)]	Monitoring and Recordkeeping of natural gas usage and natural gas supplier certifications as specified by 60.45b(k) and 60.49b(r)
		NOx	40 CFR 60 Subpart Db	Nox emissions shall not exceed 0.20 lb/mmBtu on a 30 day rolling average, [60.44b(l)] at all times including periods of SSM [60.44b(h)] Combust only gas 1 fuels. Units designed to burn only gas	Burn only gas 1 fuels. Install, operate, and maintain NOx CEMS. Monitoring and Recordkeeping of natural gas usage and CEMS data.
		Hg, HCl, PM, CO	40 CFR 63 Subpart DDDDD	1 fuels are not subject to emission limits or operating standards specified by 63 Subpart DDDDD. Units designed to burn only gas 1 fuels shall perform tune-ups every 5 years. [63.7540(a)(12)]	Monitoring and Recordkeeping of natural gas usage for the days the boiler was operated. Recordkeeping and reporting of the 5-year boiler tune-ups.

APPLICANT NAME:

DEP7007V

continued

KYEIS	Emission Unit		Origin of Requirement	Parameter	
No. ⁽¹⁾	Description ⁽²⁾	Contaminant ⁽³⁾	or Standard ⁽⁴⁾	Monitored ⁽⁷⁾	Description of Monitoring ⁽⁸⁾
59	358.6 mmBtu Backup Boiler	PM	Permit Requirement	Fuel Usage	Monitor and maintain records of total natural gas combusted on a monthly basis.
		SO2	Permit Requirement	Fuel Usage	Monitor and maintain records of total natural gas combusted on a monthly basis.
		Opacity	Permit Requirement	Fuel Usage	Monitor and maintain records of total natural gas combusted on a monthly basis.
		PM2.5, Nox, CO	To preclude 401 KAR 51:017	Total heat input	Monitor and maintain records of the total natual gas combusted and total heat input and on a 12- month rolling total basis.
		SO2	40 CFR 60 Subpart Db	Fuel Usage and SO2 content	Monitor and maintain records of total natural gas combusted on daily basis when in operation and supplier certifications.
		NOx	40 CFR 60 Subpart Db	NO CEMS, Fuel Usage	Monitor on a 30 day rolling average, NOx emissions via CEMS. Monitor and maintain records of total natural gas combusted on daily basis when in operation
		Hg, HCl, PM, CO	40 CFR 63 Subpart DDDDD		None
				1	

SECTION II. MONITORING REQUIREMENTS

APPLICANT NAME:

DEP7007V

continued

KYEIS No. ⁽¹⁾	Emission Unit Description ⁽²⁾	Contaminant ⁽³⁾	Origin of Requirement or Standard ⁽⁴⁾	Parameter Recorded ⁽⁹⁾	Description of Recordkeeping ⁽¹⁰⁾
59	358.6 mmBtu Backup Boiler	PM	Permit Requirement	Fuel Usage	Maintain records of total monthly fuel usage
		SO2 Opacity	Permit Requirement Permit Requirement	Fuel Usage Fuel Usage	Maintain records of total monthly fuel usage Maintain records of total monthly fuel usage
		PM2.5, Nox, CO	To preclude 401 KAR 51:017	Total annual hours of operation or heat input	Maintain records of the total natural gas combustion and total heat input and on a 12-month rolling total basis.
		SO2	40 CFR 60 Subpart Db	Fuel Usage	Maintain records of total daily fuel usage while the unit is in operation. Maintain records of supplier docuements that certify the gaseous fuel meets the definition of natural gas and the applicable sulfur content limit. Maintain records specified by 60.49b(r) for 2 years
		NOx	40 CFR 60 Subpart Db	Fuel Usage	Maintain records of total daily fuel usage while the unit is in operation and records specific to NOx emission rates as specified by 60 49b(d) and (α) for 2 years
		Hg, HCl, PM, CO	40 CFR 63 Subpart DDDDD	Fuel Usage/Tune-up	Maintain records of each 5-year tune-up.

SECTION III. RECORDKEEPING REQUIREMENTS
APPLICANT NAME:

continued

SECTION IV. REPORTING REQUIREMENTS

KYEIS	Emission Unit		Origin of Requirement	Parameter	
No. ⁽¹⁾	Description ⁽²⁾	Contaminant ⁽³⁾	or Standard ⁽⁴⁾	Reported ⁽¹¹⁾	Description of Reporting ⁽¹²⁾
59	358.6 mmBtu Backup Boiler	РМ	NA		
		SO2	NA		
		Opacity	NA		
		PM2.5, Nox, CO	NA		Cubmit reports that partify the approace fuel mosts the definition of patyral app and the applicable
		SO2	40 CFR 60 Subpart Db	Low sulfur certification	submit reports that certify the gaseous fuer meets the definition of natural gas and the applicable sulfur content limit as specified by 60.49b(r).
		NOx	40 CFR 60 Subpart Db	Initial Notification NOx testing results and excess emissions	Submit an initial notification as specified by 60.49b(a). Submit records of initial NOx performance testing, excess emissions reports as specified by 60.49b(b) and 60.49b(h).
		Hg, HCl, PM, CO	40 CFR 63 Subpart DDDDD	Initial Notification and periods when not meeting operating limits	Subject only to initial notification requirements under the MACT standard. Also report if the operating limitation specified by Table 3 of Subpart DDDDD is not met.

APPLICANT NAME:

DEP7007V

continued

SECTION V. TESTING REQUIREMENTS

KYEIS No ⁽¹⁾	Emission Unit	Contaminant ⁽³⁾	Origin of Requirement or Standard ⁽⁴⁾	Parameter Tested ⁽¹³⁾	Description of Testing ⁽¹⁴⁾
59	358.6 mmBtu Backup	PM	401 KAR 59:005	PM Emissions	Performance testing within 180 days of initial startup
No. ⁽¹⁾ 59	Description ⁽²⁾ 358.6 mmBtu Backup Boiler	Contaminant ⁽³⁾ PM SO2 Opacity PM2.5, Nox, CO SO2 NOx Hg, HCI, PM, CO	or Standard ⁽⁴⁾ 401 KAR 59:005 401 KAR 59:005 NA NA 40 CFR 60 Subpart Db 40 CFR 60 Subpart Db 40 CFR 63 Subpart DDDDD	Tested ⁽¹³⁾ PM Emissions SO2 Emissions NA NA Exempt from Testing for SO2 NOx NA	Description of Testing ⁽¹⁴⁾ Performance testing within 180 days of initial startup. Performance testing within 180 days of initial startup. NA NA Pursuant to 60.45b(j), if not subject to SO2 standard, performance testing is not required as long as fuel certifications are obtained. Initial testing will span 30 successive days recording data with CEMS. NA



September 21, 2020

Ms. Hollie Delaney, Supervisor Chemical Section, Permit Review Branch Kentucky Division for Air Quality 300 Sower Blvd., 2nd Floor Frankfort, KY 40601

RE: Domtar Paper Company, LLC – Hawesville, KY A.I. 43431 Off Permit Change for Insignificant Activity – Title V Permit V-18-007

Dear Ms. Delaney,

On behalf of Domtar Paper Company, LLC, Kenvirons, Inc. is submitting this application for an off-permit change for Domtar Paper Company, located in Hawesville, Kentucky. This application covers a portable rental chip rejects grinder that the mill plans to bring on site for a maximum of 8 weeks per year. This off-permit change qualifies as an Insignificant Activity pursuant to 401 KAR 52:020, Section 6.

Please do not hesitate to contact Mr. Adam Krieg at 270-927-7387 or me at 502-695-4357 for any questions relating to this permit application.

Very Sincerely,

Chros P. Wath

Chris Wathen, P.E. Vice President

cc: Adam Krieg, P.E., Domtar



OFF-PERMIT CHANGE APPLICATION FOR TITLE V PERMIT V-18-007 (PER 401 KAR 52:020 SECTIONS 4 AND 17) FOR DOMTAR PAPER COMPANY, LLC HAWESVILLE, KENTUCKY

Prepared For:

Domtar Paper Company, LLC 58 Wescor Road Hawesville, Kentucky 43248

Prepared By:

Kenvirons Inc. 770 Wilkinson Blvd. Frankfort, Kentucky 40601

PROJECT NUMBER 2020099

SEPTEMBER 2020



Introduction

Domtar Paper Company, LLC (herein Domtar), located in Hawesville, Kentucky is currently operating under Title V Permit V-18-007. Domtar is proposing to have brought on site, a rental portable diesel-fired tub and/or horizontal type grinder periodically for a maximum of 8 weeks per year. The purpose of the grinder is to grind oversized chip rejects into hogged fuel for use in the BFB Boiler. The rental grinder would be brought on site only once a large enough stockpile of chip rejects has accumulated, and when in use would be operated by the contracting rental company. Therefore, based on the nature of the grinder being a rental and portable as well as based on the minimal operations and related emissions, Domtar is submitting this Off-Permit Change with all required information for the addition of an Insignificant Activity.

In accordance with Kentucky Regulation 401 KAR 52:020 Sections 4 and 17, Domtar is submitting the required DEP7007 application forms and accompanying information for the Off-Permit Change. Appendix A contains the applicable permit forms, while Appendix B provides emission calculations for the rental grinder.

Regulatory Applicability

Since the grinder is a mobile RICE (portable) and would not be kept on site for more than 8 weeks on an annual basis, the grinder would be defined as a Non-Road Engine pursuant to 40 CFR 1068.30. The grinder being a compression ignition mobile RICE is therefore exempt from regulatory requirements specified by 40 CFR 63 Subpart ZZZZ and 40 CFR 60 Subpart IIII.

The emissions of particulate matter (PM) from the combustion of diesel fuel and the grinding/handling of the chip rejects is subject to the general regulatory requirements of 401 KAR 59:010.

Air Emissions from Proposed Units

The largest grinder would consist of a maximum 950 Hp diesel fired engine with a fuel usage capacity of 47.5 gal/hr. Domtar has estimated that the maximum annual amount of wood chip rejects that would be processed is 8,000 tons per year over 8 weeks per year for a calculated hourly process rate of 25 tons/hr (based on 8 hours per day, 5 days per week of operation).

Sources of emissions from the grinder will originate from the combustion of diesel fuel and from the wood chip rejects grinding and handling. Air emissions from the combustion of diesel fuel will consist of criteria and hazardous air pollutants (HAPs) and greenhouse gasses that were calculated using the emission factors published in AP-42 Chapter 3.2-3 and 40 CFR 98 Subpart C, Table C-2. Potential annual

emissions are based on the maximum fuel usage of 47.5 gal/hr, 8 weeks per year operation at 5 days per week, 8 hours per day. Appendix A provides detailed emission calculations for the rental grinder.

PM emissions from the grinding of the wood chip rejects were calculated using the emission factor for "Log Debarking" from a previous edition of AP-42, Table 10.3-1 of (0.024 lb PM/ton). This emission factor was chosen based upon the use of this factor for tub and horizontal wood grinders in accordance with guidance in Chapter 13 of the Bay Area Air Quality Management District (BAAQMD) Permit Handbook, as well as the use of this emission factor in other permit applications (West Virginia DEP Engineering Evaluation/Fact Sheet R13-3061 for Lowe Products Company Inc. and West Virginia DEP Engineering Evaluation/Fact Sheet R13-3061 for Lowe R13-2707A for Lumber & Things, Inc.). A copy of Chapter 13 of the BAAQMD Permit Handbook documenting this emission factor is included with the emission calculations in Appendix B for reference.

PM emissions from the wood chip reject handling will consist of PM/PM₁₀/PM_{2.5} that were calculated using an emission factor based on the drop equation published in AP-42 Chapter 13.2-4. Potential annual emissions are based on the maximum annual chip reject processing rate of 8000 tons per year, 8 weeks per year operation at 5 days per week, 8 hours per day. Appendix A provides emission calculations for the rental grinder. As these calculations show, emissions of all criteria pollutants are well less than 5 tons per year and emissions of total combined HAPs are well less than 1000 pounds per year. Therefore, operation of the rental grinder will qualify as an Insignificant Activity in accordance with 401 KAR 52:020, Section 6.

APPENDIX A

DEP7007 PERMIT APPLICATION FORMS

Division for Air Quality		ality		DEP7)07AI	Add	litional Documentation			
				nistrativ	e Information					
300 So	wer Bouleva	rd	Sect	ion AI.1: S	Additi	onal Documentation attached				
Frankt	fort, KY 4060	1	Sect	ion AI.2: A	Applicant Information					
(502	2) 564-3999		Sect	ion AI.3: C	Owner Information					
			Section AI.4: Type of Application							
			Sect	ion AI.5: C	Other Required Informa	tion				
			Section AI.6: Signature Block							
			Sect	ion AI.7: N	lotes, Comments, and I	Explanations				
Source Name:		Domtar Pa	per Company, LLC							
KY EIS (AFS) #:		21- 091-00005								
Permit #:		V-18-007								
Agency Interest (AI) ID:	43431								
Date:		9/18/2020								
Section AI.1: S	ource Info	ormation								
Physical Location	Street:	58 Wescor	Road							
Address:	City:	Hawesville		County:	Hancock	Zip Code:	43248-0130			
Mailing Address:	P.O. Box:	P.o. Box 13	0							
8	City:	Hawesville		State:	KY	Zip Code:	43248-0130			
			Standard Coor	dinates fo	r Source Physical Loc	ation				
Longitude:		37.89167	(decimal degrees)		Latitude:	86.69167	(decimal degrees)			
Primary (NAICS) Ca	ntegory:	Paper Mills	producing paper	_	Primary NAICS #:	322121				

Classification (SIC) C	Category:	Production of Bleached	Pulp and Fine Paper	Primary SIC #:	2611, 2621	
Briefly discuss the type of business conducted at this site:		Production of Bleached P	ulp and Fine Paper			
Description of Area Surrounding Source:	✓ Rural Area□ Urban Area	□ Industrial Park □ Industrial Area	Residential AreaCommercial Area	Is any part of the source located on federal land?	☐ Yes ☑ No	Number of Employees: 445
Approximate distanceto nearest residence orcommercial property:100		ft	Property Area:20	00 acres	Is this source portable?	Yes No
	What othe	r environmental permi	ts or registrations doe	es this source currently hold	or need to obtain in Ken	ıtucky?
NPDES/KPDES:	Currently Ho	old 🗌 Need	□ N/A			
Solid Waste:	Currently Ho	old Deed	□ N/A			
RCRA:	Currently Ho	old 🗌 Need	□ N/A			
UST:	Currently Ho	old 🗌 Need	□ N/A			
Type of Regulated	Mixed Wast	e Generator	Generator	Recycler	Other:	_
Waste Activity:	U.S. Importe	er of Hazardous Waste	Transporter	Treatment/Storage/Disposal	l Facility 🗌 N/2	A

Section AI.2: Ap	plicant Informatio	n								
Applicant Name:	Domtar Paper Company	y, LLC								
Title: (if individual)										
Mailing Address:	Street or P.O. Box: P.O. Box 130									
in and the solution of the sol	City:	Hawesville	State:	KY	Zip Code:	43248-0130				
Email: (if individual)										
Phone:	(270) 927-6961									
Technical Contact										
Name:	Adam Krieg, P.E.									
Title:	Senior Environmental Eng	ineer								
Mailing Address	Street or P.O. Box:			P.O. Box 130						
Maning Address.	City: Hawesvil	le	State:	KY	Zip Code:	43248-0130				
Email:	adam.krieg@domtar.co	m								
Phone:	(270) 927-7387									
Air Permit Contact for	Source									
Name:	Adam Krieg, P.E.									
Title:	Senior Environmental Eng	ineer								
Mailing Address	Street or P.O. Box:			P.O. Box 130						
Maning Address.	City: Hawesvil	le	State:	KY	Zip Code:	43248-0130				
Email:	adam.krieg@domtar.co	m								
Phone:	(270) 927-7387									

✓ Owner same	e as applicant			
Name:				
Title:				
Mailing Address:	Street or P.O. Box:	State:	Zip Code:	
Email:				
Phone:				
		interest in the company of 5%	or more.	
t names of owners a	and officers of the company who have an	interest in the company of 570		
t names of owners a	and officers of the company who have an Name	interest in the company of 570	Position	
at names of owners a	and officers of the company who have an Name		Position	
t names of owners a	and officers of the company who have an Name		Position	

DEP7007AI

Section AI.4: Type	of Application						
Current Status:	J Title V 🗌 Condit	ional Major	State-C	Drigin	General Permit	Registra	tion 🗌 None
	Name Change	Initial Re	gistration		Significant Revision	Adminis	strative Permit Amendment
Degreeted Astions	Renewal Permit	Revised I	Registration		Minor Revision	Initial S	ource-wide OperatingPermit
(check all that apply)	502(b)(10)Change	Extension	n Request	7	Addition of New Facility	Portable	Plant Relocation Notice
	Revision	✓ Off Perm	it Change		Landfill Alternate Compliance Submittal	Modific	ation of Existing Facilities
	Ownership Change	Closure					
Requested Status:	✓ Title V □ Condit	ional Major	State-C	Drigin	PSD NSR	□ Other	:
Is the source requesting	a limitation of potenti	al emissions?	2	[Yes 🗹 No		
Pollutant:		Requested I	Limit:		Pollutant:		Requested Limit:
Particulate Matter					Single HAP		
☐ Volatile Organic C	ompounds (VOC)				Combined HAPs		
Carbon Monoxide			Air Toxics (40 CFR 68, Subpart F)			ubpart F)	
☐ Nitrogen Oxides					Carbon Dioxide		
Sulfur Dioxide					Greenhouse Gases (GHG))	
Lead					□ Other		
For New Construction	on:						
Proposed Start I (Mi	Date of Construction: M/YYYY)	NA / Te	mporary Ren	ntal	Proposed Operation Start-Up Date: (A	MM/YYYY)	10/2020
For Modifications:							
Proposed Start I (Mi	Date of Modification: M/YYYY)				Proposed Operation Start-Up Date: (A	MM/YYYY)	
Applicant is seeking	coverage under a permit	shield.	Yes	[Identify any non-applicat ☑ No sought on a separ	ole requireme rate attachme	ents for which permit shield is ent to the application.

Indicate the documents attached as part of this application:					
DEP7007A Indirect Heat Exchangers and Turbines	DEP7007CC Compliance Certification				
DEP7007B Manufacturing or Processing Operations	☑ DEP7007DD Insignificant Activities				
DEP7007C Incinerators and Waste Burners	DEP7007EE Internal Combustion Engines				
DEP7007F Episode Standby Plan	DEP7007FF Secondary Aluminum Processing				
DEP7007J Volatile Liquid Storage	DEP7007GG Control Equipment				
DEP7007K Surface Coating or Printing Operations	DEP7007HH Haul Roads				
DEP7007L Mineral Processes	Confidentiality Claim				
DEP7007M Metal Cleaning Degreasers	Ownership Change Form				
DEP7007N Source Emissions Profile	Secretary of State Certificate				
DEP7007P Perchloroethylene Dry Cleaning Systems	Flowcharts or diagrams depicting process				
DEP7007R Emission Offset Credit	Digital Line Graphs (DLG) files of buldings, roads, etc.				
DEP7007S Service Stations	Site Map				
DEP7007T Metal Plating and Surface Treatment Operations	Map or drawing depicting location of facility				
DEP7007V Applicable Requirements and Compliance Activities	Safety Data Sheet (SDS)				
DEP7007Y Good Engineering Practice and Stack Height Determination	Emergency Response Plan				
DEP7007A A Compliance Schedule for Non-complying Emission Units	Other: POC Table				
DEP7007BB Certified Progress Report					

Section AI.6: Signature Block

I, the undersigned, hereby certify under penalty of law, that I am a responsible official*, and that I have personally examined, and am familiar with, the information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the information is on knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false or incomplete information, including the possibility of fine or imprisonment.

TMOST

Authorized Signature

Grant Forrest

Type or Printed Name of Signatory

*Responsible official as defined by 401 KAR 52:001.

EP7007AI

General Manager

Title of Signatory

ection AI.7: Notes, Comments, and Explanations	
	_
	-

DEP7007AI

Division f 300 Sow Frankfor (502)	or Air Quality er Boulevard t, KY 40601 564-3999	DEP7007DD Insignificant Activities Section DD.1: Table of Insignificant Activities Section DD.2: Signature Block Section DD 3: Note Comments and Explanations						
Section D.D.S. Notes, Comments, and Explanations								
Source Name:		Domtar Paper Company, LLC						
KY EIS (AFS) #:	21-	091-00005						
Permit #:		<u>V-18-007</u>						
Agency Interest	(AI) ID:	43431						
Date:		9/18/2020						
Section DD.1:	Table of Insignific	cant Activities						
*Identify each activ	ity with a unique Insignif	ficant Activity number (IA #); for ex	ample: 1, 2, 3 etc.					
lnsignificant Activity #	Description of Activity including Rated Capacity	Serial Number or Other Unique Identifier	Applicable Regulation(s)	Calculated Emissions				
34	Renial Grinder - 47 5 gal/hr Diesel; 8,000 tons/yr chips	Rental Portable Chip Grinder - Brought on site 8 wks/yr	401 KAR 59:010	In TPY: PM/PM10/PM2.5 = 0.20; VOC = 0.085; Benzene = 0.0008; Total HAP = 0.0016				
		<u> </u>	I	1				
Section DD.2:	Signature Block							
I, THE UNDER EXAMINED, INQUIRY OF TH ON KNOWLEDO	RSIGNED, HEREBY CEI AND AM FAMILIAR W OSE INDIVIDUALS WI BE AND BELIEF, TRUE, FALSE OR INCO	RTIFY UNDER PENALTY OF LAW ITH, THE INFORMATION SUBMI TH PRIMARY RESPONSIBILITY F ACCURATE, AND COMPLETE. I DMPLETE INFORMATION, INCLU	7, THAT I AM A RESPONSIBI TTED IN THIS DOCUMENT / OR OBTAINING THE INFOR AM AWARE THAT THERE DING THE POSSIBILITY OF	LE OFFICIAL, AND THAT I HAVE PERSONALLY AND ALL ITS ATTACHMENTS. BASED ON MY MATION, I CERTIFY THAT THE INFORMATION IS ARE SIGNIFICANT PENALTIES FOR SUBMITTING FINE OR IMPRISONMENT.				
		grant Fr	ant	9/21/2020				
		Authorized Signature		Date				
	By:	Grant Forrest	-	General Manager				
		Type/Print Name of Siguatory		Title of Siguatory				

Section DD.3: Notes, Comments, and Explanations Please refer to the emission calculations in Appendix B

APPENDIX B

EMISSION CALCULATIONS

		Maximum	Process			Emission	Emission	Potential	Potential
	Emission	Process	Rate		Emission	Factor	Factor	Emissions	Emissions
Source	Unit	Rate	Units	Pollutant	Factor	Units	Reference	lb/hr	tons/yr
Portable Rental Chip Grinder	Insignificant	0.0475	1000 gal/hr	PM/PM10/PM2.5	13.7	lb/1000gal	1, 4	0.65	0.10
Diesel Usage Emissions	Activity #34			SO2	6.92	lb/1000gal	1, 4	0.33	0.053
950 Hp				NOx	438.4	lb/1000gal	1, 4	20.82	3.33
47.5 gal/hr				CO	116.5	lb/1000gal	1, 4	5.53	0.89
137,000 Btu/gal				VOC	11.20	lb/1000gal	1, 4	0.53	0.085
				CO2	22291.50	lb/1000gal	3, 4	1058.85	169.42
				CH4	0.90400	lb/1000gal	3, 4	0.04	0.0069
				N2O	0.181000	lb/1000gal	3, 4	0.01	0.0014
				CO2e	22368.04	lb/1000gal	3, 4	1062.48	170.00
				Benzene	0.106	lb/1000gal	1, 4	0.005	0.00081
				Total HAP	0.216	lb/1000gal	1, 2, 4	0.010	0.0016
Griding Emissions		25	tons/hr	PM/10/2.5	0.024	lb/ton	5	0.60	0.096
Chip Handling Emissions - 2 Di	rop Points	25	tons/hr	PM/10/2.5	0.000063	lb/ton	6	0.0016	0.00025
				Total PM/PM10/PM2.5				1.25	0.20

Domtar Paper Company - Hawesville Operations Portable Rental Diesel-Fired Chip Rejects Grinder - Pollutant of Concern (POC) Table

References:

(1) AP-42 Chapter 3.4 for Diesel Combustion

(2) Refer to the Hazardous Air Pollutant (HAP) Table for Individual HAP Emissions.

(3) 40 CFR 98 Subpart C Table C-2

(4) Grinder annual potential emissions are based on 8 rental weeks per year, 5 days per week, 8 hrs per day (320 hrs/yr)

(5) AP-42 Emission Factor for "Log Debarking" from a previous edition of AP-42, Table 10.3-1

(6) AP-42 Drop Equation from Chapter 13.2.4, Equation 1

		Maximum	Process			Emission	Potential	Potential
	Emission	Process	Rate		Emission	Factor	Emissions	Emissions
Source	Unit	Rate	Units	Pollutant	Factor	Units	lb/hr	tons/yr
Portable Rental Diesel	Insignificant	0.0475	1000 gal/hr	Benzene	1.06E-01	lb/1000 gal	5.05E-03	8.08E-04
Chip Grinder - 950 Hp	Activity # 34			Toluene	3.85E-02	lb/1000 gal	1.83E-03	2.93E-04
				Xylene	2.64E-02	lb/1000 gal	1.26E-03	2.01E-04
47.5 gal/hr				Formaldehyde	1.08E-02	lb/1000 gal	5.13E-04	8.22E-05
				Acetaldehyde	3.45E-03	lb/1000 gal	1.64E-04	2.62E-05
				Acrolein	1.08E-03	lb/1000 gal	5.13E-05	8.20E-06
				Naphthalene	1.78E-02	lb/1000 gal	8.46E-04	1.35E-04
				Acenaphthylene	1.26E-03	lb/1000 gal	6.01E-05	9.61E-06
				Acenaphthene	6.41E-04	lb/1000 gal	3.05E-05	4.87E-06
				Fluorene	1.75E-03	lb/1000 gal	8.33E-05	1.33E-05
				Phenanthrene	5.59E-03	lb/1000 gal	2.66E-04	4.25E-05
				Anthracene	1.69E-04	lb/1000 gal	8.00E-06	1.28E-06
				Fluoranthene	5.52E-04	lb/1000 gal	2.62E-05	4.20E-06
				Pyrene	5.08E-04	lb/1000 gal	2.41E-05	3.86E-06
				Benz(a)anthracene	8.52E-05	lb/1000 gal	4.05E-06	6.48E-07
				Chrysene	2.10E-04	lb/1000 gal	9.96E-06	1.59E-06
				Benzo(b)fluoranthene	1.52E-04	lb/1000 gal	7.22E-06	1.16E-06
				Benzo(k)fluoranthene	2.99E-05	lb/1000 gal	1.42E-06	2.27E-07
				Benzo(a)pyrene	3.52E-05	lb/1000 gal	1.67E-06	2.68E-07
				Indeno(1,2,3-cd)pyrene	5.67E-05	lb/1000 gal	2.69E-06	4.31E-07
				Dibenze(a,h)anthracene	4.74E-05	lb/1000 gal	2.25E-06	3.60E-07
				Benzo(g,h,I)perylene	7.62E-05	lb/1000 gal	3.62E-06	5.79E-07
				Total HAP	2.16E-01	lb/1000 gal	1.02E-02	1.64E-03

Domtar Paper Company - Hawesville Operations Portable Rental Diesel-Fired Chip Rejects Grinder - Pollutant of Concern (POC) Table

References:

AP-42 Chapter 3.4 for Diesel Combustion

Wood Chip Grinder Handling Emission Factor:

Use the drop equation from AP-42 Chapter 13.2.4, Equation 1:

$$E = k(0.0032) \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

E = PM/PM₁₀/PM_{2.5} Emission Factor, lb/ton k = constant for PM = 0.74U = Mean wind speed = 7.7 mph based upon 2015-2019 average at Owensboro, Kentucky M = 40%

$$E_{PM} = 0.74(0.0032) \frac{\left(\frac{7.7}{5}\right)^{1.3}}{\left(\frac{40}{2}\right)^{1.4}} = 0.000063 \frac{lb}{ton}$$

Maximum Throughput = 25 tons/hour, 8,000 tons/year Assume 1 drop point (grinded chip rejects from grinder to pile)

Hourly PM Emissions = 25 tons/hour*0.000063 lb/ton = 0.0016 lb/hour Annual PM Emissions = 8,000 tons/year *0.000063 lb/ton = 0.50 lb/year 0.50 lb/yr * ton/2000 lb = 0.00025 tons/yr

Note: Separate calculations for PM_{10} and $PM_{2.5}$ emissions were not performed since total PM emissions are negligible.



BAY AREA AIR QUALITY MANAGEMENT DISTRICT Engineering Division

Permit Handbook

ENGINEERING DIVISION

Permit Handbook

Organized by M.K. Carol Lee

Content Prepared by M.K. Carol Lee

Bay Area Air Quality Management District 375 Beale Street, Suite 600 San Francisco, CA 94105 Phone (415) 749-5000 • Fax (415) 749-5030

11.13 TUB GRINDERS

Process Description

by M.K. Carol Lee October 23, 2018

This chapter covers the permitting of tub grinders. Tub grinders are typically used to grind wood pieces from bigger to smaller pieces. The tub grinder may be powered by electricity or by a diesel engine. The tub grinder may be stationary and located primarily within one facility's boundaries, or may be portable from one location to another.

Completeness Determination

The following District forms should be completed and fees provided for tub grinders Use the <u>Completeness</u> <u>Determination Checklist</u> to verify completeness. Use the <u>Data Form Guidance</u> to ensure that the forms are completed correctly. Use the <u>Fee Calculation Guidance</u> to ensure that the fees are calculated accurately.

- 1. Form 101-B (one for facility).
- 2. Form G (one per source).
- 3. Form A for watering system (one per facility)
- 4. Form A (one per device) for any particulate abatement device (i.e., baghouse).
- 5. Fees, calculated per Regulation 3 (Schedule F).
- 6. If the tub grinder is powered by a diesel engine, refer to the permit handbook chapter for stationary (2.3.1) or portable (2.3.3) diesel engines for additional forms and fees that are required for the diesel engine.

Emission Calculations

To approximate the particulate emissions for wood grinding, the emission factor for "Log Debarking" from a previous edition of AP-42, Table 10.3-1 of (0.024 lb TSP/ton) will be used with the throughput quantity of wood processed, as provided by the applicant. Approximately 60% of the particulate emissions are assumed to be PM10. Water suppression will also provide 50% abatement of particulate emissions.

PM10 (lb/yr) = (THROUGHPUT tons/yr)(0.024 lb TSP/ton)(0.60 lb PM10/lb TSP)(0.50)

If the tub grinder is powered by electricity, there are no other criteria pollutant emissions. However, if it is powered by a diesel engine, emissions from the diesel engines must also be added to that of the tub grinder. Refer to the permit handbook chapter for stationary (2.3.1) or portable (2.3.3) diesel engines for emission calculation procedures for the combustion of diesel fuel.

Applicable Requirements

District Rules and Regulations

The tub grinder is subject to the requirements of Regulation 6 (Particulate Matter and Visible Emissions Standards). If the tub grinder is powered by a diesel engine, refer to the permit handbook chapter for stationary (2.3.1) or portable (2.3.3) diesel engines for applicable requirements.

California Environmental Quality Act (CEQA)

Permit applications which are reviewed following the specific procedures, fixed standards and objective measurements set forth in this chapter (11.13) are classified as ministerial and will accordingly be exempt from CEQA review per Regulation 2-1-311.

In addition to the above-mentioned source-specific applicable requirements, other requirements may also be applicable depending on the facility, its application emissions, and its source location:

Offsets

- □ Risk Screening Analysis
- □ Prevention of Significant Deterioration

Permit Conditions

Standardized conditions for tub grinders are available from the <u>Permit Condition Guidance</u>. Refer to the <u>Evaluation Report Template Guidance</u> to obtain the Microsoft Word formatted permit conditions for this source category.



December 8, 2020

Ms. Hollie Delaney, Supervisor Chemical Section, Permit Review Branch Kentucky Division for Air Quality 300 Sower Blvd., 2nd Floor Frankfort, KY 40601

RE: Domtar Paper Company, LLC – Hawesville, KY A.I. 43431 Off Permit Change for Insignificant Activity – Title V Permit V-18-007

Dear Ms. Delaney,

On behalf of Domtar Paper Company, LLC, Kenvirons, Inc. is submitting this application for an off-permit change for Domtar Paper Company, located in Hawesville, Kentucky. This application covers a portable Residuals Mixer with an integral non-road diesel fired engine that will be brought onsite by and owned and operated by Advanced Residuals Management Ilc. This off-permit change qualifies as an Insignificant Activity pursuant to 401 KAR 52:020, Section 6.

Please do not hesitate to contact Mr. Adam Krieg at 270-927-7387 or me 502-695-4357 for any questions relating to this permit application.

Thank you,

Thip Valantes

Phillip Valentine Kenvirons, Inc.

Attachments cc: Adam Krieg, P.E., Domtar



OFF-PERMIT CHANGE APPLICATION FOR TITLE V PERMIT V-18-007 (PER 401 KAR 52:020 SECTIONS 4 AND 17) FOR DOMTAR PAPER COMPANY, LLC HAWESVILLE, KENTUCKY

Prepared For:

DOMTAR PAPER COMPANY, LLC 58 WESCOR ROAD HAWESVILLE, KENTUCKY 43248

Prepared By:

Kenvirons Inc. 770 Wilkinson Blvd. Frankfort, Kentucky 40601

PROJECT NUMBER 2020166

DECEMBER 2020



Introduction

Domtar Paper Company, LLC (herein Domtar), located in Hawesville, Kentucky is currently operating under Title V Permit V-18-007. Domtar is proposing to have brought on site, a trailer mounted portable "Residuals Mixer" with an associated integral diesel-fired engine. The mixer would be owned, brought on site, and operated by Advanced Residuals Management IIc. The mixer engine will meet the definition of a non-road engine since it will not remain at a single site on Domtar's property for more than 12 consecutive months. Therefore, based on the nature of the mixer and engine being owned and operated by a contractor, portable, a non-road engine, as well as based on the related potential to emit, Domtar is submitting this Off-Permit Change with all required information for the addition of an Insignificant Activity.

In accordance with Kentucky Regulation 401 KAR 52:020 Sections 4 and 17, Domtar is submitting the required DEP7007 application forms and accompanying information for the Off-Permit Change. Appendix A contains the applicable permit forms, while Appendix B provides emission calculations for the mixer engine.

Regulatory Applicability

Since the mixer engine is a mobile RICE (portable) and will not be kept at a single location on site for more than 12 consecutive months, the mixer engine will be defined as a Non-Road Engine pursuant to 40 CFR 1068.30. The mixer engine being a compression ignition mobile RICE is therefore exempt from regulatory requirements specified by 40 CFR 63 Subpart ZZZZ and 40 CFR 60 Subpart IIII.

Air Emissions from Proposed Units

The mixer engine will be a Caterpillar Model C4.4, with a maximum 92.6 kW (124 Hp) diesel fired engine with a fuel usage capacity of 6.5 gal/hr. The engine is manufacturer certified to EPA Tier IV Final emission standards specified in 40 CFR 1039.101 for PM, NMHC (VOC), NOx, and CO.

Air emissions from the combustion of diesel fuel will consist of criteria and hazardous air pollutants (HAPs) and greenhouse gasses that were calculated using the Tier IV emissions standards in g/kW-hr specified in 40 CFR 1039.101, emission factors published in AP-42 Chapter 3.3 and 40 CFR 98 Subpart C, Table C-2. Potential annual emissions are based on the maximum fuel usage of 6.5 gal/hr at an assumed continuous operation. Calculations show, the potential to emit for all criteria pollutants is less than 5 tons per year and total combined HAPs are well less than 1000 pounds per year. Therefore, operation of the mixer engine will qualify as an Insignificant Activity in accordance with 401 KAR 52:020, Section 6. Appendix A provides detailed emission calculations for the mixer engine.

APPENDIX A

DEP7007 PERMIT APPLICATION FORMS

Division for Air Quality		tv	DEP7007AI			A	Additional Documentation		
D11131011		uall	cy	Admin	nistrativ	e Information			
300 Sower Boulevard				Section AI.1: Source Information				tional Documentation attached	
Frankf	ort, KY 406	01		Secti	on AI.2: A	Applicant Information			
(502	2) 564-3999			Secti	on AI.3: C	Owner Information			
				Secti	on AI.4: T	ype of Application			
				Secti Secti	on AI.5: C on AI.6: S	Other Required Informa	tion		
				Secti	on AI.7: N	lotes. Comments. and I	Explanations		
				~ ~ ~ ~ ~ ~					
Source Name:			Domtar Paper	c Company, LLC					
KY EIS (AFS) #:		21-	091-00005						
Permit #:			V-18-007						
Agency Interest (AI)	ID:		43431						
Date:			12/2/2020						
Section AI.1: S	ource Inf	orm	nation						
Physical Location	Street:		58 Wescor Roa	ad					
Address:	City:		Hawesville		County:	Hancock	Zip Code:	43248-0130	
Mailing Address:	Street or P.O. Box:		P.o. Box 130						
ivialing ruuress.	City:		Hawesville		State:	KY	Zip Code:	43248-0130	
	Standard Coordinates for Source Physical Location								
Longitude:		37.8	39167	(decimal degrees)		Latitude:	86.69167	(decimal degrees)	
Primary (NAICS) Category: Paper Mills producing			oducing paper	-	Primary NAICS #:	322121			

Classification (SIC) C	ategory:	Production of Bleached	Pulp and Fine Paper	Primary SIC #:	2611, 2621			
Briefly discuss the typ conducted at this site:	e of business	Production of Bleached Pu	lp and Fine Paper					
Description of Area Surrounding Source:	✓ Rural Area☐ Urban Area	Industrial ParkIndustrial Area	Residential AreaCommercial Area	Is any part of the source located on federal land?	☐ Yes ✓ No	Number of Employees: 445		
Approximate distance to nearest residence or commercial property:	<i>100 j</i>	ft	Property Area: 200	00 acres	Is this source portable?	Yes No		
	What other environmental permits or registrations does this source currently hold or need to obtain in Kentucky?							
NPDES/KPDES:	Currently Ho	ld 🗌 Need	□ N/A					
Solid Waste:	Currently Ho	ld 🗌 Need	□ N/A					
RCRA:	Currently Ho	ld 🗌 Need	□ N/A					
UST:	Currently Ho	ld 🗌 Need	□ N/A					
Type of Regulated	Mixed Waste	Generator	Generator	Recycler	Other:	_		
Waste Activity:	U.S. Importe	r of Hazardous Waste	Transporter	Treatment/Storage/Disposal	Facility N/	A		

Section AI.2: Ap	plicant Information	n				
Applicant Name:	Domtar Paper Compan	y, LLC				
Title: (if individual)						
Molling Addusses	Street or P.O. Box:	P.O. Box 130				
Maning Address:	City:	Hawesville	State:	KY	Zip Code:	43248-0130
Email: (if individual)						
Phone:	(270) 927-6961					
Technical Contact						
Name:	Adam Krieg, P.E.					
Title:	Senior Environmental Eng	gineer				
Mailing Address.	Street or P.O. Box:			P.O. Box 130		
Maning Address.	City: Hawesvi	lle	State:	KY	Zip Code:	43248-0130
Email:	adam.krieg@domtar.cc	om				
Phone:	(270) 927-7387					
Air Permit Contact for	Source					
Name:	Adam Krieg, P.E.					
Title:	Senior Environmental Eng	gineer				
Moiling Addusses	Street or P.O. Box:			P.O. Box 130		
Maning Address:	City: Hawesvi	lle	State:	KY	Zip Code:	43248-0130
Email:	adam.krieg@domtar.cc	om				
Phone:	(270) 927-7387					

Section AI.3: Ov	ction AI.3: Owner Information							DEP7007AI
Owner same	as applicant							
Name:								
Title:								
Mailing Address:	Street or P.O. Box:							
	City:		State:		Zip Code:			
Email:								
Phone:								
List names of owners a	nd officers of the company who have	an interest in the con	npany of 5% or more.					
	Name			Position				

Section AI.4: Type	e of Application						
Current Status:	☑ Title V □ Condit	ional Major	State-Origin	General Permit	🗌 Registra	tion 🗌 None	
Requested Action: (check all that apply)	 Name Change Renewal Permit 502(b)(10)Change Revision Ownership Change 	 Initial Registration Revised Regi Extension Re Off Permit Cl Closure 	ration	Significant Revision Minor Revision Addition of New Facility Landfill Alternate Compliance Sub	Adminis Adminis Initial So Portable mittal Modifica	trative Permit Amendment ource-wide OperatingPermit Plant Relocation Notice ation of Existing Facilities	
Requested Status:	Title V Condit	ional Major [State-Origin	□ PSD □ NSR	Other	:	
Is the source requesting Pollutant: Particulate Matter Volatile Organic C Carbon Monoxide Nitrogen Oxides Sulfur Dioxide Lead	a limitation of potentia	l emissions? Requested Limi	it:	 Yes ✓ No Pollutant: Single HAP Combined HAPs Air Toxics (40 Cl Carbon Dioxide Greenhouse Gase Other 	FR 68, Subpart F) es (GHG)	Requested Limit:	
For New Constructi Proposed Start (M	on: Date of Construction: M/YYYY)	01/2	2021	Proposed Operation Start-Up	Date: (MM/YYYY)	01/2021	
For Modifications: Proposed Start (M	Date of Modification: <i>M/YYYY)</i>			Proposed Operation Start-Up	Date: (MM/YYYY)		
Applicant is seeking	Applicant is seeking coverage under a permit shield. Yes Identify any non-applicable requirements for which permit shield is sought on a separate attachment to the application.						

Indicate the documents attached as part of this application:						
DEP7007A Indirect Heat Exchangers and Turbines	DEP7007CC Compliance Certification					
DEP7007B Manufacturing or Processing Operations	DEP7007DD Insignificant Activities					
DEP7007C Incinerators and Waste Burners	DEP7007EE Internal Combustion Engines					
DEP7007F Episode Standby Plan	DEP7007FF Secondary Aluminum Processing					
DEP7007J Volatile Liquid Storage	DEP7007GG Control Equipment					
DEP7007K Surface Coating or Printing Operations	DEP7007HH Haul Roads					
DEP7007L Mineral Processes	Confidentiality Claim					
DEP7007M Metal Cleaning Degreasers	Ownership Change Form					
DEP7007N Source Emissions Profile	Secretary of State Certificate					
DEP7007P Perchloroethylene Dry Cleaning Systems	Flowcharts or diagrams depicting process					
DEP7007R Emission Offset Credit	Digital Linc Graphs (DLG) files of buldings, roads, etc.					
DEP7007S Service Stations	Site Map					
DEP7007T Metal Plating and Surface Treatment Operations	Map or drawing depieting location of facility					
DEP7007V Applicable Requirements and Compliance Activities	Safety Data Sheet (SDS)					
DEP7007Y Good Engineering Practice and Stack Height Determination	Emergency Response Plan					
DEP7007AA Compliance Schedule for Non-complying Emission Units	Other: POC Table and Manf. Specs					
DEP7007BB Certified Progress Report						

Section AI.6: Signature Block

I, the undersigned, hereby certify under penalty of law, that I am a responsible official*, and that I have personally examined, and am familiar with, the information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the information is on knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false or incomplete information, including the possibility of fine or imprisonment.

anca

Authorized Signature

Kevin Lucas

Type or Printed Name of Signatory

*Responsible official as defined by 401 KAR 52:001.

12/7/2020

Date

Interim General Manager

Title of Signatory

Section AI.7: Notes, Comments, and Explana	tions	

DEP7007AI

Division f	for Air Quality	DEP7007DD							
300 Sow Frankfo (502)	ver Boulevard rt, KY 40601) 564-3999	Insignificant Activities Section DD.1: Table of Insignificant Activities Section DD.2: Signature Block Section DD.3: Notes, Comments, and Explanations							
Source Name:		Domtar Paper Company, LLC							
KY EIS (AFS) #:	21-	091-00005							
Permit #:		V-18-007							
Agency Interest ((AI) ID:	43431	43431						
Date:		12/2/2020							
Section DD.1:	Table of Insignific	ant Activities							
*Identify each activ	vity with a unique Insignif	icant Activity number (IA #); for exa	ample: 1, 2, 3 etc.						
Insignificant Activity #	Description of Activity including Rated Capacity	Serial Number or Other Unique Identifier	Applicable Regulation(s)	Calculated Emissions					
35	Residuals Mixing Engine/Process - 92.6 kW; 6.5 gal/hr diesel	SN: JKT10786. Owned and Operated by Advanced Residuals Management llc	401 KAR 59:010; 401 KAR 63:020	In TPY: PM = 0.018; VOC = 0.17; Nox = 0.36; CO = 4.5; Formaldehyde = 0.0046; Total HAP = 0.015					

11/2018				DEP7007I
Insignificant Activity #	Description of Activity including Rated Capacity	Serial Number or Other Unique Identifier	Applicable Regulation(s)	Calculated Emissions
Section DD 2	Signature Plack			
I, THE UNDI EXAMINED, AN OF THOSE	ERSIGNED, HEREBY CER D AM FAMILIAR WITH, NDIVIDUALS WITH PRI	TIFY UNDER PENALTY OF LAW, THE INFORMATION SUBMITTED MARY RESPONSIBILITY FOR OBT	, THAT I AM A RESPONSIBL IN THIS DOCUMENT AND A FAINING THE INFORMATION	E OFFICIAL, AND THAT I HAVE PERSONALLY LL ITS ATTACHMENTS. BASED ON MY INQUIRY N, I CERTIFY THAT THE INFORMATION IS ON

KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE OR INCOMPLETE INFORMATION, INCLUDING THE POSSIBILITY OF FINE OR IMPRISONMENT.

man non

Authorized Signature

12/7/2020

Date

DEP7007DD

By:

Kevin Lucas

Type/Print Name of Siguatory

Interim General Manager **Title of Siguatory**
Section DD.3: Notes, Comments, and Explanations						

APPENDIX B

EMISSION CALCULATIONS

Domtar Paper Company - Hawesville Operations Residuals Mixing Engine - Pollutant of Concern (POC) Table

	Emission	Maximum	Process		Emissian	Emission	Emission	Emission	Deference	Potential	Potential
Source	Linit	Process	Linite	Pollutant	Emission	Factor	Emission	Factor	Reference	Emissions	tons/vr
Jource	Unit	Nate	01113	ronutant	I actor	Unita	Tactor	Unita		10/111	tona/yi
Residuals Mixing Engine	Insignificant	0.0065	1000 gal/hr	PM/10/2.5	0.628	lb/1000gal	0.02	g/kW-hr	4	4.08E-03	1.79E-02
Diesel Fired, Trailer Mounted	Activity #35			SO2	39.73	lb/1000gal			1	2.58E-01	1.13E+00
		92.6	kW	NOx	12.6	lb/1000gal	0.4	g/kW-hr	4	8.17E-02	3.58E-01
92.6 kW; 124 Hp				CO	157.037786	lb/1000gal	5.0	g/kW-hr	4	1.02E+00	4.47E+00
6.5 gal/hr				VOC	5.97	lb/1000gal	0.19	g/kW-hr	4	3.88E-02	1.70E-01
138,000 Btu/gal				CO2	22556.32	lb/1000gal			3	146.616080	642.178430
				CH4	0.91500	lb/1000gal			3	5.95E-03	2.61E-02
				N2O	0.183000	lb/1000gal			3	1.19E-03	5.21E-03
				CO2e	22633.73	lb/1000gal			3	147.119239	644.382265
				Formaldehyde	0.162	lb/1000gal			1, 2	1.05E-03	4.60E-03
				Total HAP	0.531	lb/1000gal			1, 2	3.45E-03	1.51E-02

References:

AP-42 Chapter 3.3 for Diesel Combustion
 Available upon request - Hazardous Air Pollutant (HAP) Table for Individual HAP Emissions.
 40 CFR 98 Subpart C Table C-2
 Tier IV Final Emissions Standards - Certified Engine

Engine Emissions Data

For Emissions / Certification feedback and questions, please submit a ticket via our ERC Request Portal (https://ercrequestspilotprogram.atlassian.net/servicedesk/customer/portal/2)

Serial Number(Engine)	JKT10786
Sales Model	C4.4
Regulatory Build Date	14-MAR-2019

As Shipped Data

Engine Arrangement Number	5048249
Regulatory Status	CAT_Korea
Regulatory Status	CAT_NR_EPA/CARB_MLIT_EU_R120_R96_China Export
Labeled Model Year	2019
EPA Family Code	KPKXL04.4MT1 (https://cat-cert-repo-prod-cdn.azureedge.net/emission- certificates/2019/Cert_KPKXL04.4MT1-002_15525545769783373452132983677280.pdf? 9xTeN1oTV6T0scFGrYxwS97mgvEfO-7eZN6feMw10KtIJoaYjHE9mKUawqMO69As)
EPA Emissions Level	EPA TIER 4f
EU Emissions Level	IV
EU Type Approval	e5*97/68RA*2012/46*1002*00
Japan Emissions Level	STEP 4 FINAL
Korea Type Approval	C4.4+4132/2200//15EN*PE*01
UN R120 Type Approval	120R-011138 (https://cat-cert-repo-prod-cdn.azureedge.net/emission-certificates/archive/120R-011138 Ext 7.pdf?9xTeN1oTV6T0scFGrYxwS97mgvEfO-7eZN6feMw10KtIJoaYjHE9mKUawqMO69As)

UN R96 Type Approval	96R-043599R
Advertised Power	124.2HP/2200RPM/T4132
Liters	4.40 L
Disclaimer: The knowledge. Howe for any errors	information provided has been compiled from third party sources and is accurate to the best of Caterpillar's ever, Caterpillar cannot guarantee the accuracy, completeness, or validity of the information and is not liable or omissions contained therein. All information provided should be independently verified and confirmed, including by examining the emissions label located on the engine.
Caterpillar Confider Content Owner: Co Web Master(s): PS0 Current Date: 12/1/ © Caterpillar Inc. 20 Data Privacy Stater	ntial: Green mmercial Processes Division G Web Based Systems Support (http://tmiwebclassic.cat.com/tmi/tmihome/PSGIS_support.htm) 2020, 2:02:21 PM 020 All Rights Reserved. nent.

T4132, 92.6 kW @ 2200 - AK419

6

Detail	Unit	Value	1100	1200	1300	1400	1500	1600	1800	2000	2100	2200
T Curve Number	-	T4132										
Rated Speed	rpm	2200										
Gross Torque	Nm	per Speed	497.0	508.0	520.0	530.0	523.0	515.0	491.0	442.0	421.0	402.0
Gross engine Power	kW	per Speed	57.3	63.8	70.8	77.7	82.2	86.3	92.6	92.6	92.6	92.6
Nett Engine Power	kW	per Speed	57.3	63.8	70.8	77.7	82.2	86.3	92.6	92.6	92.6	92.6
BMEP	kPa	per Speed	1419.4	1450.9	1485.1	1513.7	1493.7	1470.9	1402.3	1262.3	1202.4	1148.5
Torque Back up - max	%						31.84					
Installation										•		
Compress out press kPa abs.	kPa	per Speed	190.6	203.1	217.6	232.4	237.3	243.0	257.3	255.6	251.8	250.9
Air Temp. before charge cooler (ATAAC in Temp.)	°C	per Speed	112.7	123.1	132.8	142.4	143.9	146.0	153.4	152.4	150.2	149.8
Charge cooler - pressure drop across	kPa	per Speed	4.1	4.4	5.2	5.8	6.3	6.9	8.3	10.0	10.2	10.2
Air Temp. after charge cooler (ATAAC out Temp.)	°C	per Speed	57.4	55.8	53.4	54.3	53.7	54.2	55.6	54.0	55.6	55.6
Air mass flow (wet) (Intake Air flow)	kg/min	per Speed	4.1	4.5	5.0	5.6	6.0	6.4	7.3	8.2	8.3	8.3
Air volume flow (wet) as measured restriction out	m³/min	per Speed	3.5	3.9	4.3	4.9	5.2	5.6	6.5	7.4	7.5	7.5
Exhaust back pressure restriction (post BPV)	kPa	per Speed							14.4	16.4		17.0
Exhaust back pressure allowance for customer installed pipework (Remote AT)	kPa	per Speed							5.7	6.6		6.8
Exhaust back pressure allowance for customer installed pipework (EMAT)	kPa	per Speed							3.5	4.0		4.0
Exhaust temperature - turbo outlet (Turbine Outlet Temp.)	°C	per Speed	497.3	493.5	486.3	483.7	474.9	458.2	440.9	420.6	418.1	408.9
Exhaust gas flow rate volume (wet) As measured at ebpv Out	m³/min	per Speed	8.9	9.7	10.5	11.6	12.1	12.4	13.6	14.4	14.4	14.2
Exhaust gas mass flow (kg/min) (wet)	kg/min	per Speed	4.3	4.7	5.3	5.9	6.3	6.7	7.7	8.6	8.6	8.7
Performance					1							
BSFC g/kWhr - All speeds, 100% load	g/kW.hr	per Speed	218.8	217.1	215.6	216.1	214.3	212.0	216.7	222.5	224.5	226.4
Fuel Consumption litres/hr - All speeds. 100% load	litres/hr	per Speed	15.1	16.6	18.3	20.1	21.3	22.1	23.9	24.4	24.6	24.6
Heat Balance (PEG57) - EOL, 101kl	Pa Ambi	ent, 25°C Ir	nlet Temp	Э.								
Energy to exhaust	kW	per Speed	60.0	66.4	72.9	81.2	85.6	89.1	99.9	108.7	109.2	107.8
Energy to charge coolers (From AFT CLR)	kW	per Speed	3.8	5.1	6.7	8.3	9.0	9.8	12.0	13.6	13.2	13.1
Energy to radiation	kW	per Speed	10.6	11.7	12.8	14.1	14.9	15.5	16.8	17.1	17.2	17.2
Heat Rejection to Radiator (REJ to JW)	kW	per Speed	39.2	41.9	45.1	48.2	50.4	51.8	55.3	54.5	56.5	58.7
Energy to power output (nett)	kWm	per Speed	57.3	63.8	70.8	77.7	82.2	86.3	92.6	92.6	92.6	92.6
Oil System Data												
Lub Oil Rail temperature	°C	per Speed	101.5	103.1	103.9	104.1	104.2	104.2	104.6	105.1	106.5	105.9

SNUTED STATES - DANS	UNITED STATES ENVIRONMENTAL PROTECTION AGENCY 2019 MODEL YEAR CERTIFICATE OF CONFORMITY WITH THE CLEAN AIR ACT	OFFICE OF TRANSPORTATION AND AIR QUALITY ANN ARBOR, MICHIGAN 48105
		\cap

Certificate Issued To: Perkins Engines Co Ltd (U.S. Manufacturer or Importer) Certificate Number: KPKXL04.4MT1-002	Effective Date: 07/06/2018 Expiration Date: 12/31/2019	Byron J. Bunker, Division Director Compliance Division	Issue Date: 07/06/2018 Revision Date: N/A
Model Year: 2019 Manufacturer Type: Original Engine Manufacturer Engine Family: KPKXL04.4MT1	Mobi Emis Fuel After Redu Non- EGR	 le/Stationary Indicator: Both sions Power Category: 75<=kW<130 Type: Diesel, Non-Standard Fuel Treatment Devices: Diesel Oxidation Catalyst, Ammonia Slip Catal ction after Treatment Devices: Electronic/Electric EGR, Electronic Control - Cooled, Engine Design Modification 	yst, Selective Catalytic ol, Electronic/Electric

Pursuant to Section 111 and Section 213 of the Clean Air Act (42 U.S.C. sections 7411 and 7547) and 40 CFR Parts 60 and 1039, and subject to the terms and conditions prescribed in those provisions, this certificate of conformity is hereby issued with respect to the test engines which have been found to conform to applicable requirements and which represent the following engines, by engine family, more fully described in the documentation required by 40 CFR Parts 60 and 1039 and produced in the stated model year.

This certificate of conformity covers only those new compression-ignition engines which conform in all material respects to the design specifications that applied to those engines described in the documentation required by 40 CFR Parts 60 and 1039 and which are produced during the model year stated on this certificate of the said manufacturer, as defined in 40 CFR Parts 60 and 1039.

CAL PRO

It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR 1068 and authorized in a warrant or court order. Failure to comply with the requirements of such a warrant or court order may lead to revocation or suspension of this certificate for reasons specified in 40 CFR Parts 60 and 1039. It is also a term of this certificate that this certificate may be revoked or suspended or rendered void *ab initio* for other reasons specified in 40 CFR Parts 60 and 1039.

This certificate does not cover engines sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.



MINOR MODIFICATION AIR PERMIT APPLICATION FOR EU42 BPM BIO-FUEL BOILER OXYGEN TRIM SYSTEM AND TUNE-UP PROVISIONS AND GATE G EMERGENCY GENERATOR

Prepared For:

DOMTAR PAPER COMPANY, LLC HAWESVILLE, KENTUCKY

By:

KENVIRONS, INC. FRANKFORT, KENTUCKY

PROJECT NUMBER 2021061

JUNE 2021



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MINOR MODIFICATION AIR PERMIT APPLICATION FOR EU42 BPM BIO-FUEL BOILER OXYGEN TRIM SYSTEM AND TUNE-UP PROVISIONS AND GATE G EMERGENCY GENERATOR

DOMTAR PAPER COMPANY, LLC

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APPENDICES

APPENDIX A – EMISSION CALCULATIONS AND MANUFACTURER'S SPECS APPENDIX B – SUGGESTED PERMIT LANGUAGE APPENDIX C – PERMIT FORMS

1.0 INTRODUCTION

Domtar Paper Company, LLC (herein Domtar), located in Hawesville, Kentucky is currently operating under Title V Permit V-18-007. Domtar recently determined that a small LPG (propane) fired emergency generator and associated propane tank were installed at Security Gate G which require inclusion in the permit.

Additionally, Domtar wishes to revise some of the language in Title V Permit V-18-007 for the BPM Bio-fuel Boiler (EU42) to reflect the proper regulatory language applicable to CO emission limitations, operation of an oxygen trim system and conducting every 5-year boiler tune-ups. It should be noted that the requirement to set the minimum oxygen concentration in relation to CO emissions and for oxygen trim system monitoring was fulfilled during both the February 24, 2016 and February 22, 2017 performance testing period.

In accordance with Kentucky Regulation 401 KAR 52:020 Sections 4 and 14, Domtar is submitting the required DEP7007 application forms and accompanying information for this Minor Modification. Appendix A provides a detailed emissions inventory for the new generator and Appendix B provides suggested permit language for the BPM Bio-fuel Boiler.

1.1 Gate G Emergency Generator

The emergency generator will be designated as Emission Unit 58-12, Gate G Emergency Generator. The emergency generator is an LPG (propane) fired, spark ignition unit that was manufactured on 6/24/2019, thus is defined as "New". It is a Generac, model G0070321, rated at 11 kW (14.5 Hp), has a fuel usage capacity of 1.97 gal/hr, and is Manufacturer Emissions Certified.

A dedicated LPG (propane) tank was also installed at Gate G to fuel the new emergency generator (EU58-12).

1.2 BPM Bio-fuel Boiler

The Bio-fuel Boiler, which is listed under Emission Unit 42 in Title V Permit No. V-18-007, is currently subject to regulatory requirements under 40 CFR 63, Subpart DDDDD that require regular tune-ups to be conducted on the boiler. The current permit language requires annual boiler tune-ups in accordance with Subpart DDDDD. Even though the unit is a fluidized bed unit designed to burn biomass/biobased solid, the boiler is equipped with a continuous oxygen trim system that maintains an optimum air to fuel ratio. Thus, Subpart DDDDD allows for a 5-year frequency for boiler tune-ups as opposed to annual tune-ups as currently described in the permit. Domtar requests a revision to the permit language to remove the requirement for annual tune-ups and replace that language with the requirement for conducting the tune-ups every five years as provided for in Table 3, item 1 of 40 CFR Subpart DDDDD.

Also, being equipped with an oxygen trim system, the Bio-fuel Boiler is not required to install and operate a combination CO and O_2 CEM system or to develop the corresponding site-specific monitoring plan as described by 40 CFR 63.7525(a)(1) thru (6), Table 4, item 8 and Table 8, item 9. Thus, Domtar requests that the permit language be revised to reflect the option provided by 40 CFR 63.7525(a) for only the use of an oxygen analyzer, as defined by 40 CFR 63.7575, and the use of an oxygen trim system to demonstrate continuous compliance with the CO emission limitation.

Additionally, a few other minor edits and cleanup items are requested and provided for in the attached suggested permit language.

2.0 REGULATORY APPLICABILITY

2.1 Gate G Emergency Generator

The emergency generator will be designated as Emission Unit 58-12, Gate G Emergency Generator. The emergency generator is an LPG (propane) fired, spark ignition unit that was manufactured on 6/24/2019, thus is defined as "New". It is a Generac, model G0070321, rated at 11 kW (14.5 Hp), has a fuel usage capacity of 1.97 gal/hr, and is Manufacturer Emissions Certified.

Emergency generator (EU58-12) is subject to 40 CFR 63 Subpart ZZZZ – National Emissions <u>Standards for Hazardous Air Pollutants for Stationary Reciprocating</u> <u>Internal Combustion Engines (RICE)</u>. Pursuant to 40 CFR 63.6590(a)(2)(ii) the generator is defined as a new stationary RICE. Pursuant to 40 CFR 63.6590(c)(6), the emergency generator must meet the requirements of 40 CFR 63 Subpart ZZZZ by meeting the requirements of 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under 40 CFR 63 Subpart ZZZZ.

The new emergency generator is an LPG (propane) fired spark ignition engine. Therefore, the unit is subject to 40 CFR 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines.

A dedicated LPG (propane) tank was also installed at Gate G to fuel the new emergency generator (EU58-12). The propane tank is a 250 gallon above ground tank designed to operate under pressure with no emissions to the ambient air. The propane tank is thus defined as an Insignificant Activity.

2.2 BPM Bio-fuel Boiler

40 CFR 63, Subpart DDDDD - National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

This section addresses applicable regulations for the BPM Bio-fuel Boiler which are relevant to the permit language.

This MACT standard applies to the BPM Bio-fuel Boiler since it is an industrial boiler located at a major source of HAPs. The boiler is subject to the work practice standards under Subpart DDDDD that require annual, biennial, or 5-year boiler tune-ups in addition to inspection requirements.

The current permit requires that a tune-up of the boiler be conducted annually in accordance with 40 CFR 63.7540(10). However, 40 CFR 63.7540(12) states the following for boilers equipped with oxygen trim systems:

If your boiler or process heater has a continuous oxygen trim system that maintains an optimum air to fuel ratio, or a heat input capacity of less than or equal to 5 million Btu per hour and the unit is in the units designed to burn gas 1; units designed to burn gas 2 (other); or units designed to burn light liquid subcategories, or meets the definition of limited-use boiler or process heater in §63.7575, you must conduct a tune-up of the boiler or process heater every 5 years as specified in paragraphs (a)(10)(i) through (vi) of this section to demonstrate continuous compliance.

The Boiler is equipped with an oxygen trim system that maintains the optimum air to fuel ratio, therefore the provisions for conducting a tune-up every five years should apply as opposed to the annual tune-up requirement. Domtar is therefore requesting that the relevant permit language be modified to omit the annual tuneup requirement and replace with the 5-year tune-up requirement.

Also, being equipped with an oxygen trim system, the Bio-fuel Boiler is not required to install and operate a combination CO and O_2 CEM system or to develop the corresponding site-specific monitoring plan as described by 40 CFR 63.7525(a)(1) thru (6), Table 4, item 8 and Table 8, item 9. Thus, Domtar requests that the permit language be revised to reflect the option provided by 40 CFR 63.7525(a) for only the use of an oxygen analyzer, as defined by 40 CFR 63.7575.

3.0 EMISSION CALCULATION PROCEDURES

Air emissions from the LPG (propane) gas fired emergency generator will consist of criteria and hazardous air pollutants and greenhouse gases that were calculated using the emission factors published in AP-42 Chapter 3.2-3 and 40 CFR 98 Subpart C, Table C-2. Potential annual emissions are based on 500 hours per year of operation. Appendix A provides a detailed emissions inventory for the new generator.

APPENDIX A

EMISSION CALCULATIONS

AND

MANUFACTURER'S SPECIFICATIONS

(Emergency Generator)

Domtar Paper Company - Hawesville Operations Gate G Emergency Generator - Pollutant of Concern (POC) Table

		0.00107	1000 10	DN1/40/0 5	0.000			0.001710	0.000.000
Gate G, Propane Fired	64	0.00197	1000 gai/nr	PM/10/2.5	0.869	Ib/1000gai	1, 4	0.001712	0.000428
Emergency Generator				SO2	0.05	lb/1000gal	1, 4	0.000106	0.000026
				NOx	202.2	lb/1000gal	1, 4	0.398334	0.099584
1.97 gal/hr				CO	340.4	lb/1000gal	1, 4	0.670588	0.167647
91,500 Btu/gal				VOC	2.71	lb/1000gal	1, 4	0.005339	0.001335
				CO2	12479.00	lb/1000gal	3, 4	24.583630	6.145908
				CH4	0.60700	lb/1000gal	3, 4	0.001196	0.000299
				N2O	0.121000	lb/1000gal	3, 4	0.000238	0.000060
				CO2e	12530.00	lb/1000gal	3, 4	24.684100	6.171025
				Formaldehyde	1.86	lb/1000gal	1, 4	0.003664	0.000916
				Total HAP	2.920	lb/1000gal	1, 2, 4	0.005752	0.001438

References:

AP-42 Table 3.2-3 for Natural Gas Combustion
 Available upon request - Hazardous Air Pollutant (HAP) Table for Individual HAP Emissions.

(3) 40 CFR 98 Subpart C Table C-2
 (4) Emergency Generator annual potential emissions are based on 500 hour per year



9/11 kW



INCLUDES:

- True Power™ Electrical Technology
- Two-line multilingual digital LCD Evolution[™] controller (English/Spanish/French/Portuguese)
- Two transfer switch options available: 100 amp 16 circuit switch or 200 amp service rated switch
- Electronic governor
- Standard Wi-Fi[™] connectivity available on -1 models
- System status & maintenance interval LED indicators
- Sound attenuated enclosure
- Flexible fuel line connector
- Natural gas or LP gas operation
- 5 Year limited warranty
- Listed and labeled by the Southwest Research Institute allowing installation as close as 18 in (457 mm) to a structure.*
- *Must be located away from doors, windows, and fresh air intakes and in accordance with local codes.

https://assets.swri.org/library/DirectoryOfListedProducts/ConstructionIndustry/ 973_DoC_204_13204-01-01_Rev9.pdf



GUARDIAN[®] SERIES Residential Standby Generators Air-Cooled Gas Engine

Standby Power Rating

0/11 kW/

10

G007029-0, G007029-1, G007030-0, G007030-1 (Aluminum-Bisque) - 9 kW 60 Hz G007032-0, G007032-1; G007033-0, G007033-1 (Aluminum-Bisque) - 11kW 60 Hz G007031-0, G007031-1 (Aluminum-Bisque) - 11kW 60 Hz





NOTE: CETL or CUL certification only applies to unbundled units and units packaged with limited circuit switches. Units packaged with the Smart Switch are ETL or UL certified in the USA only.

FEATURES

- INNOVATIVE ENGINE DESIGN & RIGOROUS TESTING are at the heart of Generac's success in providing the most reliable generators possible. Generac's G-Force engine lineup offers added peace of mind and reliability for when it's needed the most. The G-Force series engines are purpose built and designed to handle the rigors of extended run times in high temperatures and extreme operating conditions.
- TRUE POWER[™] ELECTRICAL TECHNOLOGY: Superior harmonics and sine wave form produce less than 5% Total Harmonic Distortion for utility quality power. This allows confident operation of sensitive electronic equipment and micro-chip based appliances, such as variable speed HVAC systems.
- O TEST CRITERIA:
 - PROTOTYPE TESTED
 - SYSTEM TORSIONAL TESTED
- NEMA MG1-22 EVALUATION MOTOR STARTING ABILITY
- MOBILE LINK[®] CONNECTIVITY: FREE with select Guardian Series standby generators, Mobile Link Wi-Fi allows users to monitor the status of the generator from anywhere in the world using a smartphone, tablet, or PC. Easily access information such as the current operating status and maintenance alerts. Users can connect an account to an authorized service dealer for fast, friendly, and proactive service. With Mobile Link, users are taken care of before the next power outage.

- SOLID-STATE, FREQUENCY COMPENSATED VOLTAGE REGULATION: This state-of-the-art power maximizing regulation system is standard on all Generac models. It provides optimized FAST RESPONSE to changing load conditions and MAXIMUM MOTOR STARTING CAPABILITY by electronically torque-matching the surge loads to the engine. Digital voltage regulation at ± 1%.
- SINGLE SOURCE SERVICE RESPONSE from Generac's extensive dealer network provides parts and service know-how for the entire unit, from the engine to the smallest electronic component.
- GENERAC TRANSFER SWITCHES: Long life and reliability are synonymous with GENERAC POWER SYSTEMS. One reason for this confidence is that the GENERAC product line is offered with its own transfer systems and controls for total system compatibility.



Features and Benefits

Engine

9/11 kW

- Generac G-Force design
- "Spiny-lok" cast iron cylinder walls
- Electronic ignition/spark advance
- Full pressure lubrication system
- Low oil pressure shutdown system
- High temperature shutdown

Generator

- Revolving field
- Skewed stator
- Displaced phase excitation
- Automatic voltage regulation
- UL 2200 listed

Transfer Switch (if applicable)

- Fully automatic
- NEMA 3R
- Remote mounting

Evolution[™] Controls

- AUTO/MANUAL/OFF illuminated buttons
- Two-line multilingual LCD
- Sealed, raised buttons
- Utility voltage sensing
- Generator voltage sensing
- Utility interrupt delay
- Engine warm-up
- Engine cool-down
- Programmable exercise
- Smart battery charger
- Main line circuit breaker
- Electronic governor

Unit

- SAE weather protective enclosure
- Enclosed critical grade muffler
- Small, compact, attractive

Transfers vital electrical loads to the energized source of power.

Regulating output voltage to $\pm 1\%$ prevents damaging voltage spikes.

Rigid construction and added durability provide long engine life.

life. Now featuring up to a 2 year/200 hour oil change interval.

Prevents damage due to overheating.

Maximizes motor starting capability.

For your safety.

These features combine to assure smooth, guick starting every time.

Shutdown protection prevents catastrophic engine damage due to low oil.

Produces a smooth output waveform for compatibility with electronic equipment.

Can be installed inside or outside for maximum flexibility.

Mounts near an existing distribution panel for simple, low-cost installation.

Selects the operating mode and provides easy, at-a-glance status indication in any condition.

Provides homeowners easily visible logs of history, maintenance, and events up to 50 occurrences.

Maximizes engine "breathing" for increased fuel efficiency. Plateau honed cylinder walls and plasma moly

Pressurized lubrication to all vital bearings means better performance, less maintenance, and longer engine

Allows for a smaller, light weight unit that operates 25% more efficiently than a revolving armature generator.

rings help the engine run cooler, reducing oil consumption and resulting in longer engine life.

Smooth, weather-resistant user interface for programming and operations.

Constantly monitors utility voltage, setpoints 65% dropout, 80% pick-up, of standard voltage.

Constantly monitors generator voltage to verify the cleanest power delivered to the home.

Prevents nuisance start-ups of the engine, adjustable 2–1500 seconds from the factory default setting of 5 seconds by a qualified dealer.

Verifies engine is ready to assume the load, setpoint approximately 5 seconds.

Allows engine to cool prior to shutdown, setpoint approximately 1 minute.

Operates engine to prevent oil seal drying and damage between power outages by running the generator for 5 minutes every other week. Also offers a selectable setting for weekly or monthly operation providing flexibility and potentially lower fuel costs to the owner.

Delivers charge to the battery only when needed at varying rates depending on outdoor air temperature. Compatible with lead acid and AGM-style batteries.

Protects generator from overload.

Maintains constant 60 Hz frequency.

Sound attenuated enclosures ensure quiet operation and protection against mother nature, withstanding winds up to 150 mph (241 km/h). Hinged key locking roof panel for security. Lift-out for easy access to all routine maintenance items. Electrostatically applied textured epoxy paint for added durability.

Quiet, critical grade muffler is mounted inside the unit to prevent injuries.

Makes for an easy, eye appealing installation, as close as 18 in (457 mm) away from a structure.

GENERAC

Features and Benefits

9/11 kW

Installation System

- 14 in (35.6 cm) flexible fuel line connector
- Integral sediment trap

Connectivity (Wi-Fi equipped models only)

- Ability to view generator status
- Ability to view generator Exercise/Run and Total Hours
- Ability to view generator maintenance information
- Monthly report with previous month's activity
- Ability to view generator battery information
- Weather information

Listed ANSI Z21.75/CSA 6.27 outdoor appliance connector for the required connection to the gas supply piping.

Meets IFGC and NFPA 54 installation requirements.

Monitor the generator with a smartphone, tablet, or computer at any time via the Mobile Link application for complete peace of mind.

Review the generator's complete protection profile for exercise hours and total hours.

Provides maintenance information for the specific model generator when scheduled maintenance is due.

Detailed monthly reports provide historical generator information.

Built in battery diagnostics displaying current state of the battery.

Provides detailed local ambient weather conditions for generator location.

9/11 kW

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GENERAC

Specifications

Model G007029-0/-1, G007030-0/-1 (9 kW) G007031-0/-1, G007032- G007033-0/-1 (11 kW) Rated maximum continuous power capacity (NG) 9,000 Walts* 11,000 Walts* 10,000 Wal
Rated maximum continuous power capacity (LP) 9,000 Watts* 11,000 Watts* Rated maximum continuous power capacity (NG) 8,000 Watts* 10,000 Watts* Rated voltage 240 Rated maximum continuous load current – 240 Volts (LP / NG) 37.5 / 33.3 45.8 / 41.7 Total Harmonic Distortion Less than 5% Main line circuit breaker 40 amp 50 amp Main line circuit breaker 40 amp 50 amp 50 amp Phase 1 Number of rotor poles 2 60 Hz Power factor 1.0 Battery requirement (not included) 12 Volts, Group 26R 540 CCA minimum or Group 35AGM 650 CCA minimum or Group 35AGM 650 CCA minimu or Group 35AGM
Rated maximum continuous power capacity (NG) 8,000 Watts* 10,000 Watts* Rated voltage 240 240 Rated maximum continuous load current – 240 Volts (LP / NG) 37.5 / 33.3 45.8 / 41.7 Total Harmonic Distortion Less than 5% 40 amp 50 amp Main line circuit breaker 40 amp 50 amp 1 Number of rotor poles 2 2 2 2 2 2 2 2 2 2 348 / 158 360 2 348 / 158 <td< td=""></td<>
Rated 240 Rated maximum continuous load current – 240 Volts (LP / NG) 37.5 / 33.3 45.8 / 41.7 Rated maximum continuous load current – 240 Volts (LP / NG) 37.5 / 33.3 45.8 / 41.7 Number of controls Less than 5% Main line circuit breaker 40 amp 50 amp Phase 1 Number of rotor poles 2 Rated AC frequency 60 Hz Power factor 1.0 1 848 / 158 348 / 158 348 / 158 Dimensions (L xW xH) in / cm 48 x 25 x 29 / 121.9 x 63.5 x 73.7 348 / 158 348 / 158 Sound output in dB(A) at 23 ft (7 m) with generator operating at normal load** 63 64 58 Engine 54 58 58 58 58 58 58 58 58 58 530 cc
Bated maximum continuous lead current – 240 Volts (LP / NG) 37.5 / 33.3 45.8 / 41.7 Total Harmonic Distortion Less than 5% Main line circuit breaker 40 amp 50 amp Phase 1 Number of rotor poles 2 Rated AC frequency 60 Hz Power factor 1.0 Battery requirement (not included) 12 Volts, Group 26R 540 CCA minimum or Group 35AGM 650 CCA minimum un (at 2 0 10 48 (at 2 3 tr (7 m) with generator operating at normal load** 63 64 Sound output in dB(A) at 23 tr (7 m) with generator in Quiet-Test** low-speed exercise mode ** 54 58 Engline type GENERAC G-Force 400 Series GENERAC G -Force 500 Series 530 cc Number of
Total Harmonic Distortion Less than 5% Main line circuit breaker 40 amp 50 amp Main line circuit breaker 40 amp 50 amp Phase 1 1 Number of rotor poles 2 60 Hz Power factor 1.0 50 amp Battery requirement (not lincluded) 12 Volts, Group 26R 540 CCA minimum or Group 35AGM 650 CCA minimu Unit weight (tb / kg) 340 / 154 348 / 158 Dimensions (L X W X H) in / cm 48 x 25 x 29 / 121.9 x 63.5 x 73.7 50 and output in dB(A) at 23 ft (7 m) with generator operating at normal load** 63 64 Sound output in dB(A) at 23 ft (7 m) with generator in Quiet-Test** low-speed exercise mode ** 54 58 Engine type GENERAC G-Force 400 Series GENERAC G-Force 500 Set Number of cylinders 1 2 2 Displacement 2 530 cc 530 cc Vinder block Aluminum w/ cast iron sleeve 40e arrangement 0verthead valve Ignition system Solid-state w/ magneto 50.1 51.1 Compression ratio 9.0:1 9.5:1 51.1 <td< td=""></td<>
Main line circuit breaker 40 amp 50 amp Phase 1 1 Number of rolor poles 2 Rated AC frequency 60 Hz Power factor 1.0 1 10 Battery requirement (not included) 12 Volts, Group 26R 540 CCA minimum or Group 35AGM 650 CCA minimum unit weight (lb / kg) 340 / 154 348 / 158 Dimensions (L x W x H) in / cm 48 x 25 x 29 / 121.9 x 63.5 x 73.7 500 and uptu lin dB(A) at 23 ft (7 m) with generator operating at normal load** 63 64 Sound output in dB(A) at 23 ft (7 m) with generator in Quiet-Test** low-speed exercise mode ** 54 58 Engine Engine type GENERAC G-Force 400 Series GENERAC G-Force 500 Series Number of cylinders 1 2 2 Displacement 2 30 cc 30 cc Cylinder block Aluminum w/ cast iron sleeve Valve arrangement Quertend valve Ugnition system Solid-state w/ magneto Solid-state w/ magneto 50 cc Governor system Electronic 2 VDC 2 VDC
Phase 1 Number of roto poles 2 Rated AC frequency 60 Hz Power factor 1.0 Battery requirement (not included) 12 Volts, Group 26R 540 CCA minimum or Group 35AGM 650 CCA minimum or Group 35AGM 65
Number of rotor poles 2 Rated AC frequency 60 Hz Power factor 1.0 Battery requirement (not included) 12 Volts, Group 26R 540 CCA minimum or Group 35AGM 650 CCA minimu Unit weight (lb / kg) 340 / 154 348 / 158 Dimensions (L x W x H) in / cm 48 x 25 x 29 / 121.9 x 63.5 x 73.7 50ud output in dB(A) at 23 ft (7 m) with generator operating at normal load** 63 64 Sound output in dB(A) at 23 ft (7 m) with generator operating at normal load** 63 64 Sound output in dB(A) at 23 ft (7 m) with generator in Quiet-Test** low-speed exercise mode ** 54 58 Engine Engine 2 530 cc Engine type GENERAC G-Force 400 Series GENERAC G-Force 500 Se Number of cylinders 1 2 2 Displacement 2 530 cc 530 cc Cylinder block Aluminum w/ cast iron sleeve Valve arrangement 2 Valve arrangement Overhead valve Solid-state w/ magneto 501 Governor system Solid-state w/ magneto 9.0.1 9.5.1 Stater 12 VDC <
Rated AC frequency 60 Hz Power factor 1.0 Battery requirement (not included) 12 Volts, Group 26R 540 CCA minimum or Group 35AGM 650 CCA minimum Unit weight (lb / kg) 340 / 154 348 / 158 Dimensions (L x W x H) in / cm 48 x 25 x 29 / 121.9 x 63.5 x 73.7 48 x 25 x 29 / 121.9 x 63.5 x 73.7 Sound output in dB(A) at 23 ft (7 m) with generator operating at normal load** 63 64 Sound output in dB(A) at 23 ft (7 m) with generator in Quiet-Test** low-speed exercise mode ** 54 58 Engine Engine type GENERAC G-Force 400 Series GENERAC G -Force 500 Se Number of cylinders 1 2 2 Displacement 426 cc 530 cc 2 Valve arrangement Overhead valve 50 2 Ignition system Solid-state w/ magneto 6 5 Governor system Electronic 5 1 9.5:1 Starter 12 VDC 9.5:1 5 1 4 4 Output in dB(A) interpretention 9.0:1 9.5:1 5 1 1 1 1 1 1 1 1 1
Power factor 1.0 Battery requirement (not included) 12 Volts, Group 26R 540 CCA minimum or Group 35AGM 650 CCA minimu Unit weight (ib / kg) 340 / 154 348 / 158 Dimensions (L x W x H) in / cm 48 x 25 x 29 / 121 9 x 63 5 x 73.7 Sound output in dB(A) at 23 ft (7 m) with generator operating at normal load** 63 64 Sound output in dB(A) at 23 ft (7 m) with generator in Quiet-Test [™] low-speed exercise mode ** 54 58 Engine Engine type GENERAC G -Force 400 Series GENERAC G - Force 500 Se Number of cylinders 1 2 2 Displacement 426 cc 530 cc 5016 - state w/ magneto Cylinder block Aluminum w/ cast iron sleeve Valve arrangement Overhead valve 5016 - state w/ magneto Governor system Solid-state w/ magneto Solid-state w/ magneto 5016 - state w/ magneto Governor system 9.0:1 9.5:1 9.5:1 Starter 12 VDC 12 VDC Oli capacity including filter Approx. 1.7 qt / 1.6 L Operating rpm 3,600 3,600 3,600 3,600 3,600
Battery requirement (not included) 12 Volts, Group 26R 540 CCA minimum or Group 35AGM 650 CCA minimu Unit weight (lb / kg) 340 / 154 348 / 158 Dimensions (L x W x H) in / cm 48 x 25 x 29 / 121.9 x 63.5 x 73.7 48 x 25 x 29 / 121.9 x 63.5 x 73.7 Sound output in dB(A) at 23 ft (7 m) with generator operating at normal load** 63 64 Sound output in dB(A) at 23 ft (7 m) with generator in Quiet-Test ** low-speed exercise mode ** 54 58 Engine Engine type GENERAC G-Force 400 Series GENERAC G-Force 500 Se Number of cylinders 1 2 20 Valve arrangement 426 cc 530 cc 530 cc Valve arrangement Overhead valve 50 50 50 Valve arrangement Solid-state w/ magneto 60 50 51 51 Governor system Electronic 9.0:1 9.5:1 9.5:1 51 51 Stater 12 VDC
Unit weight (lb / kg) 340 / 154 348 / 158 Dimensions (L x W x H) in / cm 48 x 25 x 29 / 121.9 x 63.5 x 73.7 Sound output in dB(A) at 23 ft (7 m) with generator operating at normal load** 63 64 Sound output in dB(A) at 23 ft (7 m) with generator in Quiet-Test** low-speed exercise mode ** 54 58 Engine 54 58 58 Engine type GENERAC G-Force 400 Series GENERAC G-Force 500 Se Sound output in dB(A) at 23 ft (7 m) with generator in Quiet-Test** low-speed exercise mode ** 54 58 Engine type GENERAC G-Force 400 Series GENERAC G-Force 500 Se Sound autput in dB(A) at 23 ft (7 m) with generator in Quiet-Test** 1 2 Units expression 1 2 2 530 cc
Dimensions (L x W x H) in / cm 48 x 25 x 29 / 121.9 x 63.5 x 73.7 Sound output in dB(A) at 23 ft (7 m) with generator operating at normal load** 63 64 Sound output in dB(A) at 23 ft (7 m) with generator in Quiet-Test™ low-speed exercise mode ** 54 58 Engine Engine type GENERAC G-Force 400 Series GENERAC G-Force 500 Se Number of cylinders 1 2 Displacement 426 cc 530 cc Cylinder block Aluminum w/ cast iron sleeve Valve arrangement Overhead valve Ignition system Solid-state w/ magneto Governor system Electronic Compression ratio 9.0:1 9.5:1 Stater 12 VDC 01 Oil capacity including filter Approx. 1.1 qt / 1.0 L Approx. 1.7 qt / 1.6 L Operating rpm 3,600
Sound output in dB(A) at 23 ft (7 m) with generator operating at normal load** 63 64 Sound output in dB(A) at 23 ft (7 m) with generator in Quiet-Test " low-speed exercise mode ** 54 58 Engine Engine type GENERAC G-Force 400 Series GENERAC G-Force 500 Se Number of cylinders 1 2 Displacement 426 cc 530 cc Cylinder block Aluminum w/ cast iron sleeve Valve arrangement Overhead valve Ignition system Solid-state w/ magneto Governor system Electronic Compression ratio 9.0:1 9.5:1 Stater 12 VDC Oli capacity including filler Operating rpm 3,600 3,600
Sound output in dB(A) at 23 ft (7 m) with generator in Quiet-Test ^{var} low-speed exercise mode ** 54 58 Engine GENERAC G-Force 400 Series GENERAC G-Force 500 Se Number of cylinders 1 2 Displacement 426 cc 530 cc Cylinder block Aluminum w/ cast iron sleeve 530 cc Valve arrangement Overhead valve 530 cc Ignition system Solid-state w/ magneto 500 cl Governor system Electronic 9.0:1 9.5:1 Starter 12 VDC 12 VDC 00 capacity including filter Approx. 1.7 qt / 1.6 L Operating rpm 3,600 3,600 3,600 3,600 3,600
Engine GENERAC G-Force 400 Series GENERAC G-Force 500 Se Number of cylinders 1 2 Displacement 426 cc 530 cc Cylinder block Aluminum w/ cast iron sleeve Valve arrangement Valve arrangement Overhead valve 1 Ignition system Solid-state w/ magneto 6overnor system Governor system Electronic 9.0:1 9.5:1 Starter 12 VDC 1 2 Oil capacity including filler Approx. 1.1 qt / 1.0 L Approx. 1.7 qt / 1.6 L Operating rpm 3,600 3,600 3,600
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Number of cylinders 1 2 Displacement 426 cc 530 cc Cylinder block Aluminum w/ cast iron sleeve Valve arrangement Valve arrangement Overhead valve Ignition system Governor system Solid-state w/ magneto Electronic Compression ratio 9.0:1 9.5:1 Starter 12 VDC 12 VDC Oil capacity including filler Approx. 1.1 qt / 1.0 L Approx. 1.7 qt / 1.6 L Operating rpm 3,600 3,600
Displacement 426 cc 530 cc Cylinder block Aluminum w/ cast iron sleeve Valve arrangement Overhead valve Valve arrangement Solid-state w/ magneto Solid-state Solid-state Solid-st
Cylinder block Aluminum w/ cast iron sleeve Valve arrangement Overhead valve Ignition system Solid-state w/ magneto Governor system Electronic Compression ratio 9.0:1 9.5:1 Slarter 12 VDC 12 Oil capacity including filter Approx. 1.1 qt / 1.0 L Approx. 1.7 qt / 1.6 L Operating rpm 3,600 3,600
Valve arrangement Overhead valve Ignition system Solid-state w/ magneto Governor system Electronic Compression ratio 9.0:1 9.5:1 Stater 12 VDC 12 Oil capacity including filler Approx. 1.1 qt / 1.0 L Approx. 1.7 qt / 1.6 L Operating rpm 3,600 3,600
Ignition system Solid-state w/ magneto Governor system Electronic Compression ratio 9.0:1 9.5:1 Starter 12 VDC Oil capacity including filler Approx. 1.1 qt / 1.0 L Approx. 1.7 qt / 1.6 L Operating rpm 3,600
Governor system Electronic Compression ratio 9.0:1 9.5:1 Starter 12 VDC 12 VDC Oil capacity including filter Approx. 1.1 qt / 1.0 L Approx. 1.7 qt / 1.6 L Operating rpm 3,600 3,600
Compression ratio 9.0:1 9.5:1 Starter 12 VDC Oil capacity including filter Approx. 1.1 qt / 1.0 L Approx. 1.7 qt / 1.6 L Operating rpm 3,600
Starter 12 VDC Oil capacity including filter Approx. 1.1 qt / 1.0 L Operating rpm 3,600
Oil capacity including filter Approx. 1.1 qt / 1.0 L Approx. 1.7 qt / 1.6 L Operating rpm 3,600
Operating rpm 3,600
Euclassaumstion
ruer consumption
Natural Gas ft ³ /hr (m ³ /hr)
1/2 Load 90 (2.55) 107 (3.03)
Full Load 120 (3.40) 159 (4.50)
Liquid Propane ft ³ /hr (gal/hr) [L/hr]
1/2 Load 32 (0.87) [3.29] 44 (1.22) [4.62]
Full Load 50 (1.37) [5.20] 72 (1.97) [7.45]
Note: Fuel pipe must be sized for full load. Required fuel pressure to generator fuel inlet at all load ranges - 3.5–7 in water column (0.87–1.74 kPa) for NG, 10–12 in water column kPa) for LP gas. For BTU content, multiply ft ³ /hr x 2500 (LP) or ft ³ /hr x 1000 (NG). For Megaioule content, multiply m ³ /hr x 93.15 (LP) or m ³ /hr x 37.26 (NG).
Controls
Two-line plain text multilingual LCD Simple user interface for ease of operation.
Mode buttons: AUTO Automatic start on utility failure. 7 day exerciser
MANUAL Start with starter control, unit stays on, if utility fails, transfer to load takes of
OFF Stops unit. Power is removed. Control and charges still operate
Ready to Run/Maintenance messages Standard
Engine Run Hours indication Standard
Programmable start delay between 2–1,500 seconds Standard (programmable by dealer only)
Utility Voltage Loss/Return to Utility adjustable (brownout setting)
Future Set Capable Exerciser/Exercise Set Error warning Standard
Run/Alarm/Maintenance logs 50 events each
Engine start sequence Cyclic cranking: Engine cranks a maximum of five times at factory set intervals and
Starter lock-out Starter cannot re-engage until 5 sec after engine has stopped
Smart battery charger Standard
Charger Fault/Missing AC warning Standard
Low Battery/Battery Problem Protection and Battery Condition indication Standard
Automatic Voltage Regulation with Over and Under Voltage protection Standard
Under-Frequency/Overload/Stepper Overcurrent protection Standard
Safety Fused/Fuse Problem protection Standard
Automatic Low Oil Pressure/High Oil Temperature shutdown Standard
Overcrank/Overspeed (@ 72 Hz)/RPM Sense Loss shutdown
High Engine Temperature shutdown Standard
Internal Fault/Incorrect Wiring protection Standard
Common external fault capability Standard
Field upgradable firmware Standard

**Sound levels are taken from the front of the generator. Sound levels taken from other sides of the generator may be higher depending on installation parameters. Rating definitions - Standby: Applicable for supplying emergency power for the duration of the utility power outage. No overload capability is available for this rating. (All ratings in accordance with BS5514, ISO3046 and DIN6271). * Maximum kilovolt amps and current are subject to and limited by such factors as fuel BTU/megajoule content, ambient temperature, altitude, engine power and condition, etc. Maximum power decreases approximately 3.5% for each 1,000 ft (304.8 m) above sea level; and also will decrease approximately 1% for each 10 °F (6 °C).

16

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9/11 kW

Limited Circuits Switch Features

- 16 circuits, breakers not included.
- Rated for all classes of load, 100% equipment rated, both inductive and resistive.
- 2-pole, 250 VAC contactors.
- 30 millisecond transfer time.
- Dual coil design.
- Main contacts are silver plated or silver alloy to resist welding and sticking.
- NEMA/UL 3R aluminum outdoor enclosure.
- Multi listed for use with 1 in standard, tandem, GFCI and AFCI breakers from Siemens, Murray, Eaton, and Square D for the most flexible and cost effective install.

Dimensions

	Hei	ght	Wi	Width				
	H1	H2	W1	W2	Depth			
in	26.75	30.1	10.5	13.5	6.91			
cm	67.94	76.43	26.67	34.30	17.54			

Wire Ranges					
Conductor Lug	Neutral Lug	Ground Lug			
1/0 - #14	2/0 - #14	2/0 - #14			

Service Rated Smart Switch Features

- Includes Digital Power Management Technology (DPM) standard.
- Intelligently manages up to four air conditioner loads with no additional hardware.
- Up to eight additional large (240 VAC) loads can be managed when used in conjunction with Smart Management Modules (SMMs).
- Electrically operated, mechanically-held contacts for fast, clean connections.
- Rated for all classes of load, 100% equipment rated, both inductive and resistive.
- Service equipment rated, dual coil design.
- Rated for both aluminum and copper conductors.
- Main contacts are silver plated or silver alloy to resist welding and sticking.
- NEMA/UL 3R aluminum outdoor enclosure.

Dimensions

	Hei	ght	Wi	Durit	
	H1	H2	W1	W2	Depin
in	26.75	30.1	10.5	13.5	6.91
cm	67.95	76.45	26.67	34.29	17.55

Wire Ranges					
Conductor Lug	Neutral Lug	Ground Lug			
350 MCM - #6	350 MCM - #6	2/0 - #14			

Model	G007030-0/-1 (9kW)	G007032-0/-1 (11kW)
No. of poles	2	2
Current rating (amps)	100	100
Voltage rating (VAC)	120/240, 1Ø	120/240, 1Ø
Utility voltage monitor (Fixed)* -Pick-up -Dropout	80% 65%	80% 65%
Return to utility*	Approx. 15 sec	Approx. 15 sec
Exercises bi-weekly for 5 minutes*†	Standard	Standard
ETL or UL listed	Standard	Standard
Total circuits available	16	16
Tandem breaker capabilities	8 Tandems	8 Tandems
Circuit breaker protected Available RMS symmetrical Fault Current @ 250 Volts	10,000	10,000

*Function of Evolution controller † Can be set to weekly or monthly



Model	G007033-0/-1 (11kW)
No. of poles	2
Current rating (amps)	200
Voltage rating (VAC)	120/240, 1Ø
Utility voltage monitor (fixed)* -Pick-up -Dropout	80% 65%
Return to utility*	Approx. 13 sec
Exercises bi-weekly for 5 minutes *†	Standard
ETL or UL listed	Standard
Enclosure type	NEMA/UL 3R
Circuit breaker protected	22,000
Lug range	250 MCM - #6

*Function of Evolution controller

† Can be set to weekly or monthly



Switch Options

GENERAC

Available Accessories

Dimensions & UPCs

Model #	Product	Description
G005819-0	26R Wet Cell Battery	Every standby generator requires a battery to start the system. Generac offers the recommended 26R wet cell battery for use with all air-cooled standby product (excluding PowerPact [®]).
G007101-0	Battery Pad Warmer	Pad warmer rests under the battery. Recommended for use if temperature regularly falls below 0 °F (-18 °C). (Not necessary for use with AGM-style batteries).
G007102-0	Oil Warmer	Oil warmer slips directly over the oil filter. Recommended for use if temperature regularly falls below 0 °F (-18 °C).
G007103-1	Breather Warmer	Breather warmer is for use in extreme cold weather applications. For use with Evolution controllers only in climates where heavy icing occurs.
G005621-0	Auxiliary Transfer Switch Contact Kit	The auxiliary transfer switch contact kit allows the transfer switch to lock out a single large electrical load that may not be needed. Not compatible with 50 amp pre-wired switches.
G007027-0	Fascia Base Wrap Kit	The fascia base wrap snaps together around the bottom of the new air-cooled generators. This offers a sleek, con- toured appearance, as well as offering protection from rodents and insects by covering the lifting holes located in the base.
G005703-0	Touch-Up Paint Kit	If the generator enclosure is scratched or damaged, it is important to touch-up the paint to protect from future cor- rosion. The touch-up paint kit includes the necessary paint to correctly maintain or touch-up a generator enclosure.
G006482-0 - 9 kW G006483-0 - 11 kW	Scheduled Maintenance Kit	Generac's scheduled maintenance kit provides all the items necessary to perform complete routine maintenance on a Generac automatic standby generator (oil not included).
G007005-0	Wi-Fi LP Tank Fuel Level Monitor	The Wi-Fi enabled LP tank fuel level monitor provides constant monitoring of the connected LP fuel tank. Monitoring the LP tank's fuel level is an important step in verifying the generator is ready to run during an unexpected power failure. Status alerts are available through a free application to notify users when the LP tank is in need of a refill.
G007000-0 (50 amp) G007006-0 (100 amp)	Smart Management Module	Smart Management Modules (SMM) are used to optimize the performance of a standby generator. They manage large electrical loads upon startup, and shed them to aid in recovery when overloaded. In many cases, using SMM's can reduce the overall size and cost of the system.
G007169-0	Mobile Link [®] 4G LTE Cellular Accessory	The Mobile Link 4G LTE Cellular Accessory allows users to monitor the status of the generator from anywhere in the world, using a smart phone, tablet, or PC. Easily access information such as the current operating status and maintenance alerts. Users can connect an account with an authorized service dealer for fast, friendly, and proactive service. With Mobile Link, users are taken care of before the next power outage.

Model	UPC
G007029-0	696471070293
G007029-1	696471074109
G007030-0	696471070309
G007030-1	696471074116
G007031-0	696471070316
G007031-1	696471074123
G007032-0	696471070323
G007032-1	696471074130
G007033-0	696471070330
G007033-1	696471074147

727.2 mm 1218 mm 728.6 initial 1232 mm LEFT SIDE VIEW FRONT VIEW

Dimensions shown are approximate. See installation manual for exact dimensions. DO NOT USE THESE DIMENSIONS FOR INSTALLATION PURPOSES.



6

9/11 kW

U.S. EPA EMISSION CONTROL WARRANTY STATEMENT YOUR WARRANTY RIGHTS AND OBLIGATIONS

The United States Environmental Protection Agency (EPA) and Generac Power Systems, Inc. (Generac) are pleased to explain the Emission Control System Warranty (ECS Warranty) on your new 2011 and later equipment. New equipment that use small spark-ignited engines must be designed, built, and equipped to meet stringent anti-smog standards for the federal government. Generac will warrant the emission control system on your equipment for the period of time listed below provided there has been no abuse, neglect, unapproved modification or improper maintenance of your equipment. The emission control system on this equipment includes all components whose failure would increase the emissions of any regulated pollutant. These components are listed in the Emissions Information section of this manual.

MANUFACTURER'S WARRANTY COVERAGE:

This ECS Warranty is valid for two years, or for the same period as specified in the Generac Limited Warranty, whichever is longer. For equipment with hour meters, the warranty period is a number of hours equal to half the Useful Life to which the equipment is certified, or the warranty period specified above in years, whichever is less. The Useful Life can be found on the Emission Control Label on the engine. If, during such warranty period, any emission-related part on your equipment is found to be defective in materials or workmanship, repairs or replacement will be performed by a Generac Authorized Warranty Service Dealer.

OWNER'S WARRANTY RESPONSIBILITIES:

As the equipment owner, you are responsible for the completion of all required maintenance as listed in your factory supplied Owner's Manual. For warranty purposes, Generac recommends that you retain all receipts covering maintenance on your generator, but Generac cannot deny warranty solely due to the lack of receipts. These responsibilities and the coverage provided by this warranty apply to all subsequent purchasers/owners of the engine.

You should be aware that Generac may deny and/or all warranty coverage or responsibility if your equipment, or a part/component thereof, has failed due to abuse, neglect, improper maintenance, or unapproved modifications.

You are responsible for contacting a Generac Authorized Warranty Dealer as soon as a problem occurs. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.

Warranty service can be arranged by contacting either your selling dealer or a Generac Authorized Warranty Service Dealer. To locate the Generac Authorized Warranty Service Dealer nearest you, call our toll free number below, or email emissions@generac.com.

1-800-333-1322

IMPORTANT NOTE: This warranty statement explains your rights and obligations under the Emission Control System Warranty, which is provided to you by Generac pursuant to federal law. See also the "Generac Limited Warranties for Generac Power Systems, Inc.," which is enclosed herewith on a separate sheet, also provided to you by Generac. Note that this warranty shall not apply to any incidental, consequential or indirect damages caused by defects in materials or workmanship or any delay in repair or replacement of the defective part(s). This warranty is in place of all other warranties, expressed or implied. Specifically, Generac makes no other warranties as to the merchantability or fitness for a particular purpose. Any implied warranties which are allowed by law, shall be limited in duration to the terms of the express warranty provided herein. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

The ECS Warranty applies only to the emission control system of your new equipment. Both the ECS Warranty and the Generac Warranty describe important rights and obligations with respect to your new engine.

Warranty service can be performed only by a Generac Authorized Warranty Service Facility. When requesting warranty service, evidence must be presented showing the date of the sale to the original purchaser/owner.

If you have any questions regarding your warranty rights and responsibilities, you should contact Generac at the following address:

ATTENTION WARRANTY DEPARTMENT GENERAC POWER SYSTEMS, INC. P.O. BOX 8 • WAUKESHA, WI 53187

Part 1 of 2

Part No. 0J3335 Rev. D 10/15

APPENDIX B

SUGGESTED PERMIT LANGUAGE

(BPM Bio-fuel Boiler)

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit EU-42 BPM Bio-fuel Boiler							
Emission Point	B-900						
Description	To process waste wood/hogged fuel for steam generation and as a backup incineration device for HVLC's						
Installed	May 1997						
Primary Fuel	Waste wood/hogged fuel						
Secondary Fuel	Natural gas, fuel oil (<0.50% sulfur content), and propane						
Maximum Rated Capacity	1050 MMBtu/hour; (Hogged fuel input: 570 MMBtu/hour) (Natural gas fuel input: 480 MMBtu/hour)						
Process Description	Processes waste wood/hogged fuel for steam generation						
Control Equipment	ESP						

APPLICABLE REGULATIONS:

401 KAR 51:017, Prevention of significant deterioration of air quality.

401 KAR 59:015, New indirect heat exchangers.

401 KAR 60:005, Section 2(2)(c), 40 C.F.R. 60.40b to 60.49b (Subpart Db), Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units.

401 KAR 63:002, Section 2(4)(iiii), 40 C.F.R. 63.7480 to 63.7575, Tables 1 to 13 (Subpart DDDDD), National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters.

40 CFR 64, Compliance Assurance Monitoring.

1. **Operating Limitations:**

- a. Fuels shall include waste wood (hogged fuel), natural gas, propane, fuel oil with less than 0.50 % sulfur content, and HVLC off gases. Waste wood (hogged fuel) includes: waste wood, chips and bark, clarifier sludge, and any waste wood containing less than one percent by weight oil [401 KAR 51:017, PSD Permit F-96-003 R1]
- b. No. 2 fuel oil may be used as a backup to natural gas and propane for no more than 2 hours/day and 10 days/year at a rate not to exceed 7,703 gals/hour. [401 KAR 51:017, PSD Permit F-96-003 R1].
- c. Low NO_X burners shall be used [401 KAR 51:017, PSD Permit F-96-003 R1].
- d. Emission rates specified under 2. <u>Emission Limitations</u> and the air pollution control equipment to control these emissions, 7. <u>Specific Control Equipment Operating</u>

SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

<u>Conditions</u>, represents BACT; hence, all equipment, including control equipment, ESP, associated with the emission unit shall be operated and monitored, see **4.** <u>Specific</u> <u>Monitoring Requirements</u>, to maintain emissions below the specified BACT emission rate [401 KAR 51:017, Section 9].

- e. Pursuant to 40 CFR 63.7500(a)(1), the permittee must meet the following work practice standards in Table 3, items 1, and 4 of 40 CFR 63, Subpart DDDDD that applies to the boiler, except as provided under 40 CFR 63.7522. The permittee:
 - (1) Shall conduct a tune-up of the boiler <u>every 5 years if the boiler or process heater has a continuous oxygen trim system that maintains an optimum air to fuel ratio as specified in 40 CFR 63.7540(a)(12). The burner inspection may be delayed until the next scheduled or unscheduled unit shutdown, but each burner must be inspected at least once every 72 months.</u>
 - (2) Each 5-year tune-up specified in §63.7540(a)(12) must be conducted no more than 61 months after the previous tune-up. [40 CFR 63.7515(d)]
 - (3) Conduct a one-time energy assessment as specified in Table 3 of 40 CFR 63, Subpart DDDDD. The one-time energy assessment performed by a qualified energy assessor. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in this table, satisfies the energy assessment requirement. A facility that operates under an energy management program compatible with ISO 50001 that includes the affected units also satisfies the energy assessment requirement. The energy assessment must include the following with extent of the evaluation for items 4.a. to e. of Table 3 of 40 CFR 63, Subpart DDDDD appropriate for the on-site technical hours listed in 40 CFR 63.7575:
 - (i) A visual inspection of the boiler or process heater system.
 - An evaluation of operating characteristics of the boiler or process heater systems, specifications of energy using systems, operating and maintenance procedures, and unusual operating constraints.
 - (iii) An inventory of major energy use systems consuming energy from affected boilers and process heaters and which are under the control of the boiler/process heater permittee.
 - (iv) A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage.
 - (v) A review of the facility's energy management practices and provide recommendations for improvements consistent with the definition of energy management practices, if identified.
 - (vi) A list of cost-effective energy conservation measures that are within the facility's control.
 - (vii) A list of the energy savings potential of the energy conservation measures identified.
 - (viii) A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.
 - (4) Shall follow all applicable work practice standards during startup as specified in Table 3 of 40 CFR 63, Subpart DDDDD.

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- f. Pursuant to 40 CFR 63.7500(a)(2), the permittee must meet the following operating limit in Table 4 of 40 CFR 63, Subpart DDDDD that applies to the boiler:
 Existing boilers must maintain opacity to less than or equal to 10 percent opacity (daily block average)
- g. At all times, the permittee must operate and maintain the affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source [40 CFR 63.7500(a)(3)].
- h. These standards pursuant to 40 CFR 63.7500 apply at all times the affected unit is operating, except during periods of startup and shutdown during which time the permittee must comply only with Table 3 to 40 CFR 63, Subpart DDDDD.

Compliance Demonstration Method:

- a Refer to **4.** <u>Specific Monitoring Requirements</u>; **5.** <u>Specific Recordkeeping</u> <u>Requirements</u> and **6.** <u>Specific Reporting Requirements</u> below.
- b. Compliance with the **1**. <u>Operating Limitations</u> e., f. and g. shall be demonstrated by maintaining records in accordance with **5**. <u>Specific Recordkeeping Requirements</u>.
- c. Continuous compliance with work practice standards shall be demonstrated as specified in Table 8 of 40 CFR 63, Subpart DDDDD [40 CFR 63.7540].
- d The permittee shall complete an initial tune-up by following the procedures described in 40 CFR 63.7540(a)(10)(i) through (vi) and the one-time energy assessment specified in Table 3 of 40 CFR 63, Subpart DDDDD, no later than the compliance date of January 31, 2016 as specified in 40 CFR 63.7495.

2. <u>Emission Limitations</u>:

- a. PM/PM₁₀ emissions shall not exceed 0.10 lb/MMBtu and 43.8 tpy [401 KAR 51:017, PSD Permit F-96-003 R1 and netting Title V/PSD Permit V-04-012, 401 KAR 59:015 Section 4(1)(b), and 40 CFR 60.43(b)].
- b. The opacity of visible emission shall not exceed 20 percent [401 KAR 59:015 Section 4(2), 40 CFR 60.43b(f)].
- c. CO emissions shall not exceed 0.3 lb/MMBtu and 827.82 tpy [401 KAR 51:017, PSD Permit F-96-003 R1].
- d. NOx emissions shall not exceed 0.25 lb/MMBtu based on a 30-day average and 830.0 TPY [401 KAR 51:017, PSD Permit F-96-003 R1 and netting Title V/PSD Permit V-04-012].

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- e. When gaseous fuel (natural gas, propane, and HVLC) burning, NOx emissions shall not exceed 0.20 lb/MMBtu [40 CFR 60.44b(a)].
- f. SO₂ emissions shall not exceed 0.033 lb/MMBtu and 73.67 tpy [401 KAR 51:017, PSD Permit F-96-003 R1 and Title V/PSD Permit V-04-012].
- g. VOC emissions measured as methane shall not exceed 0.10 lb/MMBtu and 257.54 tpy. [401 KAR 51:017, PSD Permit F-96-003 R1].
- h. Pursuant to 40 CFR 63.7500(a)(1), the permittee must <u>meet</u> the following emission limits in Table 2 of 40 CFR 63, Subpart DDDDD that apply to the fluidized bed boiler designed to burn biomass/bio-based solids, except as provided under 40 CFR 63.7522:
 - Emissions of CO shall not exceed 470 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (310 ppm by volume corrected to 3 percent oxygen, 30-day rolling average) or 4.6E–01 lb per MMBtu of steam output;
 - (2) Emissions of PM shall not exceed 1.1E-01 lb per MMBtu of heat input; or (1.2E-03 lb per MMBtu of heat input) or 1.4E–01 lb per MMBtu of steam output;
 - (3) Emissions of HCl shall not exceed 2.2E-02 lb per MMBtu of heat input or 2.5E-02 lb per MMBtu of steam output; and
 - (4) Emissions of mercury shall not exceed 5.7E–06 lb per mmBtu of heat input or 6.4E-06 lb/MMBtu steam output.

Compliance Demonstration Method:

- a. Refer to 40 CFR 63.7505 and 63.7510 for general and initial compliance requirements.
- b. For compliance with BACT limits from 401 KAR 51:017 for PM/PM₁₀ CO, NO_X, SO₂, and VOC lbs/MMBtu emission limits, refer to **3.** <u>Testing Requirements</u>.
- c. For PM/PM₁₀ CO, NOx, SO₂, and VOC <u>annual</u> emission limits: Annual Emission Rate (tpy) = [Sum (any consecutive 12 month) of the Monthly Natural Gas Usage Rate (10⁶ cubic feet natural gas) x Emission Factor (lbs/10⁶ cubic feet) + Sum (any consecutive 12 month) of the Monthly Fuel Oil Usage Rate (1000 gallons) x Emission Factor (lb/1000 gallons) + Sum (any consecutive 12 month) of the Monthly Wood Waste Usage Rate (MMBtu) x Emission Factor (lb/MMBtu)].
- d. Compliance with the opacity limits shall be demonstrated through the following methods: The permittee shall perform the monitoring and recordkeeping requirements listed under 4. <u>Specific Monitoring Requirements</u> and 5. <u>Specific Recordkeeping Requirements</u> during all periods.
- e. For compliance with 2. <u>Emission limitations</u> h:
 - (1) Pursuant to 40 CFR 63.7540, continuous compliance with emission limitations shall be demonstrated as specified in Table 8 of 40 CFR 63, Subpart DDDDD.
 - (2)_See 3. Testing Requirements, 5. Specific Record keeping Requirements and 6. Specific Reporting Requirements.

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

(3) Initial compliance with emissions limitations shall be demonstrated no later than 180 days after the compliance date that is specified in 40 CFR 63.7495 and according to the applicable provisions in 40 CFR 63.7(a)(2) as cited in Table 10 to 40 CFR 63, Subpart DDDDD.

3. Testing Requirements:

- a. Performance testing of PM/PM₁₀, SO₂, NOx, CO, and VOC using Reference Methods specified in 401 KAR 50:015 shall be conducted within 5 years of the most recent performance test conducted to demonstrate compliance or within 6 months of issuance of the final permit V-018-007, whichever is later. The amount (gallons/hour or lbs/hour) and heat capacity of the fuel used during testing (MMBtu/gallon or MMBtu/lb), and the emission rate of each pollutant (lb/hr), shall be measured and reported with the testing results to show compliance with lb/MMBtu limits [401 KAR 59:005, Section 2(2), 401 KAR 50:045, Section 1 and 40 CFR 60.8].
- b. The permittee shall test for compliance with emission limits for hydrochloric acid (HCl) and mercury on an annual basis as required by 40 CFR 63.7510 and as specified in 40 CFR 63.7515 and 40 CFR 63.7520 or perform fuel analysis according to 40 CFR 63.7521 and Table 6 of 40 CFR 63, Subpart DDDDD.
- c. Permittee must conduct all applicable performance tests according to 40 CFR 63.7520 on an annual basis, except as specified in 40 CFR 63.7515(b) and (c). Annual performance tests must be completed no more than 13 months after the previous performance test, except as specified in 40 CFR 63.7515(b) and (c) [40 CFR 63.7515(a)].
 - (1) If your performance tests for a given pollutant for at least 2 consecutive years show that your emissions are at or below 75 percent of the emission limit (or, in limited instances as specified in Tables 1 and 2 or 11 through 13 to this subpart, at or below the emission limit) for the pollutant, and if there are no changes in the operation of the individual boiler or air pollution control equipment that could increase emissions, you may choose to conduct performance tests for the pollutant every third year. Each such performance test must be conducted no more than 37 months after the previous performance test. If permittee elects to demonstrate compliance using emission averaging under 40 CFR 63.7522, permittee must continue to conduct performance tests annually. The requirement to test at maximum chloride input level is waived unless the stack test is conducted for HCl. The requirement to test at maximum mercury input level is waived unless the stack test is conducted for TSM [40 CFR 63.7515(b)].
 - (2) If a performance test shows emissions exceeded the emission limit or 75 percent of the emission limit (as specified in Tables 1 and 2 or 11 through 13 to this subpart) for a pollutant, permittee must conduct annual performance tests for that pollutant until all performance tests over a consecutive 2-year period meet the required level (at or below 75 percent of the emission limit, as specified in Tables 1 and 2 or 11 through 13 to this subpart) [40 CFR 63.7515(c)].

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<#>For CO, the permittee shall perform testing on annual basis according to 40 CFR 63.7520 and Table 5 of 40 CFR 63, Subpart DDDDD or conduct a performance evaluation on the CO CEMS according to 40 CFR 63.7525(a).¶

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

4. Specific Monitoring Requirements:

- a. The permittee shall use a continuous opacity monitor (COM) to meet the continuous monitoring requirement for opacity. During periods when the COM is not in proper operation and there are visible emissions from the stack, the permittee shall determine the opacity of emissions by Reference Method 9 on a daily basis. The Method 9 shall be performed by a representative of the permittee certified in Visible Emissions Evaluations, and the permittee shall maintain a list of all individuals that are certified Visible Emissions Evaluators and their date of certification. If a Method 9 cannot be performed, the reason for not performing the test shall be documented [40 CFR 60.48b].
- b. The permittee shall use a continuous emissions monitor (CEM) to monitor the concentration of NO_x emissions to meet the periodic monitoring requirement on a dry basis and the percent of oxygen by volume on a dry basis of gases discharged in order to calculate lb/MMBtu. Excluding the startup and shutdown periods, if any 30-day average NO_x value exceeds the emission standard, the permittee shall, as appropriate, initiate an investigation of the cause of the exceedance and/or the CEM system and make any necessary repairs or take corrective actions as soon as practicable [40 CFR 60.48b].
- c. The permittee shall monitor the hours per month of operation for the unit.
- d. The permittee shall monitor the hours/day when using No. 2 fuel oil and the days/year.
- e. The permittee shall monitor the average boiler bed temperature, and percent oxygen on a 24-hour basis or other parameters which have been demonstrated to correlate to CO and VOC emissions and which have acceptable ranges established during stack tests [401 KAR 51:017].
- f. The permittee shall monitor total monthly (each calendar month) heat input (MMBtu) to the bio-fuel boiler including the monthly usage rates of waste wood, natural gas, propane, and fuel oil.
- g. Refer to Section D.5 for CAM for PM/PM₁₀ emissions control sent by the facility pursuant to 40 CFR 64.6. The permittee shall conduct this monitoring and fulfill the obligations to achieve compliance with an emission limitation. The elements of the monitoring approach, including indicator to be monitored, indicator ranges, and performance criteria are presented in the table.
- h. The permittee shall comply with the applicable requirements specified in 40 CFR 63.7525 and 40 CFR 63.7535 and listed below:

(1) The permittee shall install and operate a continuous oxygen analyzer according to 40 CFR 63,7525(a),

- (2) <u>The permittee shall operate an oxygen trim system with the oxygen level set no lower</u> than the lowest hourly average oxygen concentration measured during the most recent <u>CO performance test as the operating limit for oxygen according to Table 7 of 40 CFR</u> <u>63, Subpart DDDDD. [40 CFR 63.7525(a)(7)].</u>
- (3) The permittee shall install and operate a COMS according to 40 CFR 63.7525(c) and develop a site specific monitoring plan according to 40 CFR 63.7505(d)

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

(4) Pursuant to 40 CFR 63, Subpart DDDDD, Table 8, the permittee shall monitor the operating load or steam generation every 15 minutes, and maintain load below 110% of the rate measured during the latest performance test.

5. Specific Recordkeeping Requirements:

- a. All 6-minute average opacities equal to or exceeding 20 % shall be recorded. [40 CFR 60.49b]
- b. The permittee shall record one-hour and thirty-day average NOx concentrations.
- c. The permittee shall summarize total heat input (MMBtu) monthly.
- d. The permittee shall estimate and record the PM₁₀, CO, NOx, SO₂, and VOC emissions monthly.
- e. The permittee shall maintain records, including dates, usage rates, time, and duration, when the bio-fuel boiler is on each specific fuel.
- f. The permittee shall maintain records of a 24-hour average boiler bed temperature and 24-hour average percent oxygen.
- g. Records in the daily/weekly/monthly log shall include but are not limited to the following:(1) Whether any air emissions were visible from the unit;
 - (2) Whether the visible emissions were normal for the unit; and
 - (3) The cause of any abnormal emissions and any corrective action taken.
- h. The following records shall be kept in accordance with 40 CFR 63.7555 and 63.7560:
 - (1) Maintain records of fuel analyses and resulting emission rate calculations according to 40 CFR 63.7555(a) and (d).
 - (2) Maintain records of CMS and/or CEM data according to 40 CFR 63.7555(a). (b) and (d).
 - (3) Maintain records of COMS data according to 40 CFR 63.7555(a). (b) and (b).
 - (4) Maintain records of operational load or steam generation measurements according to 40 CFR 63.7555(c).

6. Specific Reporting Requirements:

- a. The 30-day NOx rolling average in excess of standard shall be submitted quarterly [401 KAR 59:005 Section 3(3) and 40 CFR 60.49b].
- b. Any period during which the opacity is equal to or exceeds 20 percent will be reported quarterly, except startup and shutdown.
- c. Pursuant to a requested stack test, the permittee shall provide at least 60 days prior notice of any performance test [40 CFR 60.8(d)].
- d. The permittee shall submit notifications and reports as specified in 40 CFR 63.7545 and 40 CFR 63.7550.

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SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

7. <u>Specific Control Equipment Operating Conditions</u>:

- a. The ESP shall be operated in accordance with the manufacturer's specifications and/or standard operating procedures as established in the CAM table for PM/PM₁₀ in Section D.
- b. Records regarding the maintenance of the control equipment shall be maintained.
- c. The permittee shall apply the provisions of Section E, Source Control Equipment Requirements, to the operation of the ESP.

APPENDIX C

PERMIT FORMS

Division for Air Quality		tv	DEP7007AI			Ad	Additional Documentation		
D1 (1310)	101 / 111 Q	Juiii	Administrative Information						
300 Sower Boulevard				Section AI.1: Source Information Additional }				ional Documentation attached	
Frankf	ort, KY 406	01		Secti	on AI.2: A	pplicant Information			
(502	2) 564-3999			Secti	on AI.3: C	Wher Information			
				Section AI.4: Type of Application					
				Secti	on AI.5: C	Other Required Informat	tion		
				Secti	on AI.6: S	ignature Block			
				Secti	on AI.7: N	lotes, Comments, and E	Explanations		
							-		
Source Name:			Domtar Pape	r Company, LLC					
KY EIS (AFS) #:		21-	091-00005						
Permit #:			V-18-007						
Agency Interest (AI)	ID:		43431						
Date:			6/21/2021						
Section AI.1: S	ource Inf	orm	ation						
Physical Location	Street:		58 Wescor Ro	ad					
Address:	City:		Hawesville		County:	Hancock	Zip Code:	43248-0130	
Mailing Address:	Street or P.O. Box:		P.o. Box 130						
ivitaling ruuress.	City:		Hawesville		State:	KY	Zip Code:	43248-0130	
	Standard Coordinates for Source Physical Location								
Longitude:		37.8	9167	(decimal degrees)		Latitude:	86.69167	(decimal degrees)	
Primary (NAICS) Ca	tegory:		Paper Mills pr	oducing paper	-	Primary NAICS #:	322121		

Classification (SIC) C	ategory:	Production of Bleached	Pulp and Fine Paper	Primary SIC #:	2611, 2621	
Briefly discuss the type of business conducted at this site: Production of Bleached Pu		Ilp and Fine Paper				
Description of Area Surrounding Source:	✓ Rural Area☐ Urban Area	Industrial Park Industrial Area	Residential AreaCommercial Area	Is any part of the source located on federal land?	☐ Yes ✓ No	Number of Employees: 445
Approximate distance to nearest residence o commercial property:	r 100	ft	Property Area:20	00 acres	Is this source portable?	Yes VNo
	What othe	er environmental permi	ts or registrations do	es this source currently hold	or need to obtain in Ken	tucky?
NPDES/KPDES:	Currently Ho	ld 🗌 Need	□ N/A			
Solid Waste:	Currently Ho	ld 🗌 Need	N/A			
RCRA:	Currently Ho	ld 🗌 Need	□ N/A			
UST:	Currently Ho	ld 🗌 Need	N/A			
Type of Regulated	Mixed Waste	Generator	Generator	Recycler	Other:	_
Waste Activity:	aste Activity:		Transporter	Treatment/Storage/Disposa	l Facility 🗌 N/	A

Section AI.2: App	plicant Information	1								
Applicant Name:	Domtar Paper Company	y, LLC								
Title: (if individual)										
Mailing Address	Street or P.O. Box:	P.O. Box 130								
Maning Address:	City:	Hawesville	State:	KY	Zip Code:	43248-0130				
Email: (if individual)										
Phone:	(270) 927-6961									
Technical Contact										
Name:	Adam Krieg, P.E.									
Title:	Senior Environmental Engineer									
Mailing Address:	Street or P.O. Box:			P.O. Box 130						
	City: Hawesvil	le	State:	KY	Zip Code:	43248-0130				
Email:	adam.krieg@domtar.co	m								
Phone:	(270) 927-7387									
Air Permit Contact for S	Source									
Name:	Adam Krieg, P.E.									
Title:	Senior Environmental Eng	ineer								
Mailing Address:	Street or P.O. Box:			P.O. Box 130						
Maning Autress.	City: Hawesvil	le	State:	KY	Zip Code:	43248-0130				
Email:	adam.krieg@domtar.co	m								
Phone:	(270) 927-7387									
Section AI.3: Ow	ection AI.3: Owner Information									
------------------------	-------------------------------------	--------------------------	---------------------	-----------	--	--	--	--	--	--
⊡ Owner same	☑ Owner same as applicant									
Name:										
Title:										
Mailing Address:	Street or P.O. Box:									
	City:		State:	Zip Code:						
Email:										
Phone:										
List names of owners a	nd officers of the company who have	e an interest in the com	pany of 5% or more.							
	Name			Position						

Section AI.4: Type	e of Application							
Current Status:	✓ Title V □ Condit	ional Major 🛛 🗌 Sta	te-Origin	General Permit	Registra	tion 🗌 None		
	Name Change	Initial Registration		Significant Revision	Adminis	strative Permit Amendment		
	Renewal Permit	Revised Registration	n 🗸	Minor Revision	Initial S	ource-wide OperatingPermit		
(check all that apply)	502(b)(10)Change	Extension Request	\checkmark	Addition of New Facility	Portable	Plant Relocation Notice		
	Revision	Off Permit Change		Landfill Alternate Compliance Submittal	✓ Modific	ation of Existing Facilities		
	Ownership Change	Closure						
Requested Status:	✓ Title V □ Condit	ional Major 🗌 Sta	onal Major State-Origin PSD NSR Other:					
Is the source requesting	g a limitation of potentia	al emissions?		Yes V No				
Pollutant:		Requested Limit:		Pollutant:	Requested Limit:			
Particulate Matter				Single HAP				
Volatile Organic Compounds (VOC)				Combined HAPs				
Carbon Monoxide			ubpart F)					
Nitrogen Oxides				Carbon Dioxide				
Sulfur Dioxide				Greenhouse Gases (GHG))			
Lead				Other				
For New Construct	ion:							
Proposed Start Date of Construction: (MM/YYYY)		Currently installed	3/2020	Proposed Operation Start-Up Date: (MM/YYYY)	Initial startup 3/2020		
For Modifications:								
Proposed Start (M	Date of Modification: <i>(M/YYYY)</i>			Proposed Operation Start-Up Date: (MM/YYYY)			
Applicant is seeking	Applicant is seeking coverage under a permit shield.YesIdentify any non-applicable requirements for which permit shield is sought on a separate attachment to the application.							

Section AI.5 Other Required Information							
Indicate the documents attached as part of this application:							
DEP7007A Indirect Heat Exchangers and Turbines	DEP7007CC Compliance Certification						
DEP7007B Manufacturing or Processing Operations	✓ DEP7007DD Insignificant Activities						
DEP7007C Incinerators and Waste Burners	DEP7007EE Internal Combustion Engines						
DEP7007F Episode Standby Plan	DEP7007FF Secondary Aluminum Processing						
DEP7007J Volatile Liquid Storage	DEP7007GG Control Equipment						
DEP7007K Surface Coating or Printing Operations	DEP7007HH Haul Roads						
DEP7007L Mineral Processes	Confidentiality Claim						
DEP7007M Metal Cleaning Degreasers	Ownership Change Form						
DEP7007N Source Emissions Profile	Secretary of State Certificate						
DEP7007P Perchloroethylene Dry Cleaning Systems	Flowcharts or diagrams depicting process						
DEP7007R Emission Offset Credit	Digital Line Graphs (DLG) files of buldings, roads, etc.						
DEP7007S Service Stations	Site Map						
DEP7007T Metal Plating and Surface Treatment Operations	Map or drawing depicting location of facility						
DEP7007V Applicable Requirements and Compliance Activities	Safety Data Sheet (SDS)						
DEP7007Y Good Engineering Practice and Stack Height Determination	Emergency Response Plan						
DEP7007AA Compliance Schedule for Non-complying Emission Units	Other:						
DEP7007BB Certified Progress Report							

Section AI.6: Signature Block

I, the undersigned, hereby certify under penalty of law, that I am a responsible official*, and that I have personally examined, and am familiar with, the information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the information is on knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false or incomplete information, including the possibility of fine or imprisonment.

Authorized Signature

Murray Hewitt

Type or Printed Name of Signatory

*Responsible official as defined by 401 KAR 52:001.

06/22 2021 Date

General Manager

Title of Signatory

Section AI.7: Notes, Comments, and Explanations						

Division for Air Qua	ality	DEP7007DD							
300 Sower Boulevar	ď	Insignificant Activities							
Frankfort, KY 4060	1	Section DD.1: Table of Insignificant Activities							
(502) 564-3999		Section DD.	2: Signature Block						
		Section DD.	3: Notes, Comments, and Ex	xplanations					
Source Name:		Domtar Paper Company, LLC							
KY EIS (AFS) #:	21-	091-00005							
Permit #:		V-18-007							
Agency Interest (AI) ID:		43431							
Date:		6/21/2021							
Section DD.1: Table of I	nsignifica	ant Activities							
*Identify each activity with a uni	que Insignif	icant Activity number (IA #); for exa	ample: 1, 2, 3 etc.						
Insignificant Activity # Description including Capa	of Activity g Rated acity	Serial Number or Other Unique Identifier	Applicable Regulation(s)	Calculated Emissions					
34 LPG (Prop	ane) Tank	Gate G Propane Tank	NA	Designed to operate without emissions					

11/2018					DEP7007D		
Insignificant Activity #	Description of Activity including Rated Capacity	Serial Number or Other Unique Identifier	Applicable Regulation(s)	C	Calculated Emissions		
Section DD.2:	Signature Block						
I, THE UNDE EXAMINED, ANI OF THOSE II KNOWLEDGE A	I, THE UNDERSIGNED, HEREBY CERTIFY UNDER PENALTY OF LAW, THAT I AM A RESPONSIBLE OFFICIAL, AND THAT I HAVE PERSONALLY EXAMINED, AND AM FAMILIAR WITH, THE INFORMATION SUBMITTED IN THIS DOCUMENT AND ALL ITS ATTACHMENTS. BASED ON MY INQUIRY OF THOSE INDIVIDUALS WITH PRIMARY RESPONSIBILITY FOR OBTAINING THE INFORMATION, I CERTIFY THAT THE INFORMATION IS ON KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE OR INCOMPLETE INFORMATION, INCLUDING THE POSSIBILITY OF FINE OR IMPRISONMENT.						
		Many Herst		06	22 2021		
		Authorized Signature			Date		
	By:	Murray Hewitt			General Manager		
		Type/Print Name of Siguatory		Title of Siguatory			

Section DD.3: Notes, Comments, and Explanations	

Division	Division for Air Quality		DEP7007EE				Additional Documentation			
Division for An Quarty		Internal Combustion Engines					Complete DEP7007AI, DEP7007N.			
300 So	wer Boulevard			Section E	E.1: General In	formation		DEP7007V, and	DEP7007GG	,
Frankfo	ort, KY 40601			Section E	E.2: Operating	Information				
(502	2) 564-3999			Section E	E.3: Design Inf	ormation		Attach EP	A certification	of the engine
	,			Section E	E.4: Fuel Inforr	nation				
			1	Section E	E.5: Emission I	Factor Inform	nation			
				Section E	E.6: Notes, Cor	nments, and	Explanations			
Source Name:		Domtar Pape	er Company.	LLC						
KY EIS (AFS) #:	21-	091-00005	<u> </u>							
Permit #:		V-18-007								
Agency Interest (A	AI) ID:	43431								
Date:		6/21/2021								
Section EE.1: G	eneral Infor	mation								
Emission Unit #	Emission Unit Name	Control Device ID	Stack ID	Manufacturer	Model Number	Model Year	Date of Manufacture	Proposed/Actual Date of Construction Commencement (MM/YYYY)	Date Reconstructed/ Modified	List Applicable Regulations
58-12	Gate G Emergency Generator		58-12	Generac	G0070321	2019	6/24/2019	03/2020		40 CFR 63 Subpart ZZZZ, 40 CFR 60 Subpart JJJJ
			 	 			 			

Section EE.2	2: Operating Inform	nation			
Emission Unit #	Engine Purpose (Identify if Non-Emergency, Emergency,Fire/Water Pump, Black-start engine for combustion turbine, Engine Testing)	Hours Operated	Is this engine a rental? (Yes/No)	Rental Time Period (hrs)	Alternate Operating Scenarios (Describe any operating scenarios in which the engine may be used in a different configuration)
58-12	Emergency	500	No		Not Applicable

Section EE.3	ction EE.3: Design Information						
Emission Unit #	Engine Type (Identify all that apply: Commercial, Institutional, Stationary, Non-Road)	Ignition Type (Identify if either Compression or Spark Ignition)	Engine Family (Identify all that apply: 2- stroke, 4-stroke, Rich Burn, Lean Burn)	Maximum Engine Power (bhp)	Maximum Engine Speed (rpm)	Total Displacement (L)	Number of Cylinders
58-12	Stationary	Spark	4-Stroke	14.5	3600	0.5	2

Section EE.4	: Fuel Informat	ion							
Emission Unit #	Identify if Primary, Secondary, or Tertiary Fuel	Fuel Type (Identify if Diesel, Gasoline, Natural Gas, Liquefied Petroleum Gas (LPG), Landfill/Digester Gas, or Other)	Fuel Grade	Percent Time Used (%)	Maximum Fuel Consumption	Heat Content	Sulfur Content (%)	SCC Code	SCC Units
58-12	Primary	Propane		100	72 cfm/hr (1.97 gal/hr)	91,500 btu/gal	Negligible	20201001	1000 gal

Section EE.5: Emission Factor Information Emission factors expressed here are based on the potential to emit. **Emission Factor** Pollutant **Emission Unit #** Fuel **Emission Factor** Source of Emission Factor Units 58-12 PM/10/2.5 0.869 lb/1000gal AP-42 3.2-3 Propane SO2 0.0538 lb/1000gal AP-42 3.2-3 NOx 202.2 lb/1000gal AP-42 3.2-3 CO 340.4 lb/1000gal AP-42 3.2-3 VOC 2.71 lb/1000gal AP-42 3.2-3 CO2 40 CFR 98 Subpart C 12479 lb/1000gal CH4 0.607 lb/1000gal 40 CFR 98 Subpart C 40 CFR 98 Subpart C N2O 0.121 lb/1000gal CO2e 12530 lb/1000gal 40 CFR 98 Subpart C Total HAP 2.92 lb/1000gal AP-42 3.2-3

Section EE.6: Notes, Comments, and Explanations					

				Addi	tional Documentation			
Divis	ion for Air Qual	ity Ap	plicable	Requirem	nce			
				Activ	vities	Co	omplete DEP7007AI	
30	0 Sower Boulevard		Section	on V.1: Emiss	sion and Operating Limi	itation(s)		
Fr	ankfort, KY 40601		Sectio	on V.2: Moni	toring Requirements			
	(502) 564-3999		Section V.3: Recordkeeping Requirements					
			Section V.4: Reporting Requirements					
			Section V.5: Testing Requirements					
			Section V.6: Notes, Comments, and Explanations					
Source Nan	ne: Domta	r Paper Company, I	LLC					
KY EIS (Al	FS) #: 21- 091-00	005						
Permit #:	V-18-0	07						
Agency Inte	erest (AI) ID:	43431						
Date:	6/21/20	21						
Section V	.1: Emission and	d Operating Li	nitation(s	s)				
Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)	
58-12	Gate G Emergency Generator	40 CFR 60.4233(a); 40 CFR 1054.105	CO	610 g/kW-hr			Purchase a Manufacturer Certificated Engine	
		40 CFR 60.4233(a); 40 CFR 1054.105	NMHC + Nox	8.0 g/kW-hr			Purchase a Manufacturer Certificated Engine	
		40 CFR 60.4234	CO; NMHC+Nox			Operate and Maintain as required to achieve emissions standards in §60.4233 over the life of the engine	Operate and Maintain the certified engine according to manufacuturer' s instructions over the life of the engine. Maintian records of maintenance conducted.	

11/2018	1. Emission and	d Operating I i	mitation(a	.)			DEP
Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
58-12 (cont.)	Gate G Emergency Generator (cont.)	40 CFR 60.4237(c)				Install a non- resettable hour counter	Install a non-resettable hour counter
		40 CFR 60.4243(d)				Operate emergency ICE according to §60.4243(d)(1)-(3) to be considered emergency	Maintain records of hours of operation and purpose for the hours operated.
42	BPM Bio-fuel Boiler	Permit V-18-007, Page 73 of 128 Operating Limits: e., 40 CFR 63.7500(a)(1)	PM, CO, HCI, Hg			Meet work practice standards in Table 3, items <u>1</u> and 4 of 40 CFR 63 Submpart DDDDD	Conduct a boiler tune-up every 5 years. Conduct a one-time energy assessment.
42	BPM Bio-fuel Boiler	Permit V-18-007, Page 73 of 128 Operating Limits: e(1)., 40 CFR 63.7540(a)(12)	PM, CO, HCI, Hg			If the boiler has an oxygen trim system, conduct tune-ups every 5 years.	Conduct a boiler tune-up every 5 years. Each burner must be inspected at least every 72 months. Each 5 year tune-up must be conducted no more than 61 months after the prior tune-up [40 CFR 63.7515(d)]

DEP7007V

Section V.2: Monitoring Requirements								
Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Monitored	Description of Monitoring			
58-12	Gate G Emergency Generator		Permit Condition	Hour of Operation	Monitor the monthly hours of operation			
			Permit Condition	Fuel Usage	Monitor the monthly fuel usage in gallons			
42	BPM Bio-fuel Boiler	CO (oxygen)	Permit V-18-007 Page 77 of 128, Monitoring Requirements: h(1)., 40 CFR 63.9525(a)	Oxygen concentration	Install and operate a continuous oxygen analyzer. Note: a CO CEM and an associated monitoring plan for the CO CEM is not applicable due to the installation and operation of an oxygen trim system on EU42.			
		CO (oxygen)	Permit V-18-007 Page 77 of 128, Monitoring Requirements: h(2)., 40 CFR 63.9525(a)(7)	Oxygen concentration	Install and operate an oxygen trim system with the oxygen level set no lower than the lowest hourly average measured during the most recent performance test.			

Section V.3: Recordkeeping Requirements									
Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Recorded	Description of Recordkeeping				
58-12	Gate G Emergency Generator		40 CFR 604243(a)(1)	Maintenance conducted	Maintain records of maintenance conducted according to manufacturer's instructions				
			40 CFR 60.4245(a)	Notifications, Maintanence conducted, manufacturer's certification	Maintain records of all Notifications and supporting documentation, Maintanence conducted, manufacturer's certification				
42	BPM Bio-fuel Boiler				No changes to Recordkeeping Requirements are necessary with the inclusion of the oxygen trim system operation.				

Section V.4: Reporting Requirements								
Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Reported	Description of Reporting			
58-12	Gate G Emergency Generator							
42	BPM Bio-fuel Boiler				No changes to Reporting Requirements are necessary with the inclusion of the oxygen trim system operation.			

Section V.5: Testing Requirements								
Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Tested	Description of Testing			
58-12	Gate G Emergency Generator							
42	BPM Bio-fuel Boiler	PM, CO, HCI, Hg	Permit V-18-007 Page 76 of 128, Testing Requirements: d., 40 CFR 63.7515(a)	PM, CO, HCI, Hg emissions	Performance testing shall be conducted for all pollutants (including CO) on an annual basis and competed within no more than 13 months, except as specified in 40 CFR 63.7515(b) and (c).			

Section V.6: Notes, Comments, and Explanations						
The regulatory requirements listed in this DEP7007V Form for EU42 BPM Bio-fuel Boiler only include new or revised requirements related to the operation of the oxygen trim system.						

Harley, Brian (EEC)

From:	CHRIS WATHEN < CWATHEN@kenvirons.com>
Sent:	Wednesday, March 26, 2025 2:41 PM
То:	Harley, Brian (EEC); Smith, Derek
Cc:	Ross, Dakota D (EEC); Patil, Durga D (EEC); Bittner, Zachary P (EEC)
Subject:	Re: Applicability of 401 KAR 51:160 and 401 KAR 51:220
Attachments:	DEP7007V Form - Applicable Requirements and Compliance Activities.pdf

CAUTION PDF attachments may contain links to malicious sites. Please contact the COT Service Desk ServiceCorrespondence@ky.gov for any assistance.

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Brian,

Thank you for the clarification regarding applicability of 401 KAR 51:160 to the backup boiler at Domtar Paper Company, LLC. Please see attached the completed DEP7007CC form addressing applicability of 401 KAR 51:220. While this regulation technically applies to the backup boiler (EU 59) since it is a "new or existing industrial boiler", there are no compliance requirements under this regulation that apply to the boiler. All of the compliance requirements referenced under 401 KAR 51:220 apply to "CAIR NOx Ozone Season Units", which are defined under 40 CFR 96.302 as follows:

"CAIR NOX Ozone Season unit means a unit that is subject to the CAIR NOX Ozone Season Trading Program under § 96.304 and, except for purposes of § 96.305 and subpart EEEE of this part, a CAIR NOX Ozone Season opt-in unit under subpart IIII of this part."

40 CFR 96.304(a)(1) states: "The following units in a State shall be CAIR NOX Ozone Season units, and any source that includes one or more such units shall be a CAIR NOX Ozone Season source, subject to the requirements of this subpart and subparts BBBB through HHHH of this part: any stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine serving at any time, since the later of November 15, 1990 or the start-up of the unit's combustion chamber, a generator with nameplate capacity of more than 25 MWe producing electricity for sale."

The backup boiler does not serve a generator with a nameplate capacity of more than 25MWe producing electricity for sale. If Domtar ever chose to configure the boiler to serve such a generator producing electricity for sale, the compliance provisions under 401 KAR 51:220 would then apply and the appropriate permitting action would be taken.

Thank you again for your work!



Christopher P. Wathen, P.E. Vice President 770 Wilkinson Boulevard | Frankfort, KY 40601 Office (502) 695-4357 | Cell (502) 592-2617 Celebrating 50 Years! (1975-2025)

From: Harley, Brian (EEC) <Brian.Harley@ky.gov>
Sent: Thursday, March 20, 2025 4:28 PM
To: CHRIS WATHEN <CWATHEN@kenvirons.com>; Smith, Derek <Derek.Smith@domtar.com>
Cc: Ross, Dakota D (EEC) <dakota.ross@ky.gov>; Patil, Durga D (EEC) <Durga.Patil@ky.gov>; Bittner, Zachary P (EEC)
<Zachary.Bittner@ky.gov>
Subject: RE: Applicability of 401 KAR 51:160 and 401 KAR 51:220

Good Afternoon,

After reviewing 401 KAR 51:160, we have determined that the regulation does apply to the boiler. However, it is our determination that there would be no requirements applicable to the boiler. Please submit the requested DEP7007N form for the applicability of 401 KAR 51:220 only.

Thank You, Brian Harley

From: CHRIS WATHEN <CWATHEN@kenvirons.com>
Sent: Wednesday, March 19, 2025 9:57 AM
To: Harley, Brian (EEC) <Brian.Harley@ky.gov>; Smith, Derek <Derek.Smith@domtar.com>
Cc: Ross, Dakota D (EEC) <dakota.ross@ky.gov>; Patil, Durga D (EEC) <Durga.Patil@ky.gov>; Bittner, Zachary P (EEC)
<Zachary.Bittner@ky.gov>
Subject: Re: Applicability of 401 KAR 51:160 and 401 KAR 51:220

Brian,

I apologize for the delay in responding. We have reviewed the language you provided regarding the backup boiler qualifying for exemption from 401 KAR 51:160 and the calculated allowable hours of operation during the control period. While the boiler will have no issue meeting the 25 tons of emissions during the control period, when we calculated the allowable control period hours pursuant to 401 KAR 51:160, Section 2(1)(a)3, we followed the procedure to calculate maximum potential emissions in accordance with 401 KAR 51:160, Section 2(1)(a)4, which states "Require that the unit's potential NOx mass emissions shall be calculated pursuant to 40 C.F.R. 96.4(b)(1)(iii);". 40 C.F.R. 96.4(b)(1)(iii) requires that the maximum potential NOx emissions be calculated by selecting the default NOX emission rate in Table 2 of § 75.19, which results in a value of 1.5 lb NOx/mmBtu. Performing the calculation as we read the regulation results in a very small number of hours for control period operation for the boiler to meet the exemption criteria, which the boiler has not met on an actual basis since commencing operation.

Can the Division revisit the determination? It would be great for Domtar's backup boiler to be exempt from the rule but we are not sure we meet the criteria.

Thanks as always and please reach out with any questions!



Christopher P. Wathen, P.E. Vice President 770 Wilkinson Boulevard | Frankfort, KY 40601 Office (502) 695-4357 | Cell (502) 592-2617 Celebrating 50 Years! (1975-2025)

From: Harley, Brian (EEC)
Sent: Monday, March 17, 2025 11:04 AM
To: CHRIS WATHEN; Smith, Derek
Cc: Ross, Dakota D (EEC); Patil, Durga D (EEC); Bittner, Zachary P (EEC)
Subject: RE: Applicability of 401 KAR 51:160 and 401 KAR 51:220

Good Morning,

I just wanted to reach out to check on the status of the DEP7007V for applicability of 401 KAR 51:160 and 401 KAR 51:220.

Thank You, Brian Harley

From: CHRIS WATHEN <<u>CWATHEN@kenvirons.com</u>>
Sent: Friday, February 28, 2025 4:41 PM
To: Harley, Brian (EEC) <<u>Brian.Harley@ky.gov</u>>; Smith, Derek <<u>Derek.Smith@domtar.com</u>>
Cc: Ross, Dakota D (EEC) <<u>dakota.ross@ky.gov</u>>; Patil, Durga D (EEC) <<u>Durga.Patil@ky.gov</u>>; Bittner, Zachary P (EEC)
<<u>Zachary.Bittner@ky.gov</u>>
Subject: Re: Applicability of 401 KAR 51:160 and 401 KAR 51:220

Brian,

Thank you! We will look through this language and prepare the requested DEP7007V form containing these requirements. We will reach out if we have any questions. I hope everyone has a great weekend!



Christopher P. Wathen, P.E. Vice President 770 Wilkinson Boulevard | Frankfort, KY 40601 Office (502) 695-4357 | Cell (502) 592-2617 Celebrating 50 Years! (1975-2025)

From: Harley, Brian (EEC) <<u>Brian.Harley@ky.gov</u>>
Sent: Friday, February 28, 2025 1:41 PM
To: Smith, Derek <<u>Derek.Smith@domtar.com</u>>
Cc: CHRIS WATHEN <<u>CWATHEN@kenvirons.com</u>>; Ross, Dakota D (EEC) <<u>dakota.ross@ky.gov</u>>; Patil, Durga D (EEC)
<<u>Durga.Patil@ky.gov</u>>; Bittner, Zachary P (EEC) <<u>Zachary.Bittner@ky.gov</u>>
Subject: RE: Applicability of 401 KAR 51:160 and 401 KAR 51:220

Below is the Divisions determination of how 401 KAR 51:060 and 401 KAR 51:220 applies to the Backup Boiler at the Hawesville Domtar plant.

For 401 KAR 51:160, the Division believes the unit can meet the exemption requirements as shown:

Pursuant to 401 KAR 51:160, Section 2(1)(a)1., The source shall have a federally-enforceable permit issued by the cabinet containing conditions for the unit that limits the unit's NOx emissions during each control period beginning in 2004 to twenty-five (25) tons or less.

Based on the PTE of the unit, The Division finds no emission limitation is needed.

Pursuant to 401 KAR 51:160, Section 2(1)(a)3., The source shall restrict the unit's operation hours during each control period to the number calculated by dividing twenty-five (25) tons of potential NOx mass emissions by the unit's maximum potential hourly NOx mass emissions

The Division finds that the months per control period that the backup boiler can run can be calculated as follows, based on operating at 8760 hours per year and without synthetic minor limitations:

 $25 \text{ ton} \times 2000 \frac{\text{lb}}{\text{ton}} \div 13.02 \frac{\text{lb}}{\text{hr}} \div 24 \frac{\text{hr}}{\text{day}} \div 30 \frac{\text{day}}{\text{month}} = 5.34 \text{ months}$

The control period is from May 1 to September 30, meaning that the control period is 5 months. Therefore, no limitation is needed on the hours that the unit can operate during the control period. Furthermore, because, of this, there would be no requirements in the permit, even though 401 KAR 51:160 will be listed as applicable.

For 401 KAR 51:220, the following requirements have been listed for another permit which also has a boiler subject to the requirements of 401 KAR 51:220:

2. Emission Limitations:

a. As of midnight of November 30, or midnight of the first business day thereafter for a control period beginning May 1 of a calendar year and ending on September 30 of the same year, the permittee of each CAIR NOX Ozone Season source and each CAIR NOX Ozone Season unit at the source shall hold, in the source's compliance account, CAIR NOX Ozone Season allowances available for compliance deductions for the control period under 40 CFR 96.354(a) in an amount not less than the tons of total nitrogen oxides emissions for the control period from all CAIR NOX Ozone Season units at the source, as determined in accordance with 40 CFR 96, Subpart HHHH. [40 CFR 96.306(c)(1), as referenced by 401 KAR 51:220, Section 2 (1)]

Compliance Demonstration Method:

- The permittee of a unit qualified to use the low mass emissions (LME) excepted methodology under 40 CFR 75.19 shall meet the applicable certification and recertification requirements in 40 CFR 75.19(a)(2) and 40 CFR 75.20(h). [40 CFR 96.371(e)]
- ii. The CAIR designated representative shall submit to the Administrator a compliance certification (in a format prescribed by the Administrator) in support of each quarterly report based on reasonable inquiry of those persons with primary responsibility for ensuring that all of the unit's emissions are correctly and fully monitored. The certification shall state that [40 CFR 96.374(e)]:
 - The monitoring data submitted were recorded in accordance with the applicable requirements of 40 CFR 96, Subpart HHHH and part 75 of 40 CFR, including the quality assurance procedures and specifications;
 - 2) For a unit with add-on NOX emission controls and for all hours where NOX data are substituted in accordance with 40 CFR 75.34(a)(1), the add-on emission controls were operating within the range of

parameters listed in the quality assurance/quality control program under appendix B to part 75 of 40 CFR and the substitute data values do not systematically underestimate NOX emissions; and

- 3) For a unit that is reporting on a control period basis under 40 CFR (d)(2)(ii), the NOX emission rate and NOX concentration values substituted for missing data under 40 CFR 75, Subpart D are calculated using only values from a control period and do not systematically underestimate NOX emissions.
- b. Once a low mass emissions unit has qualified for and has started using the low mass emissions excepted methodology, an annual demonstration is required, showing that the unit continues to emit no more than 50 tons of NOX per ozone season. The calculation methodology used for the annual demonstration shall be the methodology described in the certification application under 40 CFR 75.19(a)(2)(iii). [40 CFR 75.19(b)(1)]

Compliance Demonstration Method:

- i. If a new of newly-affected unit initially qualifies to use the low mass emissions excepted methodology under 40 CFR 75.19 and the permittee wants to use the low mass emissions methodology for the unit, the permittee must [40 CFR 75.19(b)(4)]:
 - Keep the records specified in 40 CFR 75.19(c)(2), beginning with the date and hour of commencement of commercial operation, for a new unit subject to an Acid Rain emission limitation, and beginning with the date and hour of the commencement of operation, for a new unit subject to a NOX mass reduction program under 40 CFR 75, Subpart H. For newly-affected units, the records in 40 CFR 75.19(c)(2) shall be kept as follows:
 - A. For Acid Rain Program units, begin keeping the records as of the first hour of commercial operation of the unit following the date on which the unit becomes affected; or
 - B. For units subject to a NOX mass reduction program under 40 CFR 75, Subpart H, begin keeping the records as of the first hour of unit operation following the date on which the unit becomes an affected unit;
 - 2) Use these records to determine the cumulative heat input and NOX mass emissions in order to continue to qualify as a low mass emissions unit; and
 - 3) Determine the cumulative NOX mass emissions according to 40 CFR 75.19(c) using the same procedures used after the certification deadline for the unit, for purposes of demonstrating eligibility to use the excepted methodology set forth in 40 CFR 75.19.
- ii. If any low mass emissions unit fails to provide the required annual demonstration under 40 CFR 75.19(b)(1), such that the calculated cumulative emissions for the unit exceed the applicable number of tons of NOX specified in 40 CFR 75.19(a)(1)(i)(A) at the end of any calendar year or ozone season, then [40 CFR 75.19(b)(2)]:
 - 1) The low mass emissions unit shall be disqualified from using the low mass emissions excepted methodology; and
 - 2) The permittee of the low mass emissions unit shall install and certify monitoring systems that meet the requirements of 40 CFR 75.12 and shall report NOx emissions data and heat input data from such monitoring systems by December 31 of the calendar year following the year in which the unit exceeded the number of tons of NOX specified in 40 CFR 75.19(a)(1)(i)(A).

4. Specific Monitoring Requirements:

- a. CAIR NOx Ozone Season units shall comply with 40 C.F.R. 96.370 to 96.375 (Subpart HHHH), "Monitoring and Reporting". [401 KAR 51:220, Section 2(6)]
- b. The permittee, and to the extent applicable, the CAIR designated representative, of a CAIR NOX Ozone Season unit, shall comply with the monitoring, recordkeeping, and reporting requirements as provided in 40 CFR 96, Subpart HHHH and in 40 CFR 75, Subpart H. For purposes of complying with such requirements, the definitions in 40 CFR 96.302 and in 40 CFR 72.2 shall apply, and the terms "affected unit," "designated representative," and "continuous emission monitoring system" (or "CEMS") in part 75 of chapter 1 shall be deemed to refer to the terms "CAIR NOX Ozone Season unit," "CAIR designated representative," and

"continuous emission monitoring system" (or "CEMS") respectively, as defined in 40 CFR 96.302. [40 CFR 96.370]

- c. The permittee of an affected unit shall prepare and maintain a monitoring plan for each affected unit or group of units monitored at a common stack and each non-affected unit under 40 CFR 75.72(b)(2)(ii). Except as provided in 40 CFR 75.73(d) or (f), a monitoring plan shall contain sufficient information on the continuous emission monitoring systems, excepted methodology under 40 CFR 75.19, or excepted monitoring systems under appendix D or E to part 75 and the use of data derived from these systems to demonstrate that all the unit's NOX emissions are monitored and reported. [40 CFR 75.73(c)(1)]
- d. Whenever the permittee makes a replacement, modification, or change in the certified continuous emission monitoring system, excepted methodology under 40 CFR 75.19, excepted monitoring system under appendix D or E to part 75, or alternative monitoring system under 40 CFR 75, Subpart E, including a change in the automated data acquisition and handling system or in the flue gas handling system, that affects information reported in the monitoring plan (e.g., a change to a serial number for a component of a monitoring system), then the permittee shall update the monitoring plan. [40 CFR 75.73(c)(2)]
- e. Each monitoring plan shall contain the information in 40 CFR 75.53(g)(1) in electronic format and the information in 40 CFR 75.53(g)(2) in hardcopy format. In addition, to the extent applicable, each monitoring plan shall contain the information in 40 CFR 75.53(h)(1)(i) and (h)(2)(i) in electronic format and the information in 40 CFR 75.53(h)(1)(ii) and (h)(2)(ii) in hardcopy format. For units using the low mass emissions excepted methodology under 40 CFR 75.19, the monitoring plan shall include the additional information in 40 CFR 75.53(h)(4)(i) and (ii). The monitoring plan also shall include a seasonal controls indicator and an ozone season fuel-switching flag. [40 CFR 75.73(c)(3)]

5. Specific Recordkeeping Requirements:

- a. The account certificate of representation for the NOX authorized account representative for the source and each NOX Budget unit at the source and all documents that demonstrate the truth of the statements in the account certificate of representation, in accordance with 40 CFR 96.13; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new account certificate of representation changing the NOX authorized account representative. [40 CFR 96.6(e)(1)(i)]
- All emissions monitoring information, in accordance with 40 CFR 96, Subpart H; provided that to the extent that 40 CFR 96, Subpart H provides for a 3-year period for recordkeeping, the 3-year period shall apply. [40 CFR 96.6(e)(1)(ii)]
- c. If a new of newly-affected unit initially qualifies to use the low mass emissions excepted methodology under 40 CFR 75.19 and the permittee wants to use the low mass emissions methodology for the unit, he or she must [40 CFR 75.19(b)(4)]:
 - i. Keep the records specified in 40 CFR 75.19(c)(2), beginning with the date and hour of commencement of commercial operation, for a new unit subject to an Acid Rain emission limitation, and beginning with the date and hour of the commencement of operation, for a new unit subject to a NOX mass reduction program under 40 CFR 75, Subpart H. For newly-affected units, the records in 40 CFR 75.19(c)(2) shall be kept as follows:
 - 1) For Acid Rain Program units, begin keeping the records as of the first hour of commercial operation of the unit following the date on which the unit becomes affected; or
 - 2) For units subject to a NOX mass reduction program under 40 CFR 75, Subpart H, begin keeping the records as of the first hour of unit operation following the date on which the unit becomes an affected unit;
 - ii. Use these records to determine the cumulative heat input and NOX mass emissions in order to continue to qualify as a low mass emissions unit; and

- iii. Determine the cumulative NOX mass emissions according to 40 CFR 75.19(c) using the same procedures used after the certification deadline for the unit, for purposes of demonstrating eligibility to use the excepted methodology set forth in 40 CFR 75.19. For example, use the default emission rates in Tables LM-1, LM-2, and LM-3 of 40 CFR 75.19 or use the fuel-and-unit-specific NOX emission rate determined according to 40 CFR 75.19(c)(1)(iv).
- d. The permittee of any affected unit shall maintain for each affected unit and each non-affected unit under 40 CFR 75.72(b)(2)(ii) a file of all measurements, data, reports, and other information required by 40 CFR 75 at the source in a form suitable for inspection for at least three (3) years from the date of each record. Except for the certification data required in 40 CFR 75.57(a)(4) and the initial submission of the monitoring plan required in 40 CFR 75.57(a)(5), the data shall be collected beginning with the earlier of the date of provisional certification or the compliance deadline in 40 CFR 75.70(b). The certification data required in 40 CFR 75.57(a)(4) shall be collected beginning with the date of the first certification test performed. The file shall contain the following information [40 CFR 75.73(a)]:
 - i. The information required in 40 CFR 75.57(a)(2), (a)(4), (a)(5), (a)(6), (b), (c)(2), (d), (g), and (h).
 - ii. The information required in 40 CFR 75.58(b)(2) or (b)(3) (for units with add-on NOX emission controls), as applicable, 40 CFR 75.58(d) (as applicable for units using Appendix E to part 75), and 40 CFR 75.58(f) (as applicable for units using the low mass emissions unit provisions of 40 CFR 75.19).
 - iii. For each hour when the unit is operating, NOX mass emission rate, calculated in accordance with section 8 of appendix F to part 75.
 - iv. During the second and third calendar quarters, cumulative ozone season heat input and cumulative ozone season operating hours.
 - v. Heat input and NOX methodologies for the hour.
 - vi. In lieu of recording the information in 40 CFR 75.57(b), (c)(2), (d), and (g), the permittee shall record, for each hour when the unit is operating for any portion of the hour, the following information for each affected low mass emissions unit for which the permittee is using the low mass emissions excepted methodology in 40 CFR 75.19(c):
 - 1) Date and hour;
 - 2) If one type of fuel is combusted in the hour, fuel type (pipeline natural gas, natural gas, residual oil, or diesel fuel) or, if more than one type of fuel is combusted in the hour, the fuel type which results in the highest emission factors for NOX;
 - 3) Average hourly NOX emission rate (in lb/mmBtu, rounded to the nearest thousandth); and
 - 4) Hourly NOX mass emissions (in lb, rounded to the nearest tenth).
 - vii. Formulas from monitoring plan for total NOX mass.
- e. The permittee of any affected unit shall record the applicable information in 40 CFR 75.59 for each affected unit or group of units monitored at a common stack and each non-affected unit under 40 CFR 75.72(b)(2)(ii).
 [40 CFR 75.73(b)]

6. Specific Reporting Requirements:

- a. General reporting provisions. [40 CFR 75.73(d)]
 - i. The designated representative for an affected unit shall comply with all reporting requirements in 40 CFR 75.73 and with any additional requirements set forth in an applicable State or federal NOX mass emission reduction program that adopts the requirements of 40 CFR 75, Subpart H.
 - ii. The designated representative for an affected unit shall submit the following for each affected unit or group of units monitored at a common stack and each non-affected unit under 40 CFR 75.72(b)(2)(ii):
 - 1) Initial certification and recertification applications in accordance with 40 CFR 75.70(d);
 - 2) Monitoring plans in accordance with 40 CFR 75.73(e); and
 - 3) Quarterly reports in accordance with 40 CFR 75.73(f).
 - iii. The designated representative for an affected unit shall submit petitions, correspondence, application forms, and petition-related test results in accordance with the provisions in 40 CFR 75.70(h).

- iv. If requested by the permitting authority, the designated representative of an affected unit shall submit the quality assurance RATA report for each affected unit or group of units monitored at a common stack and each non-affected unit under 40 CFR 75.72(b)(2)(ii) by the later of 45 days after completing a quality assurance RATA according to section 2.3 of appendix B to part 75 or 15 days of receiving the request. The designated representative shall report the hardcopy information required by 40 CFR 75.59(a)(9) to the permitting authority.
- v. The designated representative for an affected unit shall submit written notice to the permitting authority according to the provisions in 40 CFR 75.61 for each affected unit or group of units monitored at a common stack and each non-affected unit under 40 CFR 75.72(b)(2)(ii).
- vi. If requested by the applicable EPA Regional Office, appropriate State, and/or appropriate local air pollution control agency, the designated representative shall submit a hardcopy report within 45 days after completing a required periodic retest according to section 2.2 of appendix E to part 75, or within 15 days of receiving the request, whichever is later. The designated representative shall report the hardcopy information required by 40 CFR 75.59(b)(5) to the applicable EPA Regional Office, appropriate State, and/or appropriate local air pollution control agency that requested the hardcopy report.
- b. Monitoring plan reporting [40 CFR 75.73(e)]
 - i. The designated representative for an affected unit shall submit to the Administrator a complete, electronic, up-to-date monitoring plan file for each affected unit or group of units monitored at a common stack and each non-affected unit under 40 CFR 75.72(b)(2)(ii), no later than 21 days prior to the initial certification test; at the time of a certification or recertification application submission; and whenever an update of the electronic monitoring plan is required, either under 40 CFR 75.53 or elsewhere in part 75.
 - ii. The designated representative of an affected unit shall submit all of the hardcopy information required under 40 CFR 75.53, for each affected unit or group of units monitored at a common stack and each nonaffected unit under 40 CFR 75.72(b)(2)(ii), to the permitting authority prior to initial certification. Thereafter, the designated representative shall submit hardcopy information only if that portion of the monitoring plan is revised. The designated representative shall submit the required hardcopy information as follows: no later than 21 days prior to the initial certification test; with any certification or recertification application, if a hardcopy monitoring plan change is associated with the recertification event; and within 30 days of any other event with which a hardcopy monitoring plan change is associated, pursuant to 40 CFR 75.53(b). Electronic submittal of all monitoring plan information, including hardcopy portions, is permissible provided that a paper copy of the hardcopy portions can be furnished upon request.
- c. Quarterly reports [40 CFR 75.73(f)]
 - i. The designated representative for an affected unit shall electronically report the data and information in 40 CFR 75.73(f)(1) and in 40 CFR 73.73(f)(2) and (3) to the Administrator quarterly, unless the unit has been placed in long-term cold storage (as defined in 40 CFR 72.2). Each electronic report must be submitted to the Administrator within 30 days following the end of each calendar quarter. Each electronic report shall include the information provided in 40 CFR 75.73(f)(1)(i) through (x) and shall also include the date of report generation. A unit placed into long-term cold storage is exempted from submitting quarterly reports beginning with the calendar quarter following the quarter in which the unit is placed into long-term cold storage, provided that the permittee shall submit quarterly reports for the unit beginning with the data from the quarter in which the unit recommences operation (where the initial quarterly report contains hourly data beginning with the first hour of recommenced operation of the unit).
 - 1) Facility information:
 - A. Identification, including:
 - (1) Facility/ORISPL number;
 - (2) Calendar quarter and year data contained in the report; and
 - (3) Electronic data reporting format version used for the report.
 - 2) The information and hourly data required in 40 CFR 75.73(a) and (b), except for:
 - A. Descriptions of adjustments, corrective action, and maintenance;

- B. Information which is incompatible with electronic reporting (e.g., field data sheets, lab analyses, quality control plan);
- C. For units with NOX add-on emission controls that do not elect to use the approved site-specific parametric monitoring procedures for calculation of substitute data, the information in 40 CFR 75.58(b)(3);
- D. Information required by 40 CFR 75.57(h) concerning the causes of any missing data periods and the actions taken to cure such causes;
- E. Hardcopy monitoring plan information required by 40 CFR 75.53 and hardcopy test data and results required by 40 CFR 75.59;
- F. Records of flow polynomial equations and numerical values required by 40 CFR 75.59(a)(5)(vi);
- G. Daily fuel sampling information required by 40 CFR 75.58(c)(3)(i) for units using assumed values under appendix D to part 75;
- H. Information required by 40 CFR 75.59(b)(2) concerning transmitter or transducer accuracy tests;
- I. Stratification test results required as part of the RATA supplementary records under 40 CFR 75.59(a)(7);
- J. Data and results of RATAs that are aborted or invalidated due to problems with the reference method or operational problems with the unit and data and results of linearity checks that are aborted or invalidated due to operational problems with the unit; and
- K. Supplementary RATA information required under 40 CFR 75.59(a)(7), except that:
 - (1) The applicable data elements under 40 CFR 75.59(a)(7)(ii)(A) through (T) and under 40 CFR 75.59(a)(7)(iii)(A) through (M) shall be reported for flow RATAs at circular or rectangular stacks (or ducts) in which angular compensation for yaw and/or pitch angles is used (i.e., Method 2F or 2G in appendices A-1 and A-2 to part 60), with or without wall effects adjustments;
 - (2) The applicable data elements under 40 CFR 75.59(a)(7)(ii)(A) through (T) and under 40 CFR 75.59(a)(7)(iii)(A) through (M) shall be reported for any flow RATA run at a circular stack in which Method 2 in appendices A-1 and A-2 to part 60 is used and a wall effects adjustment factor is determined by direct measurement;
 - (3) The data under 40 CFR 75.59(a)(7)(ii)(T) shall be reported for all flow RATAs at circular stacks in which Method 2 in appendices A-1 and A-2 to part 60 is used and a default wall effects adjustment factor is applied; and
 - (4) The data under 40 CFR 75.59(a)(7)(ix)(A) through (F) shall be reported for all flow RATAs at rectangular stacks or ducts in which Method 2 in appendices A-1 and A-2 to part 60 is used and a wall effects adjustment factor is applied.
- 3) Average NOX emission rate (lb/mmBtu, rounded to the nearest thousandth) during the quarter and cumulative NOX emission rate for the calendar year.
- 4) Tons of NOX emitted during quarter, cumulative tons of NOX emitted during the year, and, during the second and third calendar quarters, cumulative tons of NOX emitted during the ozone season.
- 5) During the second and third calendar quarters, cumulative heat input for the ozone season.
- 6) Unit or stack or common pipe header operating hours for quarter, cumulative unit, stack or common pipe header operating hours for calendar year, and, during the second and third calendar quarters, cumulative operating hours during the ozone season.
- 7) Reporting period heat input.
- 8) New reporting frequency and begin date of the new reporting frequency (if applicable).
- 9) On and after on January 1, 2024, for a unit subject to subpart GGGGG of 40 CFR 97 or a state implementation plan approved under 40 CFR 52.38(b)(12) and determining NOX mass emission rate at a common stack, apportioned hourly NOX mass emission rate for the unit, lb/hr.
- ii. The designated representative shall certify that the component and system identification codes and formulas in the quarterly electronic reports submitted to the Administrator pursuant to 40 CFR 75.73(e) represent current operating conditions.
- iii. The designated representative shall submit and sign a compliance certification in support of each quarterly emissions monitoring report based on reasonable inquiry of those persons with primary

responsibility for ensuring that all of the unit's emissions are correctly and fully monitored. The certification shall state that:

- 1) The monitoring data submitted were recorded in accordance with the applicable requirements of part 75, including the quality assurance procedures and specifications; and
- 2) With regard to a unit with add-on emission controls and for all hours where data are substituted in accordance with 40 CFR 75.34(a)(1), the add-on emission controls were operating within the range of parameters listed in the monitoring plan and the substitute values do not systematically underestimate NOX emissions.
- iv. The designated representative shall comply with all of the quarterly reporting requirements in 40 CFR 75.64(d), (f), and (g).

Please let us know if you arrive at something different and please provide a DEP7007V form listing the applicable requirements of the regulations as the facility sees them.

Thank You, Brian Harley

From: Smith, Derek <<u>Derek.Smith@domtar.com</u>>
Sent: Wednesday, February 26, 2025 2:15 PM
To: Harley, Brian (EEC) <<u>Brian.Harley@ky.gov</u>>
Cc: CHRIS WATHEN <<u>CWATHEN@kenvirons.com</u>>
Subject: Re: Applicability of 401 KAR 51:160 and 401 KAR 51:220

Brian,

I have been working with my consultant to examine all regulations that may apply to this emission unit. I think it would be very helpful to set up a Teams call with your team. Please let me know a time that works best for your team.

Best regards, Derek

Domitar

Derek Smith | Environmental Superintendent Hawesville Operations T: 270.927.7303 C: 270.925.1259 58 Wescor Road, Hawesville,KY 42348 domtar.com This email is for the exclusive use of the addressee and is subject to <u>Domtar Confidentiality Notice</u>

From: Harley, Brian (EEC) <<u>Brian.Harley@ky.gov</u>>
Sent: Friday, January 10, 2025 2:27 PM
To: Smith, Derek <<u>Derek.Smith@domtar.com</u>>
Subject: Applicability of 401 KAR 51:160 and 401 KAR 51:220

Good Afternoon,

I wanted to let you know that the renewal application for Domtar Paper is still under review.

While looking into applicable regulations to the facility, it was evident that the 358.6 mmBtu/hr Backup Boiler (Emission Unit 59) would be applicable to 401 KAR 51:160 and 401 KAR 51:220 as it is an industrial boiler with a capacity over 250 mmBtu/hr.

Please provide a DEP7007V form with the applicable requirements and corresponding compliance methods for the above regulations, and send it to the Division via the eForms portal.

Furthermore, if you would like to set up a TEAMS meeting to discuss these regulations further, please let me know so that we can coordinate a date and time.

Thank You,

Brian Harley Environmental Engineer Technologist II Department for Environmental Protection Division for Air Quality Chemical Section 300 Sower Boulevard, 2nd Floor Frankfort, KY 40601 502-782-6643

DEP7007V					Addi	tional Documentation	
Division for Air Quality			plicable	Requirem	ents and Complia	nce	
				Activ	vities	Co	omplete DEP7007AI
30	0 Sower Boulevard		Sectio	on V.1: Emis	sion and Operating Limi	itation(s)	
Fr	ankfort, KY 40601		Sectio	on V.2: Moni	toring Requirements		
	(502) 564-3999		Sectio	on V.3: Reco	rdkeeping Requirements	1	
			Sectio	on V.4: Repo	rting Requirements		
			Sectio	on V.5: Testi	ng Requirements		
			Sectio	on V.6: Notes	s, Comments, and Expla	nations	
Source Nan	ne: Domtar	Paper Company,	LLC				
KY EIS (Al	FS) #: 21- <u>091-000</u>	05					
Permit #:	V-18-00	07					
Agency Inte	erest (AI) ID:	43431					
Date:	<u>26-Mar</u>	-25					
Section V	.1: Emission and	l Operating Li	mitation(s	5)			
Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
EU 59	BPM Backup Boiler	401 KAR 51:220	NOx	N/A	The boiler does not serve a generator with a nameplate capacity of 25 MW or greater. Please refer to Section V.6 of this form (Notes Section)	N/A	As long as the boiler does not serve a generator with a nameplate capacity of 25 MW or greater, no emission or operating limits apply since the boiler is not a "CAIR NOx Ozone Season Unit"

Section V	Section V.2: Monitoring Requirements								
Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Monitored	Description of Monitoring				
EU 59	BPM Backup Boiler	NOx	401 KAR 51:220	NOx	No monitoring under this regulation is required since the boiler is not a "CAIR NOx Ozone Season Unit" since the boiler does not serve a generator with a nameplate capacity of 25 MW or greater. NOx is monitored continuouisy by CEMS pursuant to 40 CFR 60, Subpart Db				

Section V.3: Recordkeeping Requirements								
Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Recorded	Description of Recordkeeping			
EU 59	BPM Backup Boiler	NOx	401 KAR 51:220	N/A	The boiler does not serve a generator with a nameplate capacity of 25 MW or greater and is therefore not a "CAIR NOx Ozone Season Unit". No recordkeeping requirements under this regulation apply			

Section V.4: Reporting Requirements								
Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Reported	Description of Reporting			
EU 59	BPM Backup Boiler	NOx	401 KAR 51:220	N/A	The boiler does not serve a generator with a nameplate capacity of 25 MW or greater and is therefore not a "CAIR NOx Ozone Season Unit". No reporting requirements under this regulation apply			

Section V.5: Testing Requirements					
Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Tested	Description of Testing
EU 59	BPM Backup Boiler	NOx	401 KAR 51:220	N/A	None required by this regulation. NOx is measured continuously by CEMS pursuant to 40 CFR 60, Subpart Db
Section V.6: Notes, Comments, and Explanations

The boiler is not a "CAIR NOx Ozone Season Unit" since the boiler does not serve a generator with a nameplate capacity of 25 MW or greater. The following compliance requirements therefore do not apply to the boiler: (1) 40 C.F.R. 96.301 to 96.308 (Subpart AAAA), "CAIR NOx Ozone Season Trading Program General Provisions"; (2) 40 C.F.R. 96.310 to 96.315 (Subpart BBBB), "CAIR Designated Representative for CAIR NOx Ozone Season Sources"; (3) 40 C.F.R. 96.320 to 96.324 (Subpart CCCC), "Permits"; (4) 40 C.F.R. 96.350 to 96.357 (Subpart FFFF), "CAIR NOx Ozone Season Allowance Tracking System"; (5) 40 C.F.R. 96.360 to 96.362 (Subpart GGGG), "CAIR NOX Ozone Season Allowance Tracking System"; (5) 40 C.F.R. 96.360 to 96.362 (Subpart GGGG), "CAIR NOX Ozone Season Allowance Tracking System"; (5) 40 C.F.R. 96.360 to 96.362 (Subpart GGGG), "CAIR NOX Ozone Season Allowance Tracking System"; (5) 40 C.F.R. 96.360 to 96.362 (Subpart GGGG), "CAIR NOX Ozone Season Allowance Tracking System"; (5) 40 C.F.R. 96.360 to 96.362 (Subpart GGGG), "CAIR NOX Ozone Season Allowance Tracking System"; (5) 40 C.F.R. 96.360 to 96.362 (Subpart GGGG), "CAIR NOX Ozone Season Allowance Tracking System"; (5) 40 C.F.R. 96.360 to 96.362 (Subpart GGGG), "CAIR NOX Ozone Season Allowance Tracking System"; (5) 40 C.F.R. 96.360 to 96.362 (Subpart GGGG), "CAIR NOX Ozone Season Allowance Tracking System"; (5) 40 C.F.R. 96.370 to 96.375 (Subpart HHHH), "Monitoring and Reporting"; and (7) 40 C.F.R. 96.380 to 96.388 (Subpart IIII), "CAIR NOX Ozone Season Opt-in Units".