



ARKANSAS
Department of Environmental Quality

May 23, 2012

James Cutbirth
Superintendent -Environmental Services
Georgia-Pacific LLC - Crossett Paper Operations
P.O. Box 3333
Crossett, AR 71635-3333

Re: Notice of Administrative Amendment
AFIN: 02-00013, Permit #0597-AOP-R14

Dear Mr. Cutbirth:

Enclosed is Permit 0597-AOP-R14 completed in accordance with the provisions of Section 19.407 of Regulation No. 19, *Regulations of the Arkansas Plan of Implementation for Air Pollution Control*.

This revised permit is being issued because the original permit had the incorrect permit number 0579-AOP-R14. The correct permit number is 0597-AOP-R14.

Please place the revised permit in your files.

Sincerely,

A handwritten signature in black ink, appearing to read "Mike Bates", is written over a horizontal line.

Mike Bates
Chief, Air Division

TWP
Enclosure

ADEQ OPERATING AIR PERMIT

Pursuant to the Regulations of the Arkansas Operating Air Permit Program, Regulation 26:

Permit No. : 0597-AOP-R14

IS ISSUED TO:

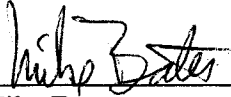
Georgia-Pacific LLC - Crossett Paper Operations
100 Mill Supply Road
Crossett, AR 71635
Ashley County
AFIN: 02-00013

THIS PERMIT AUTHORIZES THE ABOVE REFERENCED PERMITTEE TO INSTALL, OPERATE, AND MAINTAIN THE EQUIPMENT AND EMISSION UNITS DESCRIBED IN THE PERMIT APPLICATION AND ON THE FOLLOWING PAGES. THIS PERMIT IS VALID BETWEEN:

August 4, 2011 AND August 3, 2016

THE PERMITTEE IS SUBJECT TO ALL LIMITS AND CONDITIONS CONTAINED HEREIN.

Signed:


Mike Bates
Chief, Air Division

May 23, 2012

Date

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List of Acronyms and Abbreviations

A.C.A.	Arkansas Code Annotated
AFIN	ADEQ Facility Identification Number
CFR	Code of Federal Regulations
CO	Carbon Monoxide
HAP	Hazardous Air Pollutant
lb/hr	Pound Per Hour
MVAC	Motor Vehicle Air Conditioner
No.	Number
NO _x	Nitrogen Oxide
PM	Particulate Matter
PM ₁₀	Particulate Matter Smaller Than Ten Microns
SNAP	Significant New Alternatives Program (SNAP)
SO ₂	Sulfur Dioxide
SSM	Startup, Shutdown, and Malfunction Plan
Tpy	Tons Per Year
UTM	Universal Transverse Mercator
VOC	Volatile Organic Compound

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SECTION I: FACILITY INFORMATION

PERMITTEE: Georgia-Pacific LLC - Crossett Paper Operations

AFIN: 02-00013

PERMIT NUMBER: 0597-AOP-R14

FACILITY ADDRESS: 100 Mill Supply Road
Crossett, AR 71635

MAILING ADDRESS: P.O. Box 3333
Crossett, AR 71635-3333

COUNTY: Ashley County

CONTACT NAME: James Cutbirth

CONTACT POSITION: Superintendent -Environmental Services

TELEPHONE NUMBER: 870-567-8144

REVIEWING ENGINEER: Ambrosia Brown

UTM North South (Y): Zone 15: 3667408.69 m

UTM East West (X): Zone 15: 596029.30 m

SECTION II: INTRODUCTION

Summary of Permit Activity

The Georgia-Pacific LLC - Paper Operations facility operates a kraft paper mill at 100 Paper Mill Road, Crossett, Arkansas 71635. This facility produces a variety of paper products on eight paper machines and two paper extruding machines. The paper machines include two fine paper machines, one board paper machine, and five tissue machines. This permitting action was requested in order to reduce the maximum hourly emission rate of sulfur dioxide for its 9A Boiler (SN-22). This emission reduction is achieved through limiting use of specification grade oil as a fuel. Actual emission rates shall decrease as a result of this limit, however permitted PM₁₀ emissions shall increase because new emission factors and safety factors that were used in emission calculations. The increase to permitted emissions is 95.7 tpy PM/PM₁₀. The decreases to permitted emissions are 877 tpy SO₂, 0.1 tpy VOC, and 96.1 tpy NO_x.

Process Description

Chips are received at the Mill by truck and rail. Upon unloading, the chips are pneumatically blown to the distribution tower and are then dropped onto the chip piles. Round logs are also received at the facility. After storage, the logs are transported to the debarking drums for bark removal. The debarked logs are fed to the chipper and the produced chips are then conveyed to the chip piles. The chips from the chip piles are screened prior to entering the chip silos. Rejected chips from the screening are burned in the Mill's combination boiler. The removed bark is pneumatically sent to bark piles for storage and eventual use in the Mill's boilers. The chips from the silos are conveyed to the Mill's thirteen batch digesters. The function of the digesters is to cook the chips using white liquor, black liquor, and the steam from the boilers. In the digestion process, these products are combined and cooked at a set pressure and temperature until the quality pulp is obtained. At the end of each "cook", the blow valves at the bottom of the digesters are opened, with the resulting pressure forcing the pulp mass through a blow line into one of the two blow tanks.

The blow tanks are at atmospheric pressure and the contents of the digesters enter the blow tanks tangentially at the top. When the chips hit the lower pressure in the tank, the liquor and water flash, blowing the chips apart to produce the pulp fibers. The vapors from the blow tanks are sent to the blow heat condensing system, where non condensable gases (NCGs) are removed. The steam vapors are condensed in the accumulator. The accumulator water is sent to the stripper and returned to the washers as cleaned condensate. Knots (e.g. undercooked wood chips, irregularly shaped or overly thick pieces of wood, etc.) are removed with the use of vibrating knotters/screens.

The pulp is washed to remove spent cooking chemicals. The Mill has two horizontal washers. In the washers, the wash water and pulp move in counter current directions. The washed pulp is passed through screening and cleaning stages which remove debris from the stock. After screening, the pulp passes through the decker system, which thickens the pulp for storage in high density storage chests.

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The unbleached Kraft pulp is taken from the high density storage chests for further processing in the bleach plant. The bleaching process removes the remaining lignin and Kraft color from the unbleached pulp. Bleaching is performed in several stages using chlorine dioxide, caustic soda, oxygen, and hydrogen peroxide.

Recovery describes the set of operations that recovers the spent cooking chemicals for reuse in the digesters. The recovery process utilizes a multi-effect evaporator to concentrate weak black liquor. The concentrated black liquor is burned in the Mill's recovery furnace. The spent chemicals leave the recovery furnace from the bottom in a molten form and enter the smelt dissolving tanks. The causticizing operation reacts molten inorganic salts from the smelt dissolving tanks with weak wash water to form green liquor. This green liquor is then treated with slaked lime to form white liquor. The white liquor is then ready for use as the main cooking liquor in the digesters.

The facility, in order to accommodate production levels, may export black liquor to another mill with excess recovery capacity in exchange for white or green liquor. The 'liquor-swapping' is considered routine and normal for the industry, and equipment needed for the exchange has been present since the facility has been built.

Paper products are currently manufactured on eight paper machines and two paper extruding machines. The paper machines include two fine paper machines, one board paper machine, and five tissue machines. Each machine has its own stock preparation, head box, wire section, press section, dryer sections, coater section, calendar stacks, reel, and drum winder. The two fine paper machines produce a variety of products including but not limited to bond, envelope, tablet, and copier paper.

Tissue and towel converting includes the operations involved with converting large parent rolls of tissue/towel from the machines into finished product. This includes rewinding onto smaller sized rolls, folding, printing, cutting, packaging, and shipping.

The two extruding machines receive board from the board paper machine and from outside board customers and apply a polymer coating. Rolls of board are loaded onto an unwind stand before passing through a calendar stack, where they are subjected to burners which flame seal the board. An extruded poly sheet is then pressed together with the board.

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Regulations

The following table contains the regulations applicable to this permit.

Source (SN)	Regulation
Arkansas Air Pollution Code (Regulation 18) effective June 18, 2010	
Regulations of the Arkansas Plan of Implementation for Air Pollution Control (Regulation 19) effective July 18, 2009	
Regulations of Arkansas Air Permit Operating Program (Regulation 26) effective June 18, 2010	
SN-03	NSPS Subpart D
SN-25	NSPS Subpart BB NESHAP Subpart MM
SN-26	NSPS Subpart BB NESHAP Subpart MM
SN-27A & 27B	NSPS Subpart BB NESHAP Subpart MM
SN-30	NESHAP Part S
SN-33 and SN-34	NSPS Subpart BB
SN-40	NSPS Subpart Kb
SN-59	NSPS Subpart BB
SN-71, SN-72, SN-80, SN-111, SN-112, and SN-113	NESHAP JJJJ
SN-115, 116, 117, 118, 119, 120, and 121	NESHAP ZZZZ
SN-118 and SN-119	NSPS IIII

Emission Summary

The following table is a summary of emissions from the facility. This table, in itself, is not an enforceable condition of the permit.

EMISSION SUMMARY				
Source #	Description	Pollutant	Emission Rates	
			lb/hr	tpy
Total Allowable Emissions		PM	335.7	1,403.5
		PM ₁₀	325.5	1,372.6
		SO ₂	1,237.6	1,037.4
		VOC	743.9	3,209.3
		CO	2,649.5	11,484.5
		NO _x	1,331.3	5,522.4
		Pb	0.21	0.53
		TRS	32.3	130.7
HAPs		Acetaldehyde*	7.80	32.49
		Acetophenone*	0.44	1.66
		Acrolein*	0.56	1.70
		Arsenic	0.13	0.25
		Benzene*	1.05	3.19
		Beryllium	0.06	0.06
		Biphenyl*	3.71	16.18
		Cadmium	0.13	0.13
		Carbon Disulfide*	0.32	1.33
		Carbon Tetrachloride*	0.15	0.39
		Carbonyl Sulfide*	0.14	0.50
		Chloroform*	9.87	42.70
		Chromium, Hex	0.04	0.08
		Cobalt	0.14	0.18
		Cresol*	2.34	8.86
		Cumene*	0.48	1.95
		2,4-Dinitrotoluene*	0.02	0.02
		Ethylene Dibromide*	0.03	0.11
		Ethylene Dichloride*	0.11	0.32
		Formaldehyde*	5.56	20.05
		Hexane*	4.95	21.15
		Hexachlorobenzene*	0.04	0.10

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EMISSION SUMMARY				
Source #	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Hexachloroethane*	0.21	0.90
		Hexachloropentadiene*	0.16	0.66
		Hydrogen chloride	12.30	48.36
		Manganese	0.19	0.49
		Mercury	0.13	0.13
		Methanol*	57.85	243.74
		Methylene Chloride	1.22	4.92
		Naphthalene*	1.01	3.42
		Nickel	0.16	0.34
		Phenol*	1.93	8.03
		Phosphorus	0.32	1.23
		Propionaldehyde*	0.43	1.60
		Propylene dichloride*	0.06	0.27
		POM*	0.65	2.41
		SAM**	3.6	10.4
		Selenium	0.06	0.08
		Styrene*	0.52	1.52
		Tetrachloroethylene	0.75	2.73
		1,2,4-Trichlorobenzene*	0.60	2.11
		Toluene*	0.58	1.33
		Vinyl Chloride*	0.04	0.15
		Xylene*	0.97	3.09
Air Contaminants **		Acetone**	10.2	35.0
		Ammonia**	14.0	53.0
		Ozone	2.3	9.5
		Sulfuric Acid (SAM)**	38.5	83.4
03	10A Boiler	PM	100.1	438.5
		PM ₁₀	100.1	438.5
		SO ₂	21.0	92.0
		VOC	17.1	74.6
		CO	600.6	2,630.7
		NO _x	500.5	2,192.2
		Pb	0.06	0.26
		Acetaldehyde*	0.28	1.22
		Acetophenone*	0.01	0.01
		Acetone**	0.3	1.1
		Acrolein*	0.10	0.42
		Arsenic	0.01	0.02
		Benzene*	0.33	1.43
		Beryllium	0.01	0.01

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EMISSION SUMMARY				
Source #	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Cadmium	0.01	0.01
		Carbon Disulfide*	0.16	0.69
		Carbon Tetrachloride*	0.01	0.01
		Chloroform*	0.05	0.20
		Chromium, Hex	0.01	0.04
		Cobalt	0.01	0.01
		Cumene*	0.03	0.10
		2,4-Dinitrotoluene*	0.01	0.01
		Ethylene Dichloride*	0.04	0.16
		Formaldehyde*	0.86	3.74
		Hexane*	1.57	6.84
		Hexachlorobenzene	0.01	0.01
		Hydrogen chloride*	0.19	0.79
		Manganese	0.05	0.22
		Mercury	0.01	0.01
		Methanol*	1.04	4.53
		Methylene Chloride	0.43	1.85
		Naphthalene*	0.13	0.53
		Nickel	0.01	0.03
		Phenol*	0.02	0.05
		Phosphorus	0.12	0.53
		Propionaldehyde*	0.08	0.33
		Propylene dichloride*	0.04	0.18
		POM*	0.30	1.30
		Selenium	0.01	0.02
		Styrene*	0.04	0.17
		Tetrachloroethylene	0.07	0.28
		Toluene*	0.04	0.15
		Vinyl Chloride*	0.03	0.10
		Xylene*	0.03	0.12
18	5A Boiler	PM	2.1	8.8
		PM ₁₀	2.1	8.8
		SO ₂	0.2	0.7
		VOC	1.5	6.4
		CO	22.2	97.2
		NO _x	74.0	323.8
		Pb	0.01	0.01
		Arsenic	0.01	0.01
		Benzene*	0.01	0.01
		Cadmium	0.01	0.01

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EMISSION SUMMARY				
Source #	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Cobalt	0.01	0.01
		Formaldehyde*	0.02	0.09
		Hexane*	0.48	2.09
		Manganese	0.01	0.01
		Mercury	0.01	0.01
		Naphthalene*	0.01	0.01
		Nickel	0.01	0.01
		POM*	0.01	0.01
		Toluene*	0.01	0.01
19	6A Boiler	PM	3.3	14.3
		PM ₁₀	3.3	14.3
		SO ₂	0.3	1.2
		VOC	2.4	10.4
		CO	36.0	157.7
		NO _x	120.0	525.4
		Pb	0.01	0.01
		Arsenic	0.01	0.01
		Benzene*	0.01	0.01
		Cadmium	0.01	0.01
		Cobalt	0.01	0.01
		Formaldehyde*	0.04	0.15
		Hexane*	0.78	3.38
		Manganese	0.01	0.01
		Mercury	0.01	0.01
		Naphthalene*	0.01	0.01
		Nickel	0.01	0.01
		POM*	0.01	0.01
		Toluene*	0.01	0.01
22	9A Boiler	PM	77.4	339.0
		PM ₁₀	77.4	339.0
		SO ₂	199.8	484.6
		VOC	11.3	49.5
		CO	366.8	1,606.7
		NO _x	196.0	858.6
		Pb	0.03	0.14
		Acetaldehyde*	0.13	0.57
		Acetophenone*	0.01	0.01
		Acetone**	0.2	0.5
		Acrolein*	0.04	0.19
		Arsenic	0.01	0.03

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EMISSION SUMMARY				
Source #	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Benzene*	0.15	0.68
		Beryllium	0.01	0.01
		Cadmium	0.01	0.01
		Carbon Disulfide*	0.07	0.32
		Carbon Tetrachloride*	0.01	0.01
		Chloroform*	0.02	0.09
		Chromium, Hex	0.01	0.02
		Cobalt	0.02	0.06
		Cumene*	0.01	0.05
		2,4-Dinitrotoluene*	0.01	0.01
		Ethylene Dichloride*	0.02	0.07
		Formaldehyde*	0.47	2.06
		Hexane*	1.56	6.81
		Hexachlorobenzene*	0.01	0.01
		Hydrogen Chloride	0.13	0.57
		Manganese	0.03	0.13
		Mercury	0.01	0.01
		Methanol*	0.49	2.15
		Methylene Chloride	0.20	0.87
		Naphthalene*	0.06	0.26
		Nickel	0.04	0.17
		Phenol*	0.01	0.03
		Phosphorus	0.08	0.33
		Propionaldehyde*	0.04	0.15
		Propylene Dichloride*	0.02	0.09
		POM*	0.14	0.63
		SAM**	3.6	10.4
		Selenium	0.01	0.02
		Styrene*	0.02	0.08
		Tetrachloroethylene	0.03	0.13
		Toluene*	0.02	0.11
		Vinyl Chloride*	0.01	0.05
		Xylene*	0.01	0.02
25	No. 4 Lime Kiln	PM	28.3	123.8
		PM ₁₀	28.3	123.8
		SO ₂	10.9	41.2
		VOC	1.5	5.6
		CO	5.8	21.9
		NO _x	53.5	203.6
		Pb	0.01	0.02

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EMISSION SUMMARY				
Source #	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		TRS	2.2	9.6
		Acetaldehyde*	0.18	0.67
		Acetone**	0.1	0.1
		Acrolein*	0.01	0.01
		Arsenic	0.01	0.01
		Benzene*	0.02	0.04
		Beryllium	0.01	0.01
		Cadmium	0.01	0.01
		Carbon Disulfide*	0.01	0.04
		Chloroform*	0.01	0.01
		Chromium Hex	0.01	0.01
		Cobalt	0.01	0.01
		Formaldehyde*	0.18	0.67
		Hexane*	0.01	0.01
		Hydrogen Chloride	0.01	0.03
		Manganese	0.01	0.04
		Mercury	0.01	0.01
		Methanol*	0.38	1.45
		Methylene Chloride	0.01	0.01
		Naphthalene*	0.42	1.57
		Nickel	0.01	0.02
		Phenol*	0.01	0.04
		Phosphorous	0.06	0.21
		POM*	0.01	0.02
		SAM**	0.7	2.6
		Selenium	0.01	0.01
		Styrene*	0.01	0.01
		Tetrachloroethylene	0.01	0.04
		Toluene*	0.01	0.01
		1,2,4-Trichlorobenzene*	0.01	0.02
		Xylene*	0.01	0.03
26	8R Recovery Furnace	PM	60.0	262.8
		PM ₁₀	60.0	262.8
		SO ₂	989.1	371.0
		VOC	25.9	98.6
		CO	1,420.0	6,219.6
		NO _x	276.0	1,208.6
		Pb	0.01	0.01
		TRS	11.2	48.8
		Acetaldehyde*	0.08	0.28

EMISSION SUMMARY				
Source #	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Acetone**	2.3	8.6
		Arsenic	0.01	0.01
		Benzene*	0.12	0.43
		Beryllium	0.01	0.01
		Cadmium	0.01	0.01
		Chloroform*	0.01	0.02
		Chromium, Hex	0.01	0.01
		Cobalt	0.01	0.01
		Formaldehyde*	1.35	5.13
		Hexane*	0.05	0.17
		Hydrogen Chloride	9.49	36.14
		Manganese	0.01	0.04
		Methanol*	7.59	28.91
		Mercury	0.01	0.01
		Methylene Chloride	0.09	0.32
		Naphthalene*	0.05	0.18
		Nickel	0.01	0.03
		Phosphorous	0.04	0.14
		POM*	0.02	0.06
		Selenium	0.01	0.01
		Styrene*	0.10	0.37
		SAM**	7.3	27.6
		Tetrachloroethylene	0.09	0.32
		Toluene*	0.01	0.03
		1,2,4-Trichlorobenzene*	0.14	0.51
		Xylene*	0.09	0.34
27A	Smelt Dissolving Tank (East)	PM	14.4	54.8
		PM ₁₀	14.4	54.8
		SO ₂	0.5	1.7
		VOC	1.5	5.5
		CO	0.7	2.7
		NO _x	1.8	6.6
		Pb	0.01	0.01
		TRS	2.4	9.1
		Acetaldehyde*	0.08	0.30
		Acetone**	0.2	0.5
		Acrolein*	0.01	0.01
		Arsenic	0.01	0.01
		Benzene*	0.01	0.01
		Beryllium	0.01	0.01

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EMISSION SUMMARY				
Source #	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Cadmium	0.01	0.01
		Carbon Disulfide*	0.01	0.01
		Chloroform*	0.01	0.01
		Cobalt	0.01	0.01
		Cumene*	0.01	0.01
		Formaldehyde*	0.31	1.15
		Hexachlorocyclopentadiene*	0.01	0.04
		Hexane*	0.01	0.01
		Manganese	0.01	0.01
		Mercury	0.01	0.01
		Methanol*	0.95	3.62
		Methylene Chloride	0.01	0.01
		Naphthalene*	0.05	0.17
		Nickel	0.01	0.01
		Phosphorous	0.01	0.01
		POM*	0.04	0.15
		Selenium	0.01	0.01
		Styrene*	0.02	0.04
		Tetrachloroethylene	0.01	0.01
		Toluene*	0.01	0.01
		1,2,4-Trichlorobenzene*	0.01	0.01
		Xylene*	0.01	0.01
27B	Smelt Dissolving Tank (West)	PM	14.4	54.8
		PM ₁₀	14.4	54.8
		SO ₂	0.5	1.7
		VOC	1.5	5.5
		CO	0.7	2.7
		NOx	1.8	6.6
		Pb	0.01	0.01
		TRS	2.4	9.1
		Acetaldehyde*	0.08	0.30
		Acetone**	0.2	0.5
		Acrolein*	0.01	0.01
		Arsenic	0.01	0.01
		Benzene*	0.01	0.01
		Beryllium	0.01	0.01
		Cadmium	0.01	0.01
		Carbon Disulfide*	0.01	0.01
		Chloroform*	0.01	0.01
		Cobalt	0.01	0.01

EMISSION SUMMARY				
Source #	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Cumene*	0.01	0.01
		Formaldehyde*	0.31	1.15
		Hexachlorocyclopentadiene*	0.01	0.04
		Hexane*	0.01	0.01
		Manganese	0.01	0.01
		Mercury	0.01	0.01
		Methanol*	0.95	3.62
		Methylene Chloride	0.01	0.01
		Naphthalene*	0.05	0.17
		Nickel	0.01	0.01
		Phosphorous	0.01	0.01
		POM*	0.04	0.15
		Selenium	0.01	0.01
		Styrene*	0.02	0.04
		Tetrachloroethylene	0.01	0.01
		Toluene*	0.01	0.01
		1,2,4-Trichlorobenzene*	0.01	0.01
		Xylene*	0.01	0.01
30	Bleach Plant	VOC	21.4	93.7
		CO	136.1	596.1
		Acetaldehyde*	0.23	0.99
		Acetone**	0.5	2.0
		Acrolein*	0.01	0.01
		Benzene*	0.01	0.01
		Carbon Tetrachloride*	0.01	0.01
		Chloroform*	7.64	33.44
		Cresol*	0.06	0.25
		Cumene*	0.01	0.01
		Ethylene Dibromide*	0.03	0.11
		Ethylene Dichloride*	0.01	0.01
		Formaldehyde*	0.05	0.21
		Hexachlorocyclopentadiene*	0.16	0.66
		Hexachloroethane*	0.21	0.90
		Hydrogen Chloride	2.48	10.83
		Hexane*	0.01	0.01
		Methanol*	12.90	56.51
		Methylene Chloride	0.01	0.03
		Propionaldehyde*	0.06	0.25
		Phenol*	0.04	0.14
		Styrene*	0.02	0.09

EMISSION SUMMARY				
Source #	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Tetrachloroethylene	0.01	0.05
		Toluene*	0.01	0.01
		1,2,4-Trichlorobenzene*	0.01	0.03
		Xylene*	0.01	0.01
33	Line 1 Washer	VOC	7.5	28.4
		TRS	2.1	7.9
		Acetaldehyde*	0.10	0.35
		Acetone**	0.3	0.8
		Acetophenone*	0.21	0.79
		Acrolein*	0.01	0.02
		Benzene*	0.01	0.02
		Carbon Tetrachloride*	0.03	0.09
		Carbonyl Sulfide*	0.07	0.25
		Chloroform*	0.01	0.01
		Cresol*	0.34	1.29
		Ethylene Dichloride*	0.01	0.03
		Formaldehyde*	0.01	0.01
		Hexane*	0.01	0.03
		Methanol*	4.66	17.69
		Methylene Chloride	0.01	0.01
		Phenol*	0.37	1.40
		Styrene*	0.01	0.04
		Tetrachloroethylene	0.04	0.15
		Toluene*	0.02	0.05
		1,2,4-Trichlorobenzene*	0.02	0.08
		Xylene*	0.01	0.02
34	Line 2 Washer	VOC	7.5	28.4
		TRS	2.1	7.9
		Acetaldehyde*	0.10	0.35
		Acetone**	0.3	0.8
		Acetophenone*	0.21	0.79
		Acrolein*	0.01	0.02
		Benzene*	0.01	0.02
		Carbon Tetrachloride*	0.03	0.09
		Carbonyl Sulfide*	0.07	0.25
		Chloroform*	0.01	0.01
		Cresol*	0.34	1.29
		Ethylene Dichloride*	0.01	0.03
		Formaldehyde*	0.01	0.01
		Hexane*	0.01	0.03

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Source #	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Methanol*	4.66	17.69
		Methylene Chloride	0.01	0.01
		Phenol*	0.37	1.40
		Styrene*	0.01	0.04
		Tetrachloroethylene	0.04	0.15
		Toluene*	0.02	0.05
		1,2,4-Trichlorobenzene*	0.02	0.08
		Xylene*	0.01	0.02
35F	Aeration Stabilization Basin	VOC	17.3	75.5
		Acetaldehyde*	0.14	0.61
		Acrolein*	0.01	0.04
		Benzene*	0.02	0.07
		Biphenyl*	0.01	0.02
		Carbon Disulfide*	0.05	0.21
		Chloroform*	0.61	2.66
		Cresol*	0.01	0.01
		Cumene*	0.41	1.77
		Formaldehyde*	0.04	0.18
		Methanol*	15.24	66.74
		Naphthalene*	0.09	0.36
		Phenol*	0.01	0.01
		Propionaldehyde*	0.01	0.04
		Styrene*	0.08	0.34
		Toluene*	0.03	0.11
		Xylene*	0.37	1.59
40	Methanol Storage Tank	VOC	0.3	1.0
		Methanol*	0.22	1.0
46	Tissue Machine No. 4 Burners	PM	0.2	0.8
		PM ₁₀	0.2	0.8
		SO ₂	0.1	0.1
		VOC	0.2	0.6
		CO	2.1	8.9
		NO _x	2.4	10.6
		Pb	0.01	0.01
		Arsenic	0.01	0.01
		Benzene*	0.01	0.01
		Cadmium	0.01	0.01
		Cobalt	0.01	0.01
		Formaldehyde*	0.01	0.01
		Hexane*	0.05	0.19

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Source #	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Manganese	0.01	0.01
		Mercury	0.01	0.01
		Naphthalene*	0.01	0.01
		Nickel	0.01	0.01
		Toluene*	0.01	0.01
47	Tissue Machine No. 5 Burners	PM	0.4	1.6
		PM ₁₀	0.4	1.6
		SO ₂	0.1	0.1
		VOC	1.2	5.2
		CO	4.5	19.8
		NO _x	2.0	8.4
		Pb	0.01	0.01
		Arsenic	0.01	0.01
		Benzene*	0.01	0.01
		Cadmium	0.01	0.01
		Cobalt	0.01	0.01
		Formaldehyde*	0.01	0.01
		Hexane*	0.05	0.20
		Manganese	0.01	0.01
		Mercury	0.01	0.01
		Naphthalene*	0.01	0.01
		Nickel	0.01	0.01
		Toluene*	0.01	0.01
48	Tissue Machine No. 6 Burners	PM	0.4	1.7
		PM ₁₀	0.4	1.7
		SO ₂	0.1	0.2
		VOC	0.3	1.4
		CO	4.5	19.8
		NO _x	2.0	8.4
		Pb	0.01	0.01
		Arsenic	0.01	0.01
		Benzene*	0.01	0.01
		Cadmium	0.01	0.01
		Cobalt	0.01	0.01
		Formaldehyde*	0.01	0.02
		Hexane*	0.09	0.39
		Manganese	0.01	0.01
		Mercury	0.01	0.01
		Naphthalene*	0.01	0.01
		Nickel	0.01	0.01

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Source #	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Toluene*	0.01	0.01
49	Tissue Machine No. 7 Burners	PM	0.4	1.7
		PM ₁₀	0.4	1.7
		SO ₂	0.1	0.2
		VOC	0.3	1.2
		CO	4.2	18.2
		NO _x	2.5	10.8
		Pb	0.01	0.01
		Arsenic	0.01	0.01
		Benzene*	0.01	0.01
		Cadmium	0.01	0.01
		Cobalt	0.01	0.01
		Formaldehyde*	0.01	0.02
		Hexane*	0.09	0.39
		Manganese	0.01	0.01
		Mercury	0.01	0.01
		Naphthalene*	0.01	0.01
		Nickel	0.01	0.01
		Toluene*	0.01	0.01
50	Tissue Machine No. 7 Dust System	PM	0.5	2.1
		PM ₁₀	0.5	2.1
51	Tissue Machine No. 6 Rewinder	PM	0.5	1.9
		PM ₁₀	0.5	1.9
52	Tissue Machine No. 6 Dust System	PM	0.5	1.9
		PM ₁₀	0.5	1.9
54	Tissue Machine No. 5 Dust System	PM	0.3	1.1
		PM ₁₀	0.3	1.1
55F	Slaker Vent #1	PM	0.4	1.4
		PM ₁₀	0.4	1.4
		VOC	1.7	6.4
		TRS	0.8	2.8
		Acetaldehyde*	0.11	0.41
		Acetone**	0.2	0.5
		Acrolein*	0.01	0.01
		Ammonia**	7.0	26.5
		Benzene*	0.01	0.01
		Methanol*	0.86	3.26
		Styrene*	0.01	0.01

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EMISSION SUMMARY				
Source #	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Tetrachloroethylene	0.01	0.01
		Toluene*	0.01	0.02
		1,2,4-Trichlorobenzene*	0.01	0.01
		Xylene*	0.01	0.01
56F	Slaker Vent #2	PM	0.4	1.4
		PM ₁₀	0.4	1.4
		VOC	1.7	6.4
		TRS	0.8	2.8
		Acetaldehyde*	0.11	0.41
		Acetone**	0.2	0.5
		Acrolein*	0.01	0.01
		Ammonia**	7.0	26.5
		Benzene*	0.01	0.01
		Methanol*	0.86	3.26
		Styrene*	0.01	0.01
		Tetrachloroethylene	0.01	0.01
		Toluene*	0.01	0.02
		1,2,4-Trichlorobenzene*	0.01	0.01
		Xylene*	0.01	0.01
57F	Woodyard Debarking Drum and Associated Woodyard Chip Handling System	PM	0.1	0.2
		PM ₁₀	0.1	0.1
		VOC	410.9	1,799.4
58F	Woodyard Chip Storage Piles & Chippers	PM	2.5	10.8
		PM ₁₀	1.3	5.4
		VOC	2.1	8.8
59	Batch Digesters (13)	VOC	5.3	23.1
		TRS	0.9	3.9
		Acetaldehyde*	0.12	0.52
		Acetone**	0.2	0.8
		Acrolein*	0.01	0.01
		Benzene*	0.01	0.01
		Carbon Tetrachloride*	0.02	0.05
		Chloroform*	0.12	0.52
		Ethylene Dichloride*	0.01	0.01
		Formaldehyde*	0.01	0.01
		Hexane*	0.01	0.03
		Methanol*	2.11	9.21

EMISSION SUMMARY				
Source #	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Styrene*	0.02	0.07
		Tetrachloroethylene	0.01	0.01
		Toluene*	0.02	0.06
		Xylene*	0.01	0.02
60	Line 1 Decker	Routed to the Incinerator (SN-83)		
61	Line 2 Decker	VOC	4.5	16.9
		TRS	2.1	7.7
		Acetaldehyde*	0.33	1.23
		Acetone**	0.5	1.8
		Acrolein*	0.01	0.02
		Benzene*	0.01	0.01
		Carbon Tetrachloride*	0.02	0.07
		Chloroform*	0.13	0.49
		Cresol*	1.56	5.90
		Formaldehyde*	0.09	0.33
		Methanol*	2.02	7.65
		Propionaldehyde*	0.10	0.35
		Styrene*	0.02	0.06
		Tetrachloroethylene	0.04	0.15
		Toluene*	0.01	0.02
62	Fine Paper Machine No. 1	1,2,4-Trichlorobenzene*	0.11	0.40
		Xylene*	0.02	0.05
		VOC	18.6	81.3
		Acetaldehyde*	1.20	5.23
		Acetone**	0.8	3.6
		Acrolein*	0.05	0.20
		Formaldehyde*	0.24	1.05
		Methanol*	1.20	5.23
		Methylene Chloride	0.10	0.41
63	Fine Paper Machine No. 2	Tetrachloroethylene	0.09	0.37
		1,2,4-Trichlorobenzene*	0.05	0.22
		Xylene*	0.03	0.11
		VOC	11.3	49.3
		Acetaldehyde*	1.20	5.23
		Acetone**	0.8	3.6
		Acrolein*	0.05	0.20
		Formaldehyde*	0.24	1.05
		Methanol*	1.20	5.23
		Methylene Chloride	0.10	0.41

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EMISSION SUMMARY				
Source #	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Tetrachloroethylene	0.09	0.37
		1,2,4-Trichlorobenzene*	0.05	0.22
		Xylene*	0.03	0.11
64	Board Paper Machine No. 3	VOC	17.0	74.5
		Acetaldehyde*	1.95	8.51
		Acetone**	1.3	5.7
		Acrolein*	0.08	0.32
		Formaldehyde*	0.39	1.69
		Methanol*	1.95	8.51
		Methylene Chloride	0.15	0.66
		Tetrachloroethylene	0.14	0.59
		1,2,4-Trichlorobenzene*	0.09	0.36
		Xylene*	0.04	0.18
65	Board Paper Machine No. 3 Burners	PM	0.2	0.5
		PM ₁₀	0.2	0.5
		SO ₂	0.1	0.1
		VOC	0.1	0.4
		CO	1.3	5.5
		NO _x	1.5	6.5
		Pb	0.01	0.01
		Arsenic	0.01	0.01
		Benzene*	0.01	0.01
		Cadmium	0.01	0.01
		Cobalt	0.01	0.01
		Formaldehyde*	0.01	0.01
		Hexane*	0.03	0.12
		Manganese	0.01	0.01
		Mercury	0.01	0.01
		Naphthalene*	0.01	0.01
		Nickel	0.01	0.01
		Toluene*	0.01	0.01
66	Tissue Machine No. 4	PM	0.5	2.0
		PM ₁₀	0.5	2.0
		VOC	13.0	74.5
		Acetaldehyde*	0.11	0.47
		Biphenyl*	0.81	3.54
		Chloroform*	0.03	0.10
		Formaldehyde*	0.01	0.01
		Methanol*	0.05	0.19
		Methylene Chloride	0.01	0.04

EMISSION SUMMARY				
Source #	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Phenol*	0.18	0.76
		Propionaldehyde*	0.01	0.01
		Toluene*	0.03	0.10
67	Tissue Machine No. 4 Dust System	PM	0.3	1.1
		PM ₁₀	0.3	1.1
68	Tissue Machine No. 5	PM	0.3	1.1
		PM ₁₀	0.3	1.1
		VOC	13.0	57.0
		Acetaldehyde*	0.07	0.27
		Biphenyl*	0.46	1.99
		Chloroform*	0.02	0.06
		Formaldehyde*	0.01	0.01
		Methanol*	0.03	0.11
		Methylene Chloride	0.01	0.03
		Phenol*	0.10	0.43
		Propionaldehyde*	0.01	0.01
		Toluene*	0.02	0.06
69	Tissue Machine No. 6	PM	0.7	3.1
		PM ₁₀	0.7	3.1
		VOC	26.7	116.6
		Acetaldehyde*	0.17	0.74
		Biphenyl*	1.26	5.52
		Chloroform*	0.04	0.15
		Formaldehyde*	0.01	0.01
		Methanol*	0.07	0.29
		Methylene Chloride	0.02	0.08
		Phenol*	0.27	1.19
		Propionaldehyde*	0.01	0.01
		Toluene*	0.04	0.15
70	Tissue Machine No. 7	PM	0.7	2.9
		PM ₁₀	0.7	2.9
		VOC	17.7	77.4
		Acetaldehyde*	0.16	0.68
		Biphenyl*	1.17	5.11
		Chloroform*	0.04	0.14
		Formaldehyde*	0.01	0.01
		Methanol*	0.07	0.27
		Methylene Chloride	0.02	0.06
		Phenol*	0.25	1.10
		Propionaldehyde*	0.01	0.01

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EMISSION SUMMARY				
Source #	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Toluene*	0.04	0.14
71	No. 8 Extruder Electrostatic Treaters (A&B)	PM	0.4	1.5
		PM ₁₀	0.4	1.5
		Ozone	0.8	3.2
72	No. 9 Extruder Electrostatic Treater	PM	0.6	2.5
		PM ₁₀	0.6	2.5
		Ozone	1.5	6.3
75	Pulp Storage Chests	VOC	43.2	189.3
		TRS	3.8	16.6
		Acetaldehyde*	0.05	0.21
		Benzene*	0.01	0.01
		Chloroform*	0.10	0.44
		Hexane*	0.01	0.01
		Methanol*	0.22	0.95
		Phenol*	0.18	0.75
		Styrene*	0.01	0.02
		Tetrachloroethylene	0.01	0.01
		Toluene*	0.01	0.01
		Xylene*	0.01	0.01
76F	Black Liquor Storage Basin No. 1	VOC	4.4	19.3
		Acetaldehyde*	0.20	0.87
		Acetone**	0.2	0.7
		Methanol*	4.02	17.61
78F	Road Emissions	PM	12.0	39.0
		PM ₁₀	3.0	9.7

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EMISSION SUMMARY				
Source #	Description	Pollutant	Emission Rates	
			lb/hr	tpy
79	Tissue Machine No. 8 Burners	PM	0.9	3.6
		PM ₁₀	0.9	3.6
		SO ₂	0.1	0.2
		VOC	1.0	4.3
		CO	5.7	25.0
		NO _x	4.6	20.0
		Pb	0.01	0.01
		Arsenic	0.01	0.01
		Benzene*	0.01	0.01
		Cadmium	0.01	0.01
		Cobalt	0.01	0.01
		Formaldehyde*	0.01	0.02
		Hexane*	0.11	0.48
		Manganese	0.01	0.01
		Mercury	0.01	0.01
		Naphthalene*	0.01	0.01
		Nickel	0.01	0.01
		Toluene*	0.01	0.01
80	Tissue Machine No. 8	PM	0.8	3.2
		PM ₁₀	0.8	3.2
		VOC	13.6	59.6
		Acetaldehyde*	0.36	1.54
		Acetone**	0.2	0.8
		Acrolein*	0.03	0.10
		Benzene*	0.01	0.02
		Carbon Disulfide*	0.01	0.05
		Chloroform*	0.01	0.01
		Formaldehyde*	0.06	0.25
		Hexane*	0.01	0.02
		Methanol*	0.45	1.91
		Methylene Chloride	0.03	0.11
		Naphthalene*	0.01	0.03
		Phenol*	0.10	0.44
		Propionaldehyde*	0.10	0.44
		Styrene*	0.01	0.02
		Tetrachloroethylene	0.01	0.04
		Toluene*	0.01	0.01
		1,2,4 Trichlorobenzene*	0.03	0.11
		Xylene*	0.04	0.14

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EMISSION SUMMARY				
Source #	Description	Pollutant	Emission Rates	
			lb/hr	tpy
81	Tissue Machine No. 8 Dust System	PM	1.8	7.7
		PM ₁₀	1.8	7.7
82F	Landfill Operations	PM	2.6	0.5
		PM ₁₀	1.2	0.3
83	Incinerator	PM	2.7	11.9
		PM ₁₀	2.7	11.9
		SO ₂	9.1	39.9
		VOC	1.0	3.6
		CO	6.0	26.3
		NO _x	23.0	100.8
		SAM**	1.0	4.3
		TRS	0.9	3.8
		Acetaldehyde*	0.03	0.11
		Acetone**	0.1	0.2
		Benzene*	0.04	0.14
		Carbon Tetrachloride*	0.01	0.04
		Formaldehyde*	0.03	0.09
		Hexane*	0.01	0.03
		Methanol*	0.81	3.06
93	Repulper C	Styrene*	0.01	0.01
		1,2,4-Trichlorobenzene*	0.01	0.02
		Xylene*	0.02	0.05
94	Green Liquor Clarifier A	VOC	1.0	4.4
		Chloroform*	0.99	4.32
94	Green Liquor Clarifier A	VOC	2.2	8.0
		TRS	0.1	0.1
		Acetaldehyde*	0.01	0.01
		Acetone**	0.1	0.1
		Benzene*	0.01	0.01
		Methanol*	2.06	7.83
		Styrene*	0.01	0.01
		Toluene*	0.01	0.01
		Xylene*	0.01	0.02
96	Salt Cake Mix Tank	VOC	0.7	2.4
		TRS	0.1	0.2
		Acetaldehyde*	0.03	0.12
		Acetone**	0.1	0.2
		Acrolein*	0.01	0.01
		Benzene*	0.01	0.01
96	Salt Cake Mix Tank	Formaldehyde*	0.01	0.01

EMISSION SUMMARY				
Source #	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Hexane*	0.01	0.01
		Methanol*	0.51	1.91
		Styrene*	0.01	0.01
		Tetrachloroethylene	0.01	0.01
		Toluene*	0.01	0.01
		1,2,4-Trichlorobenzene*	0.01	0.01
		Xylene*	0.01	0.01
97	Storage Tanks	VOC	4.4	19.0
		TRS	2.5	11.0
		Acetaldehyde*	0.01	0.02
		Acrolein*	0.01	0.01
		Benzene*	0.01	0.01
		Carbon Tetrachloride*	0.01	0.02
		Ethylene Dichloride*	0.01	0.01
		Hexane*	0.01	0.01
		Methanol*	0.48	2.11
		Styrene*	0.01	0.01
		Tetrachloroethylene	0.01	0.01
		Toluene*	0.01	0.01
		1,2,4-Trichlorobenzene*	0.01	0.01
		Xylene*	0.01	0.03
98	"A" Side Causticizers	VOC	0.4	1.3
		TRS	0.4	1.2
		Acetaldehyde*	0.02	0.07
		Acetone**	0.1	0.1
		Benzene*	0.01	0.01
		Methanol*	0.01	0.01
		Styrene*	0.01	0.01
		Xylene*	0.01	0.01
99	"B" Side Causticizers	VOC	0.4	1.3
		TRS	0.4	1.2
		Acetaldehyde*	0.02	0.07
		Acetone**	0.1	0.1
		Benzene*	0.01	0.01
		Methanol*	0.01	0.01
		Styrene*	0.01	0.01
		Xylene*	0.01	0.01
100	White Liquor Storage Tanks (4 total)	VOC	0.2	0.6
		TRS	0.3	1.0
		Acetone**	0.1	0.2

EMISSION SUMMARY				
Source #	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Methanol*	0.01	0.02
101	10A Boiler Bark Transfer System	PM	0.1	0.3
		PM ₁₀	0.1	0.2
102	9A Boiler Bark Transfer System	PM	0.1	0.2
		PM ₁₀	0.1	0.1
103	Green Liquor Clarifier B	VOC	0.2	0.8
		TRS	0.1	0.1
		Acetaldehyde*	0.01	0.01
		Acetone**	0.1	0.1
		Benzene*	0.01	0.01
		Methanol*	0.18	0.66
		Styrene*	0.01	0.01
		Toluene*	0.01	0.01
		Xylene*	0.01	0.02
105	White Liquor Clarifier	VOC	0.2	0.7
		Acetone**	0.1	0.1
		Benzene*	0.01	0.01
		Formaldehyde*	0.07	0.27
		Methanol*	0.05	0.19
		Styrene*	0.01	0.01
		Xylene*	0.01	0.01
106	Mud Washer A	VOC	1.4	5.2
		TRS	0.1	0.2
		Acetone**	0.1	0.1
		Benzene*	0.01	0.01
		Formaldehyde*	0.04	0.14
		Methanol*	0.03	0.10
		Styrene*	0.01	0.01
		Xylene*	0.01	0.01
107	Mud Washer B	VOC	1.4	5.2
		TRS	0.1	0.2
		Acetone**	0.1	0.1
		Benzene*	0.01	0.01
		Formaldehyde*	0.04	0.14
		Methanol*	0.03	0.10
		Styrene*	0.01	0.01
		Xylene*	0.01	0.01
108	Pre-Coats Filter	VOC	0.1	0.2
		TRS	0.1	0.1

EMISSION SUMMARY				
Source #	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Acetaldehyde*	0.01	0.01
		Acetone**	0.1	0.1
		Benzene*	0.01	0.01
		Chloroform	0.01	0.01
		Methanol*	0.04	0.14
		Tetrachloroethylene	0.01	0.01
		Toluene*	0.01	0.01
		Xylene*	0.01	0.01
109	Green Liquor Stabilization Tank	VOC	0.6	2.4
		TRS	0.1	0.2
		Acetaldehyde*	0.04	0.14
		Acetone**	0.2	0.6
		Cresol*	0.03	0.12
		Methanol*	0.37	1.63
		Phenol*	0.02	0.09
110	White Liquor Splitter Box	VOC	0.2	0.7
		Acetone**	0.1	0.1
		Benzene*	0.01	0.01
		Formaldehyde*	0.07	0.27
		Methanol*	0.05	0.19
		Styrene*	0.01	0.01
111	Converting Line No. 1	VOC	1.8	7.8
112	Converting Line No. 2	VOC		
113	Converting Line No. 3	VOC		
114	Temporary Debarking and Chipping equipment	PM	3.6	3.9
		PM ₁₀	2.5	2.6
		SO ₂	1.1	1.1
		VOC	2.5	2.6
		CO	20.8	22.5
		NO _x	16.8	18.1
		Acetaldehyde*	0.01	0.01
		Acrolein*	0.01	0.01
		Benzene*	0.01	0.01
		Formaldehyde*	0.01	0.01
		POM*	0.01	0.01
		Toluene*	0.01	0.01

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EMISSION SUMMARY				
Source #	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Xylene*	0.01	0.01
115	Caterpillar Model No. 3406 Firewater Pump	PM	1.0	0.3
		PM ₁₀	1.0	0.3
		SO ₂	0.9	0.3
		VOC	1.1	0.3
		CO	2.9	0.8
		NO _x	13.1	3.3
		Acetaldehyde*	0.01	0.01
		Acrolein*	0.01	0.01
		Benzene*	0.01	0.01
		Formaldehyde*	0.01	0.01
		Naphthalene*	0.01	0.01
		POM*	0.01	0.01
		Toluene*	0.01	0.01
		Xylene*	0.01	0.01
115-ct	No. 8 TM Vac. Pump Cooling Tower	PM	0.1	0.1
		PM ₁₀	0.1	0.1
116	Caterpillar Model No. 3406 Firewater Pump	PM	1.0	0.3
		PM ₁₀	1.0	0.3
		SO ₂	0.9	0.3
		VOC	1.1	0.3
		CO	2.9	0.8
		NO _x	13.1	3.3
		Acetaldehyde*	0.01	0.01
		Acrolein*	0.01	0.01
		Benzene*	0.01	0.01
		Formaldehyde*	0.01	0.01
		Naphthalene*	0.01	0.01
		POM*	0.01	0.01
		Toluene*	0.01	0.01
		Xylene*	0.01	0.01
116-ct	No. 8 TM Chiller Cooling Tower	PM	0.1	0.1
		PM ₁₀	0.1	0.1
117	Caterpillar Model No. 3406 Firewater Pump	PM	1.0	0.3
		PM ₁₀	1.0	0.3
		SO ₂	0.9	0.3
		VOC	1.1	0.3
		CO	2.9	0.8

EMISSION SUMMARY				
Source #	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		NO _x	13.1	3.3
		Acetaldehyde*	0.01	0.01
		Acrolein*	0.01	0.01
		Benzene*	0.01	0.01
		Formaldehyde*	0.01	0.01
		Naphthalene*	0.01	0.01
		POM*	0.01	0.01
		Toluene*	0.01	0.01
		Xylene*	0.01	0.01
117-ct	Conv. Building HVAC Cooling Tower	PM	0.1	0.2
		PM ₁₀	0.1	0.2
118	John Deere JU6H- UF58 Firewater Pump	PM	0.2	0.1
		PM ₁₀	0.2	0.1
		SO ₂	0.3	0.1
		VOC	0.1	0.1
		CO	0.3	0.1
		NO _x	1.8	0.5
		Acetaldehyde*	0.01	0.01
		Acrolein*	0.01	0.01
		Benzene*	0.01	0.01
		Formaldehyde*	0.01	0.01
		Naphthalene*	0.01	0.01
		POM*	0.01	0.01
		Toluene*	0.01	0.01
		Xylene*	0.01	0.01
119	John Deere JU6H- UF58 Firewater Pump	PM	0.2	0.1
		PM ₁₀	0.2	0.1
		SO ₂	0.3	0.1
		VOC	0.1	0.1
		CO	0.3	0.1
		NO _x	1.8	0.5
		Acetaldehyde*	0.01	0.01
		Acrolein*	0.01	0.01
		Benzene*	0.01	0.01
		Formaldehyde*	0.01	0.01
		Naphthalene*	0.01	0.01
		POM*	0.01	0.01
		Toluene*	0.01	0.01
		Xylene*	0.01	0.01

EMISSION SUMMARY				
Source #	Description	Pollutant	Emission Rates	
			lb/hr	tpy
120	Cummins Series 382 Backup Generator	PM	0.2	0.1
		PM ₁₀	0.2	0.1
		SO ₂	0.2	0.1
		VOC	0.3	0.1
		CO	0.6	0.2
		NO _x	2.8	0.7
		Acetaldehyde*	0.01	0.01
		Acrolein*	0.01	0.01
		Benzene*	0.01	0.01
		Formaldehyde*	0.01	0.01
		Naphthalene*	0.01	0.01
		POM*	0.01	0.01
		Toluene*	0.01	0.01
		Xylene*	0.01	0.01
121	Caterpillar 3116 Backup Lime Kiln Rotation	PM	0.6	0.2
		PM ₁₀	0.6	0.2
		SO ₂	0.5	0.2
		VOC	0.6	0.2
		CO	1.6	0.4
		NO _x	7.2	1.8
		Acetaldehyde*	0.01	0.01
		Acrolein*	0.01	0.01
		Benzene*	0.01	0.01
		Formaldehyde*	0.01	0.01
		Naphthalene*	0.01	0.01
		POM*	0.01	0.01
		Toluene*	0.01	0.01
		Xylene*	0.01	0.01

*HAPs included in the VOC totals. Other HAPs are not included in any other totals unless specifically stated.

**Air Contaminants such as ammonia, acetone, and certain halogenated solvents are not VOCs or HAPs.

SECTION III: PERMIT HISTORY

The first paper machine at Georgia-Pacific Crossett Paper Operations was constructed in 1937. On March 27, 1970, Georgia-Pacific was issued its first permit, Permit #16-A. On August 30, 1971 Georgia-Pacific was issued its second permit, Permit #68-A.

Permit #133-A, issued on December 15, 1972, allowed the installation of an extrusion and a laminating machine.

Permit #137-A was also issued on December 15, 1972. It permitted the installation of a fume scrubber on the digester feed system to control emissions from the digester and the installation of a cyclone and baghouse to control emissions from the sanding operations.

Permit #144-A, issued on March 28, 1973, allowed the installation of the 9A power boiler. Permit #149-A was also issued on March 28, 1973. It permitted the installation of an odor control system to collect, hold and distribute gases which are normally vented from the pulp mill digesters. The gases are burned in the lime kiln.

Permit #140-A was issued on July 23, 1976. This permit dealt with equipment maintenance problems such as the repair of boilers and the replacement of control devices. This permit allowed Georgia-Pacific to operate an additional boiler to provide steam while the existing boilers are taken out of service for repairs.

Permit #411-A, issued to Georgia-Pacific on May 27, 1977, permitted the installation of a venturi scrubber for the control of lime dust emissions from the lime slaker and lime handling system at the mill.

Permit #597-A, issued to Georgia-Pacific on March 6, 1980, permitted the installation of new equipment in the pulping and power utility areas. In the pulping area the 8R Recovery Furnace, the No. 4 Lime Kiln, a set of evaporators, new digesters and new washers were installed. In the power utility area two wood fire boilers each equipped with a multiclone and a venturi scrubber were installed.

Permit #597-AR-1 was issued on July 23, 1982. It was modified by Permit #597-AR-2, issued on November 1, 1984. Permit #597-AR-2 superseded all previously issued air permits. Permit #597-AR-2 allowed Georgia-Pacific to convert a recovery furnace to a power boiler, the 10A Boiler. This was a major modification of a major stationary source and therefore was subject to PSD review. Only NO_x and CO became subject to the PSD requirements because of reductions in all the other pollutants. Modeling predicted that the ambient air concentrations due to the increase in NO_x and CO emission would be less than the de minimis levels. Therefore, preconstruction ambient air monitoring was not required.

Permit #597-AR-3 was issued to Georgia-Pacific on August 18, 1988. Emission limits for the 10A Boiler, 8R Recovery Furnace and the No. 4 Lime Kiln were revised as the result of testing. Permit #597-AR-4 was issued on July 11, 1989. Expansions at the bleach plant were permitted.

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Permit #597-AR-5 was issued to Georgia-Pacific on March 18, 1993. This permit included sources at the mill that were not previously permitted. It allowed Georgia-Pacific to burn Tire Derived Fuel (TDF), other scrap rubber products and Refuse Derived Fuel (RDF) in the 10A and 9A Boilers. In addition, a new hardwood brownstock washer system was installed to replace the existing drum washers installed in 1968.

Georgia-Pacific was issued a Prevention of Significant Deterioration (PSD) permit, Permit #1449-A, on May 18, 1993. Stack testing of the 8R Recovery Furnace showed that the current permitted emission rate for NO_x was not attainable. The allowable emission rate of NO_x from the 8R Recovery Furnace was increased by 402.1 tons per year, thus triggering PSD review. Permit #597-AOP-R0, issued on February 28, 1997, was the first operating air permit issued to Georgia-Pacific Corporation Crossett Paper Operations under Regulation #26. This permit incorporated sources that were not previously permitted. Some allowable emission rates were modified from the previous permit to reflect new emission factors, new test data and/or alternate fuel. This permit also incorporated the Prevention of Significant Deterioration (PSD) permit application submitted in relation to the installation of the new No. 8 Tissue Machine.

Permit #597-AOP-R1, issued on June 29, 1999, was the second Title V operating permit issued to Georgia-Pacific Corporation --Crossett Paper Operations under Regulation #26. The changes in this permit were solely related to air pollutant emission rates and did not affect the Mill's production limits established in the original Title V permit. One purpose of this modification was to address the requirements of a CAO regarding carbon monoxide emissions from the Bleach Plant Scrubber (SN-30). Due to a lack of industry or regulatory information suggesting otherwise, carbon monoxide emissions from the bleach plant were not included in Permit #597-AOP-R0. Specific Condition #73 of that permit required Georgia-Pacific to test for carbon monoxide emissions from SN-30. The required stack testing was performed on September 24, 1997. Emission rates were derived from the stack tests and were added to the permit. On February 15, 1999, revised versions of Regulations #18 and #19 became effective. All regulatory citations in the permit were changed in 597-AOP-R1 to reflect the new regulations. Compliance demonstrations for all opacity limits have been added to the permit. Opacity demonstrations include, but are not limited to, daily or weekly observations and monitoring of control equipment operating parameters. The compliance demonstrations for all emission limits have been specifically identified in the permit. Applicable provisions of NSPS and NESHAP Subparts have been written into the permit.

The second purpose of this modification was to address the addition of pollution control equipment to comply with the requirements of 40 CFR Part 63 Subpart S -- National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry (NESHAP Subpart S or Cluster Rule). This modification qualified as a Pollution Control Project (PCP), and thus the new point source (an Incinerator, SN-83) was exempt from PSD.

Section 19.8 of Regulation #19 provides that the Lime Kiln at GP Crossett should have a TRS emission limit of 8 ppm. Because a source limited to 5 ppm was routed to the Lime Kiln, the lime kiln was assigned a 5 ppm limit. 597-AOP-R1 stipulated that once the HVLC system was

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outed to collect the emissions from the 5 ppm source, the emission rate for the Lime Kiln could be raised back to 8 ppm. This change has been completed.

597-AOP-R2 was finalized on December 14, 1999. A typographical error was made in a previous permit application which listed the minimum scrubbing liquid flow rate to the #4 tissue machine scrubber (SN-67) as 300 gpm. The actual minimum scrubber flow rate was 70 gpm. Note that the #4 and #5 tissue machine scrubbers are similar and that the #5 tissue machine minimum scrubbing flow rate was also 70 gpm. There was no emission increase associated with this minor modification.

On March 29, 1999, EPA Region 6 issued GP Crossett Paper Operations a NOV addressing the failure to install a continuous opacity monitor for SN-03, the 10A boiler. The current permit will be revised, in a timely manner, to assure compliance with any new applicable requirements resulting from the resolution of this issue.

597-AOP-R3 was finalized on December 14, 2001. This modification, which required PSD review, allowed the Crossett Mill to add the No. 9 Machine to produce tissue and towel. The No. 9 Machine was projected to have a production capacity of 250 Machine Dried Tons of paper (MDT) per day. The installation included the machine itself along with associated stock preparation and converting equipment. The proposed modification exceeded the PSD significant rate thresholds for PM₁₀, VOC, CO, and NO_x.

597-AOP-R4 was finalized on November 12, 2003. The Georgia-Pacific Crossett - Paper Operations facility renewed their Title V permit and included CAM requirements for SN-03, SN-22, SN-50, SN-81, and SN-83. Also included with the renewal permit were four modifications, two of which were minor.

The first modification was to rebuild a Repulper (SN-93) damaged by a fire. The second minor modification involved the installation of an additional electrostatic treater and associated burner to the No. 8 Extruder, SN-71.

Previous to this modification, particulate emissions for the incinerator were underestimated. The assumed stack gas temperature and moisture content were also assumed incorrectly. In addition, the scrubber removal efficiency for particulate was actually 93% instead of 95% as stated in the application. Air Permit 597-AOP-R4 corrected these values.

Carbon monoxide emissions from the bleach plant, resulting from the converting of bleaching operations to elemental chlorine free (ECF) bleaching, were also previously underestimated. The new permit acknowledged that the source required a permitted increase of 242.6 tons of CO per year. Limited data was available at the time of the modification to illustrate any potential increase in CO emissions and none was assumed. The bleach plant conversion was part of a modification which included a PCP (Pollution Control Project) involving an incinerator (SN-83). Both of these changes allowed the facility to comply with Cluster Rule requirements.

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597-AOP-R5 was finalized on November 12, 2003. The permit was modified to include applicable requirements of NESHAP Subpart MM - National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Sulfite, and Stand-Alone Semichemical Pulp Mills. Affected sources include Smelt Dissolving Tank (East and West, SN-27A and B), the No. 4 Lime Kiln (SN-25), and the 8R Recovery Furnace (SN-26). The permitted particulate emissions at the lime kiln were reduced to comply with the standards of the subpart. The current controls at SN-25, as indicated by stack test data, were sufficient to comply with the more stringent PM emission limit. The permitted particulate emission rate at SN-25 was decreased by 20.5 tons per year. Permitted limits, at the time, were sufficient to meet the established standards set forth in the subpart for the recovery furnace and smelt dissolving tanks.

597-AOP-R6 was finalized on May 31, 2005. The facility modified their permit in order to allow for the relaxation of the O₂ limits for the 10A Boiler (SN-03) during periods of startup, shutdown, and malfunction. There is no actual or permitted emission increase as a result of this modification.

Furthermore, two activities were added to the Insignificant Activity list. First, the baghouse for the Perini Towel Rewinder and Spectrum Towel Printer has been included as an A-13 activity. The Spectrum Towel Printer, which uses inks of low weight percent VOC and no HAPs, were also added as an A-13 activity.

597-AOP-R7 was finalized on December 5, 2005. An allowance to the permit was added for the continued operation of the No. 4 Tissue Machine (SN-66) during the repair of its dust control equipment (SN-67). This allowance has been granted to the facility's other paper machines since the renewal permit.

597-AOP-R8 was finalized May 12, 2006. This revision allowed the facility to modify nine of their Digesters (SN-59) by replacing the six-inch blow valves with eight-inch valves. The modification resulted in an increase in hardwood pulp production of approximately 50 tons per day. The facility is also requested the ability to receive 1.5% sulfur fuel oil while still keeping a 1.0% sulfur average on a 30-day basis. This change affected SN-19, SN-22, SN-25, and SN-26. The facility is also recalculated both criteria and non-criteria pollutants from many of their permitted sources. This recalculation has resulted in a significant drop in annual permitted rates for most criteria pollutants. Several small, existing sources were added to the permit, which were overlooked in the initial and renewal permits: A and B Side Causticizers (SN-98 and 99), White Liquor Storage Tanks (SN-100), and the 9A and 10A Boiler Bark Transfer systems (SN-101 and SN-102). The facility has also requested to remove the No. 9 Paper Machine sources, SN-84 through SN-92 from the permit. The machine was never installed.

597-AOP-R9 was finalized on April 2, 2007. This revision was to incorporate the provisions of the Health-Based Compliance Alternatives for Manganese for Total Selected Metals (TSM), contained within Appendix A to 40 CFR 63, Subpart DDDDD—National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters.

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597-AOP-R10 was finalized on April 2, 2007. This PSD revision was submitted for replacement of the economizer section of the 8R Recovery Furnace; installation of steam boxes on Machines 6, 7 and 8; upgrades and changes in the causticizing area; and modifications to the pine and hardwood screen rooms.

597-AOP-R11 was finalized on November 1, 2007. This modification was for the replacement of the No. 6 Tissue Machine Burners (SN-48). The facility replaced the existing Hauck burners with Maxon burners rated at 20.5 MMBTU/hr each. With this revision, the PM/PM₁₀ and VOC BACT limits for the No. 6 Tissue Machine decreased. SO₂, CO, NO_x factors and associated BACT limits remained unchanged. In addition to this modification, the Health Based Compliance conditions for the Boiler MACT (NESHAP DDDDD) were removed since that subpart has been vacated.

597-AOP-R12 was finalized on May 5, 2008. This modification was to revise CAM parameters for the 10A (SN-03) and 9A (SN-22) Boilers. The facility, in future testing events, must operate the scrubbers at these sources at the minimum CAM parameters. The facility has also applied for a minor modification to allow for an alternative operating scenario for maintenance on the scrubbers associated with the 10A (SN-03) and 9A (SN-22) Boilers. This condition is similar to the conditions established for monitoring of scrubber parameters on the dust collection systems for the Tissue Machines.

SECTION IV: SPECIFIC CONDITIONS

SN-03 10A Boiler

Source Description

The 10A Boiler is capable of firing woodwaste, refuse derived fuel (RDF), agriculture derived fuel (ADF), tire derived fuel (TDF) and natural gas. A woodwaste storage pile is associated with the 10A Boiler. Woodwaste consists of bark, wood scraps, wax coated paper, wax coated cardboard, wax coated sawdust, creosote treated railroad crossties and paper pellets (waste paper and wax paper). The majority of the woodwaste for the boiler is delivered by truck and occasionally by rail. It is then transferred by conveyors to either the 9A or the 10A woodwaste storage pile.

RDF and ADF are directly added to the chip piles. RDF consists of pelletized paper, lawn clippings and similar materials. TDF and other scrap rubber products are stored in segregated piles near the woodwaste piles. TDF is loaded several times a day by a front end loader into feeder bins in the vicinity. These solid fuels are then fed onto a conveyor system and delivered to the boilers. ADF consists of, but is not limited to, corn cobs, shucks, and vegetable starch.

The 7R Recovery Boiler was originally constructed in 1968. In 1984 it was converted to the 10A Boiler. The 10A Boiler (SN-03) is a 1001 million Btu per hour combination fuel boiler used to generate steam. This boiler is equipped with a wet venturi scrubber.

The 10A Boiler can operate under three different operating scenarios. The boiler can fire up to 1001 million Btu per hour of which only 669 million Btu per hour can be from natural gas. The first fuel firing scenario consists of the 10A Boiler burning just natural gas. The second fuel firing scenario consists of the 10A Boiler burning a combination of fuels none of which is natural gas. The third fuel firing scenario consists of the 10A Boiler burning a combination of fuels of which the contribution of natural gas cannot exceed 669 million Btu per hour.

The 10A boiler is subject to NSPS Subpart D- *Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced after August 17, 1971*. Monitoring of NO_x is not required since the results of a performance test showed emissions of less than 70% of the applicable standard (40 CFR 60.45 (b)(3)). Monitoring of SO₂ is not required under 40 CFR 60.45(b)(1). The CO and NO_x emissions from this boiler are regulated under PSD.

Specific Conditions

1. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #14 through #18. [Regulation No. 19 §19.501 et seq. and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	ton/yr
SO ₂	21.0	92.0
VOC	17.1	74.6
Pb	0.06	0.26

2. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #9 and #14 through #18. [§19.304, §19.501 et seq. and §19.901 of Regulation #19, 40 CFR Part 52 Subpart E, and 40 CFR §60.44]

Pollutant	lb/hr	ton/yr
Scenario #1: Natural gas only (669 MMBtu/hr)		
NO _x	133.8	586.1
	0.2 lb/MMBtu	
Scenario #3: Natural gas and any combination of woodwaste, sludge, TDF, RDF & ADF (1001 MMBtu/hr)		
NO _x	300.3	1,315.4
	0.3 lb/MMBtu	

3. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #9 and #14 through #18. [§19.501 et seq. and §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]

Pollutant	lb/hr	ton/yr
Scenario #1: Natural gas only (669 MMBtu/hr)		
CO	133.8	586.1
	0.2 lb/MMBtu	
Scenario #2: Any combination of woodwaste, sludge, TDF, RDF & ADF (1001 MMBtu/hr)		
NO _x	500.5	2,192.2
	0.5 lb/MMBtu	
CO	600.6	2,630.7
	0.6 lb/MMBtu	
Scenario #3: Natural gas and any combination of woodwaste, sludge, TDF, RDF & ADF (1001 MMBtu/hr)		
CO	600.6	2,630.7
	0.6 lb/MMBtu	

4. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #9, #14 through #18, and #21. [§19.304 and §19.501 et seq. of Regulation #19, 40 CFR Part 52 Subpart E, and 40 CFR §60.42]

Pollutant	lb/hr	ton/yr
Scenario #1: Natural gas only (669 MMBtu/hr)		
PM	66.9	293.1
PM ₁₀	0.1 lb/MMBtu	
Scenario #2: Any combination of woodwaste, sludge, TDF, RDF & ADF (1001 MMBtu/hr)		
Scenario #3: Natural gas and any combination of woodwaste, sludge, TDF, RDF & ADF (1001 MMBtu/hr)		
PM	100.1	438.5
PM ₁₀	0.1 lb/MMBtu	

5. The 10A Boiler shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #14 through #18. [§18.801 of Regulation #18 and A.C.A. §8-4 203 as referenced by §8-4 304 and §8-4 311]

Pollutant	lb/hr	tpy
Acetaldehyde	0.28	1.22
Acetophenone	0.01	0.01
Acetone	0.3	1.1
Acrolein	0.10	0.42
Arsenic	0.01	0.02
Benzene	0.33	1.43
Beryllium	0.01	0.01
Cadmium	0.01	0.01
Carbon Disulfide	0.16	0.69
Carbon Tetrachloride	0.01	0.01
Chloroform	0.05	0.20
Chromium, Hex	0.01	0.04

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Pollutant	lb/hr	tpy
Cobalt	0.01	0.01
Cumene	0.03	0.10
2,4-Dinitrotoluene	0.01	0.01
Ethylene Dichloride	0.04	0.16
Formaldehyde	0.86	3.74
Hexane	1.57	6.84
Hexachlorobenzene	0.01	0.01
Hydrogen Chloride	0.19	0.79
Manganese	0.05	0.22
Mercury	0.01	0.01
Methanol	1.04	4.53
Methylene Chloride	0.43	1.85
Naphthalene	0.13	0.53
Nickel	0.01	0.03
Phenol	0.02	0.05
Phosphorus	0.12	0.53
Propionaldehyde	0.08	0.33
Propylene Dichloride	0.04	0.18
POM	0.30	1.30
Selenium	0.01	0.02
Styrene	0.04	0.17
Tetrachloroethylene	0.07	0.28
Toluene	0.04	0.15
Vinyl Chloride	0.03	0.10
Xylene	0.03	0.12

Opacity

6. When operating under any scenario, the permittee shall not cause to be discharged to the atmosphere from the 10A Boiler gases which exhibit opacity greater than 20% except for one six-minute period per hour of not more than 27% opacity. [§19.304 of Regulation #19 and 40 CFR §60.42(a)(2)]

When operating under Scenario #1, the permittee shall not cause to be discharged to the atmosphere from the 10A Boiler gases which exhibit opacity greater than 5%. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

7. The permittee shall conduct weekly observations of the opacity at SN-03. Observations shall be conducted by personnel familiar with the permittee's visible emissions and certified in the EPA Reference Method 9. If visible emissions in excess of the permitted opacity are detected, the permittee shall take immediate action to identify the cause of the visible emissions, implement all necessary corrective action, and reassess the visible emissions after corrective action is taken. The permittee shall maintain records related to all Method 9 Readings, to be updated on a weekly basis. The records shall contain the date and time of each observation/reading, the cause of any observed exceedance of opacity limits, corrective action taken, and results of the reassessment, and the name of the person conducting the observation/reading. The records shall be kept on site and made available to Department personnel upon request. [§19.705 of Regulation 19, Alternative Monitoring exemption of NSPS D, and 40 CFR Part 52, Subpart E]
8. The permittee may, in the event of maintenance on the 10A Boiler (SN-03) scrubber system, continue to operate the boiler without the scrubber for a period of time not to exceed 24 hours. During these events, natural gas will replace all other permitted fuels in the boiler. Woodwaste or any other permitted fuel, with the exception of natural gas, fed to the boiler will be stopped at least one hour before the scrubber is taken offline. If the event lasts longer than 6 hours, a Method 9 opacity reading is required as soon as possible during daylight hours. A log of these maintenance events will be kept which includes date, starting and ending times of event, reason for maintenance, and results of any opacity checks. The permittee shall notify the Department of the event once the scrubber is operational. [§19.703 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

NSPS D

9. The 10A Boiler (SN-03) is subject to and shall comply with all applicable provisions of 40 CFR Part 60 Subpart D- *Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971*, because it burns natural gas, was constructed after August 17, 1971, and is greater than 250 million Btu per hour.

- a. The permittee shall not cause to be discharged into the atmosphere gases which contain particulate matter in excess of 0.10 lb per million Btu derived from gaseous fossil fuel of fossil fuel and wood residue. [§19.304 of Regulation #19 and 40 CFR §60.42(a)(1)]
- b. Compliance with the sulfur dioxide standard shall be based on the total heat input from all fossil fuels burned, including gaseous fuels. [§19.304 of Regulation #19 and 40 CFR §60.43(c)]
- c. The permittee shall not cause to be discharged into the atmosphere gases which contain nitrogen oxides, expressed as NO₂, in excess of 0.20 lb per million Btu derived from gaseous fossil fuel. [§19.304 of Regulation #19 and 40 CFR §60.44(a)(1)]
- d. The permittee shall not cause to be discharged into the atmosphere gases which contain nitrogen oxides, expressed as NO₂, in excess of 0.30 lb per million Btu derived from gaseous fossil fuel and wood residue. [§19.304 of Regulation #19 and 40 CFR §60.44(a)(2)]
- e. The permittee shall install, calibrate, maintain, and operate continuous monitoring systems for measuring opacity and either oxygen or carbon dioxide. In an Alternative Monitoring exemption granted by the EPA in 1999, the facility is not required to install a continuous monitoring system for opacity provided the facility conducts periodic testing, scrubber parameter monitoring, and weekly opacity observations. This exemption is included in Appendix F. [§19.304 of Regulation #19 and 40 CFR §60.45(a)]
- f. The permittee shall submit excess emission and monitoring system performance reports to the Department for every calendar quarter to the address specified in General Provision 7. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter. Each excess emission and MSP report shall include the information required in 40 CFR §60.7(c). [§19.304 of Regulation #19 and 40 CFR §60.45(g)]
- g. The permittee shall use as reference methods and procedures the test methods in Appendix A of this part or other methods and procedures as specified in this section, except as provided in 40 CFR §60.8(b) in conducting the performance tests required in 40 CFR §60.8. [§19.304 of Regulation #19 and 40 CFR §60.46(a)]

CEM Requirements

- 10. The permittee shall operate the Continuous Emission Monitor (CEM) for CO using O₂ monitoring on the 10A Boiler in accordance with the Department Continuous Emission Monitoring Systems Conditions (Appendix A) and the applicable Performance Standards

of 40 CFR Part 60 Appendix B. [§19.703 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

11. The permittee shall properly maintain and operate the following existing continuous monitoring instrumentation: O₂, pressure drop across the scrubber and the liquid flow rate of the scrubber at the 10A Boiler (SN-03). [§19.703 and §19.901 Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
12. All continuous monitoring data for O₂ may, at the discretion of the Department, be used to determine violations of NO_x or CO emissions limits. Continuous monitoring data shall be used to demonstrate compliance with the three different fuel firing scenarios of the 10A Boiler. [§19.703 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
13. Compliance with the NO_x and CO limits for the 10A Boiler shall be demonstrated by monitoring flue gas O₂ and maintaining the hourly average percent O₂ within the following limits when the steam flow is greater than 100,000 pounds per hour (at actual stack gas moisture contents) and fuel is being fired :
 - a. Full load on natural gas and any combination of woodwaste, sludge, RDF, TDF and ADF: not less than 2.0% nor more than 7.5% O₂
 - b. Reduced load (100,000 to 400,000 pounds per hour steam) on natural gas and any combination of woodwaste, sludge, RDF, TDF and ADF: not less than 2.2% not more than 8.0% O₂
 - c. Full load on gas only: not less than 1.5% nor more than 6.0% O₂
 - d. Reduced load (100,000 to 400,000 pounds per hour steam) on gas only: not less than 1.5% nor more than 4.5% O₂

[§19.703 and §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]

The above limits for gas shall not apply when firing gas only for periods of two consecutive hours or less due to an unscheduled outage of woodwaste feed, instead, the above limits for natural gas and any combination of woodwaste, sludge, RDF, TDF and ADF shall apply. Records shall be kept of each unscheduled outage. An operation outside of these average limits shall constitute noncompliance with this Specific Condition and shall be reported quarterly along with excess emissions. The permittee shall maintain records of all flue gas O₂ for the 10A Boiler, including those readings which are to be excluded from the hourly average due to steam flow and fuel firing requirements. The permittee shall make these records available to Department personnel upon request.

Fuel Requirements

14. The permittee may use as fuel in the 10A Boiler, TDF, ADF, RDF, woodwaste, sludge, and natural gas. RDF is defined as pelletized paper, lawn clippings, or similar materials. Creosote treated railroad crossties shall not constitute more than 22.5% of the fuel requirement of the 10A Boiler. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]
15. The permittee shall not burn in excess of 669 thousand standard cubic feet (scf) of natural gas per hour and 5860.5 million scf of natural gas per twelve consecutive months in the 10A Boiler (SN-03). [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]
16. The permittee shall not burn in excess of 100 pounds of TDF per minute in the 10A Boiler (SN-03). [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]
17. The permittee shall not burn in excess of 250 tons of RDF per day in the 10A Boiler. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]
18. The permittee shall not burn in excess of 62.5 BDT sludge per hour in the 10A Boiler. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]
19. The permittee shall maintain records which demonstrate compliance with Specific Conditions #14, #15, #16, #17, and #18. The permittee shall maintain records of the types and quantities of fuels being used in the 10A Boiler. These records, in combination with the most recent stack tests, shall be sufficient to demonstrate compliance with the three fuel firing scenarios of the 10A Boiler. The records shall be updated on a monthly basis. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. A twelve month total and each month's individual fuel usage data shall be submitted to the Department in accordance with General Provision #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]
20. Prior to combustion of the mill's wastewater treatment sludge in the 10A Boiler, the permittee shall submit a notification to the Department concerning the applicability of 40 CFR 61 Subpart E - National Emission Standard for Mercury, and if applicable, submit a permit modification to incorporate the requirements of this subpart into the current Title V Air Permit. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]

CAM

21. The 10A Boiler (SN-03) is subject to and shall comply with all applicable provisions §19.304 of Regulation 19, 40 CFR Part 52 Subpart E, and Part §64.6 for Compliance Assurance Monitoring. Post control of particulate emissions from SN-03 is above major source levels.
 - a. The permittee shall maintain a scrubber liquid flow rate of at least gallons 2,572 per minute. [40 CFR Part §64.6(c)(1)]
 - b. The permittee shall maintain a gas pressure drop of at least 6.48 inches of water. [40 CFR Part §64.6(c)(1)]
 - c. The permittee shall monitor and maintain records at least every 15 minutes of the parameters in Specific Condition #21 (A) and (B). Compliance shall be based upon a 3-hr average. Records shall be kept onsite and made available to the Department upon request. [40 CFR Part §64.6(c)(3)]
 - d. The permittee shall maintain the scrubber in good working condition at all times so that pollutant removal is maintained. [40 CFR Part §64.6(c)(1)]
22. The 10A Boiler (SN-03) is subject to and shall comply with all applicable provisions §19.304 of Regulation 19, 40 CFR Part 52 Subpart E, and Part §64.9 for Compliance Assurance Monitoring. The following information pertaining to exceedances or excursions from permitted values shall be submitted in semi-annual reports in accordance with General Provision #7 as outlined in 40 CFR §70.6.
 - a. The permittee shall maintain records for SN-03 that summarizes the number, duration, and cause of excursions or exceedances of emission limits as well as corrective action taken. [40 CFR §64.9(a)(2)(i) and §64.9(b)]
 - b. The permittee shall maintain records for SN-03 that summarizes the number, duration, and cause of monitoring equipment downtime incidents, other than routine downtime for calibration checks. [40 CFR §64.9(a)(2)(ii) and §64.9(b)]
 - c. The permittee shall maintain a quality improvement plan (QIP) threshold for each indicator of no more than nine excursions or 5% of the daily averages in a six-month period. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]
 - d. The permittee shall develop and implement a new QIP if the threshold is exceeded during any six-month period. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]
 - e. The permittee shall maintain records for SN-03 that describes the actions taken to implement the QIP. Upon completion of the QIP, documentation shall be

maintained to confirm that the plan was completed and reduced the likelihood of similar excursions or exceedances. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]

Testing Requirements

23. The permittee shall annually test particulate matter emissions from the 10A Boiler (SN-03) using EPA Reference Method 5 with inclusion of back half sampling train particulate. The permittee shall test at the minimum scrubber parameters of Specific Condition 21. Results from the Method 5 test shall be compared to the NSPS limit of 0.1 lb/MMBTU for compliance purposes. The testing shall be conducted using a representative fuel mixture. The proportions of each permitted fuel in the representative fuel mixture shall be based upon the month during which the fuel that generates the highest particulate matter emissions was used in greatest proportion. During the test the permittee shall operate the boiler within 10 percent of the rated throughput capacity. If 90 percent of the rated throughput capacity cannot be achieved, the permittee shall be limited to 10 percent over the actual tested throughput. The permittee shall reference this limitation in any compliance reports submitted to the Department. [§19.702 of Regulation #19, Alternative Monitoring exemption of NSPS D, and 40 CFR Part 52 Subpart E]
24. The permittee shall test sulfur dioxide emissions from the 10A Boiler (SN-03) every five years. Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 6. The testing shall be conducted using the maximum TDF firing rate. During the test the permittee shall operate the boiler within 10 percent of the rated throughput capacity. If 90 percent of the rated throughput capacity cannot be achieved, the permittee shall be limited to 10 percent above the actual tested throughput. The permittee shall reference this limitation in any compliance reports submitted to the Department. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]

SN-18
5A Boiler

Source Description

The 5A Boiler (SN-18) is a 220 million Btu per hour boiler. The boiler is only permitted to burn natural gas. The 5A Boiler was manufactured in 1953 and has never been modified. Therefore it is not subject to NSPS regulations.

Specific Conditions

25. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #28. [Regulation No. 19 §19.501 et seq. and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM ₁₀	2.1	8.8
SO ₂	0.2	0.7
VOC	1.5	6.4
CO	22.2	97.2
NO _x	74.0	323.8
Pb	0.01	0.01

26. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #28. [Regulation No. §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	2.1	8.8
Arsenic	0.01	0.01
Benzene	0.01	0.01
Cadmium	0.01	0.01
Cobalt	0.01	0.01
Formaldehyde	0.02	0.09

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Pollutant	lb/hr	tpy
Hexane	0.48	2.09
Manganese	0.01	0.01
Mercury	0.01	0.01
Naphthalene	0.01	0.01
Nickel	0.01	0.01
POM	0.01	0.01
Toluene	0.01	0.01

Opacity

27. The permittee shall not cause to be discharged to the atmosphere from the 5A Boiler gases which exhibit opacity greater than 5%. Compliance with this opacity limit shall be the use of natural gas only. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Fuel Requirements

28. Natural gas may only be used as fuel in the 5A Boiler. [§18.1004 of Regulation #18, §19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

SN-19
6A Boiler

Source Description

The 6A Boiler (SN-19) is a 357 million Btu per hour boiler. The 6A Boiler was manufactured in 1962 and has never been modified. Therefore it is not subject to NSPS regulations. The 6A Boiler can use natural gas as fuel.

Specific Conditions

29. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #32. [Regulation No. 19 §19.501 et seq. and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM ₁₀	3.3	14.3
SO ₂	0.3	1.2
VOC	2.4	10.4
CO	36.0	157.7
NO _x	120.0	525.4
Pb	0.01	0.01

30. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #32. [Regulation No. §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	3.3	14.3
Arsenic	0.01	0.01
Benzene	0.01	0.01
Cadmium	0.01	0.01
Cobalt	0.01	0.01
Formaldehyde	0.04	0.15

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Pollutant	lb/hr	tpy
Hexane	0.78	3.38
Manganese	0.01	0.01
Mercury	0.01	0.01
Naphthalene	0.01	0.01
Nickel	0.01	0.01
POM	0.01	0.01
Toluene	0.01	0.01

Opacity

31. The permittee shall not cause to be discharged to the atmosphere from the 6A Boiler gases which exhibit opacity greater than 5%. Compliance with this opacity limit shall be the use of natural gas only. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Fuel Requirements

32. Natural gas may only be used as fuel in the 6A Boiler. [§18.1004 of Regulation #18, §19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

SN-22
9A Boiler

Source Description

The 9A Boiler is a 720 million Btu per hour combination fuel boiler used to generate steam. The source is equipped with a wet venturi scrubber. The boiler may serve as backup combustion unit during times when the incinerator (SN-83) is offline.

The 9A Boiler is capable of firing tire derived fuel (TDF), agriculture derived fuel (ADF), refuse derived fuel (RDF), non-condensable gases (NCGs), woodwaste, specification grade oil, natural gas and sludge. A woodwaste storage pile is associated with the 9A Boiler. Woodwaste consists of bark, wood scraps, wax coated paper, wax coated cardboard, wax coated sawdust, creosote treated railroad crossties and paper pellets (waste paper and wax paper). Bark from the debarker in the Woodyard is pneumatically transferred to the 9A pile. A cyclone is located at the end of the pneumatic transfer line to control particulate matter emissions. The majority of the woodwaste is delivered by truck and occasionally by rail. It is then transferred by conveyors to either the 9A or the 10A woodwaste storage pile.

RDF, ADF and sludge are directly added to the chip piles. RDF consists of pelletized paper, lawn clippings and similar materials. TDF and other scrap rubber products are stored in segregated piles near the woodwaste piles. TDF is loaded several times a day by a front end loader into feeder bins in the vicinity. These solid fuels are then fed onto a conveyor system and delivered to the boilers. ADF consists of, but is not limited to, corn cobs, shucks, and vegetable starch.

Specification grade oil consists of new oil, used oil, used oil absorbent material and pitch from the production of tall oil. Used oil absorbent material shall include used oil filter paper, used rags, sorbant booms, etc. that meet the specification grade oil criteria (40 CFR 279.11).

Specific Conditions

33. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #43, #47, #48, #49, #50, and #53. [Regulation No. 19 §19.501 et seq. and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM ₁₀	77.4	339.0
SO ₂	199.8	484.6
VOC	11.3	49.5
CO	366.8	1,606.7

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Pollutant	lb/hr	tpy
NO _x	196.0	858.6
Pb	0.03	0.14

34. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #43, #47, #48, #49, #50, and #53. [Regulation No. §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	77.4	339.0
Acetaldehyde	0.13	0.57
Acetophenone	0.01	0.01
Acetone	0.2	0.5
Acrolein	0.04	0.19
Arsenic	0.01	0.03
Benzene	0.15	0.68
Beryllium	0.01	0.01
Cadmium	0.01	0.01
Carbon Disulfide	0.07	0.32
Carbon Tetrachloride	0.01	0.01
Chloroform	0.02	0.09
Chromium, Hex	0.01	0.02
Cobalt	0.02	0.06
Cumene	0.01	0.05
2,4-Dinitrotoluene	0.01	0.01
Ethylene Dichloride	0.02	0.07
Formaldehyde	0.47	2.06
Hexane	1.56	6.81
Hexachlorobenzene	0.01	0.01

Pollutant	lb/hr	tpy
Hydrogen Chloride	0.13	0.57
Manganese	0.03	0.13
Mercury	0.01	0.01
Methanol	0.49	2.15
Methylene Chloride	0.20	0.87
Naphthalene	0.06	0.26
Nickel	0.18	0.75
Phenol	0.01	0.03
Phosphorus	0.08	0.33
Propionaldehyde	0.04	0.15
Propylene Dichloride	0.02	0.09
POM	0.14	0.63
SAM	3.6	10.4
Selenium	0.01	0.02
Styrene	0.02	0.08
Tetrachloroethylene	0.03	0.13
Toluene	0.02	0.11
Vinyl Chloride	0.01	0.05
Xylene	0.01	0.02

Opacity

35. For all fuel scenarios except natural gas only, the permittee shall not cause to be discharged to the atmosphere from the 9A Boiler, gases which exhibit opacity greater than 20%. Emissions not exceeding 60% opacity will be allowed for six (6) minutes in any consecutive 60-minute period and no more three (3) times during any 24-hour period. [§19.503 of Regulation #19 and 40 CFR Part 52 Subpart E]

When operating using natural gas only, the permittee shall not cause to be discharged to the atmosphere from the 9A Boiler gases which exhibit opacity greater than 5%. Compliance with this limit shall be use of natural gas only. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

36. For all fuel scenarios except natural gas only, the permittee shall conduct daily observations of the opacity at SN-22. Observations shall be conducted by personnel familiar with the permittee's visible emissions. If visible emissions in excess of the permitted opacity are detected, then a Method 9 reading is required. The permittee shall then take immediate action to identify the cause of the visible emissions, implement all necessary corrective action, and reassess the visible emissions after corrective action is taken. The permittee shall maintain records related to all observations/readings, to be updated on a daily basis. The records shall contain the date and time of each observation/reading, the cause of any observed exceedance of opacity limits, corrective action taken, and results of the reassessment, and the name of the person conducting the observation/reading. The records shall be kept on site and made available to Department personnel upon request. [§19.705 of Regulation 19 and 40 CFR Part 52, Subpart E]
37. SN-22, as a wood fired boiler, shall meet all visible emissions of this chapter except that visible emissions may exceed the permitted opacity for up to 45 minutes once in any consecutive 8 hour period, three times in any consecutive 24 hour period for soot blowing, grate cleaning, ash raking, and refiring necessary for proper operation of these units. This practice is to be scheduled for the same specific time each day and shall be recorded. The Department shall be notified in advance and in writing of the schedule or any changes. The process of soot blowing, grate cleaning, ash raking, and refiring or any part thereof is considered one activity and the time limit on this activity is 45 minutes. [§18.501(A)(4) of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
38. The permittee may, in the event of maintenance on the 9A Boiler (SN-22) scrubber system, continue to operate the boiler without the scrubber for a period of time not to exceed 24 hours. During these events, natural gas will replace all other fuels in the boiler. Woodwaste or any other permitted fuel, with the exception of natural gas, fed to the boiler will be stopped at least one hour before the scrubber is taken offline. If the event lasts longer than 6 hours, a Method 9 opacity reading is required as soon as possible during daylight hours. A log of these maintenance events will be kept which includes date, starting and ending times of event, reason for maintenance, and results of any opacity checks. The permittee shall notify the Department of the event once the scrubber is operational. [§19.703 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

CEM Requirements

39. The Continuous Emission Monitor (CEM) for CO using O₂ monitoring on the 9A Boiler shall be operated in accordance with the Department Continuous Emission Monitoring Systems Conditions (Appendix A) and the applicable Performance Standards of 40 CFR Part 60 Appendix B. [§19.703 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

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40. The permittee shall properly maintain and operate the following existing continuous monitoring instrumentation: O₂, pressure drop across the scrubber and liquid supply flow at the 9A Boiler. [§19.703 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
41. Continuous monitoring data from the continuous monitoring instrumentation listed in Specific Condition #40 may, at the discretion of the Department, be used to determine violations of the emissions limits or conditions of this permit. [§19.703 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
42. Compliance with the CO limit for the 9A Boiler shall be demonstrated by monitoring flue gas O₂ and maintaining the O₂ setpoint at not less than 2.0% O₂ (dry basis). Any operation outside this hourly average limit shall constitute noncompliance with this Specific Condition. The permittee shall maintain records of flue gas O₂ for the 9A Boiler and shall make them available to Department personnel upon request. These limits do not apply during startup and shutdown of the 9A Boiler. Startup and shutdown shall be defined as when the steam flow is less than 100,000 pounds per hour. [§19.703 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

CAM

43. The 9A Boiler (SN-22) is subject to and shall comply with all applicable provisions §19.304 of Regulation 19, 40 CFR Part 52 Subpart E, and Part §64.6 for Compliance Assurance Monitoring. Post control of particulate emissions from SN-22 is above major source levels.
 - a. The permittee shall maintain a scrubber liquid flow rate of at least 2,772 gallons per minute. [40 CFR Part §64.6(c)(1)]
 - b. The permittee shall maintain a gas pressure drop of at least 9.16 inches of water. [40 CFR Part §64.6(c)(1)]
 - c. The permittee shall monitor and maintain records at least every 15 minutes of the parameters in Specific Condition #43 (A) and (B). Compliance shall be based upon a 3-hr average. Records shall be kept onsite and made available to the Department upon request. [40 CFR Part §64.6(c)(3)]
 - d. The permittee shall maintain the scrubber in good working condition at all times so that pollutant removal is maintained. [40 CFR Part §64.6(c)(1)]
44. The 9A Boiler (SN-22) is subject to and shall comply with all applicable provisions §19.304 of Regulation 19, 40 CFR Part 52 Subpart E, and Part §64.9 for Compliance Assurance Monitoring. The following information pertaining to exceedances or

excursions from permitted values shall be submitted in semi-annual reports in accordance with General Provision 7 as outlined in 40 CFR §70.6.

- a. The permittee shall maintain records for SN-22 that summarizes the number, duration, and cause of excursions or exceedances of emission limits as well as corrective action taken. [40 CFR §64.9(a)(2)(i) and §64.9(b)]
- b. The permittee shall maintain records for SN-22 that summarizes the number, duration, and cause of monitoring equipment downtime incidents, other than routine downtime for calibration checks. [40 CFR §64.9(a)(2)(ii) and §64.9(b)]
- c. The permittee shall maintain a quality improvement plan (QIP) threshold for each indicator of no more than nine excursions or 5% of the daily averages in a six-month period. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]
- d. The permittee shall develop and implement a new QIP if the threshold is exceeded during any six-month period. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]
- e. The permittee shall maintain records for SN-22 that describes the actions taken to implement the QIP. Upon completion of the QIP, documentation shall be maintained to confirm that the plan was completed and reduced the likelihood of similar excursions or exceedances. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]

Fuel Requirements

45. The permittee may use the 9A Boiler as an alternate incinerator for NCGs and SOGs only during periods when the Incinerator (SN-83) or its associated control equipment is inoperative or undergoing maintenance. [§19.304 of Regulation #19 and 40 CFR §63.443(d)(4)]
46. Specification grade oils, natural gas, woodwaste, TDF, ADF, RDF and wastewater sludge may be used as fuel in the 9A Boiler. RDF is defined as pelletized paper, lawn clippings or other similar materials. Creosote treated railroad cross-ties shall not constitute more than 25% of the fuel requirement of the 9A Boiler. [§18.1004 of Regulation #18, §19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]
47. The permittee shall not burn in excess of 35 pounds per minute of TDF in the 9A Boiler. [§18.1004 of Regulation #18, §19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]
48. The permittee shall not burn in excess of 250 tons of RDF per day in the 9A Boiler. [§18.1004 of Regulation #18, §19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

49. The permittee shall not burn in excess of 45 BDT sludge per hour in the 9A Boiler. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]
50. The permittee shall not burn in excess of 200 tons of used oil absorbent material per month in the 9A Boiler. The used oil absorbent material shall meet the specification grade oil criteria found in 40 CFR §279.11. [§18.1004 of Regulation #18, §19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]
51. The permittee shall maintain records which demonstrate compliance with Specific Conditions #46, #47, #48, #49, and #50. The records shall be updated on a monthly basis. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. A twelve month total and each individual month's data shall be submitted in accordance with General Provision #7. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
52. The permittee shall not burn in excess of 353.3 gallons per hour of fuel oil in the 9A Boiler. The permittee shall maintain records demonstrating the amount of fuel oil burned on a monthly basis. If there is any fuel oil burned during a given month, the amount of oil burned on an hourly basis shall also be required for that month. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. A twelve month total and each individual month's data shall be submitted in accordance with General Provision #7. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
53. The sulfur content of the specification grade oils shall not exceed 1.5% by weight and 1.0% on a 30-day average. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]
54. Sulfur dioxide emission shall be determined through a mass balance based on incoming materials, worst-case firing of specification grade oil based on the limits in Condition #53, and periods where the source is used as an alternate incinerator. This mass balance shall be submitted to the Department in accordance with General Provision #7. [§19.703 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
55. Prior to combustion of the mill's wastewater treatment sludge in the 9A Boiler, the permittee shall submit a notification to the Department concerning the applicability of 40 CFR 61 Subpart E - National Emission Standard for Mercury, and if applicable, submit a permit modification to incorporate the requirements of this subpart into the current Title V Air Permit. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]

Testing Requirements

56. The permittee shall test particulate emissions from the 9A Boiler (SN-22) within 60 days of issuance of Permit #0597-AOP-R14, and annually thereafter until the facility conducts two successive annual tests. If both these annual tests are successful, then the facility may perform stack testing once every 5 years. If at any time the facility fails one of the 5-year tests, then the facility must conduct two successive annual tests. The test will not be considered successful if particulate emissions exceed 0.103 lb/MM Btu for maximum wood waste firing or if measured emissions exceeds the permitted limits. The test shall be performed using EPA Reference Method 5 with inclusion of back half sampling train particulate. The permittee shall test at the minimum scrubber parameters of Specific Condition 43. The permittee shall submit an application to correct emission rates, if corrections are necessary. During the test the permittee shall operate the boiler within 10 percent of the rated throughput capacity. If 90 percent of the rated throughout capacity cannot be achieved, the permittee shall be limited to 10 percent above the actual tested throughput. The permittee shall reference this limitation in any compliance reports submitted to the Department. [§18.1002 of Regulation #18, §19.702 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
57. The permittee shall test nitrogen oxides emissions from the 9A Boiler (SN-22) every five years. Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 7E as found in 40 CFR Part 60 Appendix A. The testing shall be done using a representative fuel mixture. The proportions of each permitted fuel in the representative fuel mixture shall be based upon the month during which the fuel that generates the highest nitrogen oxides emissions was used in greatest proportion. During the test the permittee shall operate the boiler within 10 percent of the rated throughput capacity. If 90 percent of the rated throughout capacity cannot be achieved, the permittee shall be limited to 10 percent above the actual tested throughput. The permittee shall reference this limitation in any compliance reports submitted to the Department. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]
58. The permittee shall test sulfur dioxide emissions from the 9A Boiler (SN-22) within 60 days of issuance of Permit #0597-AOP-R14, and annually thereafter until the facility conducts two successive annual tests. If both these annual tests are successful, then the facility may perform stack testing once every 5 years. If at any time the facility fails one of the 5-year tests, then the facility must conduct two successive annual tests. The test will not be considered successful if sulfur dioxide emissions exceed 1.03 lb /MMBtu or if measured emissions exceeds the permitted limits. Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 6. The permittee shall test at the minimum scrubber parameters of Specific Condition 43. The testing shall be conducted using the maximum TDF and fuel oil firing rates. If maximum TDF and fuel oil firing rates cannot be achieved, the permittee shall be limited to the maximum tested firing rate. During the test the permittee shall operate the boiler within 10 percent of the rated throughput capacity. If 90 percent of the rated throughout capacity cannot be

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achieved, the permittee shall be limited to 10 percent above the actual tested throughput. The permittee shall reference this limitation in any compliance reports submitted to the Department. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]

SN-57F, 58F, 101, and 102
Woodyard

Source Description

Activities in the Woodyard include unloading incoming chips and wood, wood transferring, debarking (SN-57F), chipping (SN-58F), chip storage (SN-58F) and chip screening. Emissions are controlled by the use of water sprays.

Chips are delivered either by trucks or rail cars. The truck shipments are unloaded at an inclining truck dump. The rail car shipments are emptied by rolling the rail car over. From these two delivery points the chips are conveyed to the distribution tower and are then dropped into the chip piles. Water is added to the pneumatic transfer system to control dust.

In addition to chips, Georgia-Pacific also receives round logs. After storage, the logs are transported to the debarking drum for bark removal. The removed bark is pneumatically sent to the bark piles for storage and eventual use in the 9A and 10A Boilers of the Utilities Operations. The debarked logs are fed to the chipper. The chips that are produced are conveyed to the distribution tower and deposited onto the chip piles.

Chips from the chip piles are screened prior to entering the chip silo. Rejected chips from the screening process are sent to the combination boilers for use in steam production. Bark either purchased or from the Woodyard is transferred by enclosed conveyors to the 9A and 10A Boilers' associated fuel storage piles. Emissions for these sources are calculated using drop transfer points.

As a part of the R10 modification, some existing pine screen and hardwood screen room equipment were replaced with new more efficient equipment. The changes are to improve chip thickness and quality by removing a larger quantity of fines and contaminants from the wood chips prior to the pulp mill. BACT for SN-58F is the use of a totally enclosed building for the new pine and hardwood screen room equipment.

Specific Conditions

59. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions 62 and 64. [Regulation No. 19 §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	ton/yr
57F	Woodyard Debarking Drum and Associated Woodyard Chip Handling System	PM ₁₀ VOC	0.1 410.9	0.1 1,799.4

SN	Description	Pollutant	lb/hr	ton/yr
101	10A Boiler Bark Transfer System	PM ₁₀	0.1	0.2
102	9A Boiler Bark Transfer System	PM ₁₀	0.1	0.1

60. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions 62 and 64. [Regulation No. 19 §19.501 et seq., 19.901, and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	ton/yr
58F	Woodyard Chip Storage Piles & Chippers	PM/PM ₁₀	1.1	4.5

61. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions 62 and 64. [Regulation No. §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Description	Pollutant	lb/hr	ton/yr
57F	Woodyard Debarking Drum and Associated Woodyard Chip Handling System	PM	0.1	0.2
101	10A Boiler Bark Transfer System	PM	0.1	0.3
102	9A Boiler Bark Transfer System	PM	0.1	0.2

Throughput Requirements

62. The permittee shall not process in excess of 8,400 tons of wet wood as received in the Woodyard per day, 30 day rolling average. [§18.1004 of Regulation #18, §19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]
63. The permittee shall maintain records which demonstrate compliance with the limit in Specific Condition #62. The records shall be updated on a monthly basis. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. A twelve month total and each individual month's data shall be submitted in accordance with General Provision #7. [§18.1004 of

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Regulation #18, §19.705 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Dust Suppression

64. The permittee shall use water sprays in the discharge from the conveyance system in the Woodyard area to reduce particulate matter emissions except during periods when rain provides equivalent dust suppression, or when inclement weather creates a safety hazard to operators. [§19.303 of Regulation #19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-59
Batch Digesters

Source Description

Chips from the Woodyard are sent to the pulp mill where they are converted to pulp using the chemical Kraft process. The chip conveying system regulates the flow of chips from the silos in the Woodyard to one of the thirteen batch digesters (SN-59). The function of the digesters is to cook chips using white liquor, black liquor and steam from the boilers. In the digestion process these products are combined and cooked at a set pressure and temperature until a quality pulp is obtained. At the end of each cook the blow valve at the bottom of the digester is opened. The pressure in the digester forces the pulp mass through a blow line into the blow tanks.

The mill has two large cylindrical blow tanks. All remaining process equipment in the Pulp Mill is divided into two parallel but separate lines. The blow tanks are at atmospheric pressure. When the chips hit the lower pressure in the tank, the liquor and water flash, blowing apart the chips to produce the pulp fibers. The fibers and the spent cooking liquor fall to the bottom of the blow tank.

The vapors from the blow tanks exit through a vapor line at the top of each blow tank. The vapors from each tank are combined and sent to the blow heat condensing system. Flow to the condensing system is maintained in the absence of blow downs by steam supplements. There is a series of condensers that remove condensable gases (primarily turpentine) from the blow gas. The steam vapors are condensed in the accumulator tank and used as hot water for the washers. Gases that do not condense are sent to the Incinerator (primary) or the Lime Kiln (backup) for thermal destruction.

The operation of the digesters during the cooking time is subject to NSPS Subpart BB. However, during the time that chips are loaded into the digesters (the digester caps are opened allowing any displaced fugitive emissions to be emitted to the atmosphere), the Subpart BB rules are not applicable since only residual quantities of TRS gases remain in the digester after this activity is completed.

In 597-AOP-R8, the facility underwent PSD review in order to modify nine of their Digesters (SN-59), replacing the six-inch blow valves with eight-inch valves. All six hardwood pulp digesters were modified, along with one "swing" pulp digester (used for either hardwood or softwood) and two softwood pulp digesters. BACT for VOC was determined to be combustion of the digester gases in an incinerator, SN-83. Emissions here are fugitives from the opening of the digesters to load chips.

Specific Conditions

65. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with

Specific Condition #69. [Regulation No. 19 §19.501 et seq. and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	5.3	23.1

66. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #69. [§19.304 and §19.501 et seq. of Regulation #19, 40 CFR Part 52 Subpart E]

Pollutant	lb/hr	ton/yr
TRS	0.9	3.9

67. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #69. [Regulation No. §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Acetaldehyde	0.12	0.52
Acetone	0.2	0.8
Acrolein	0.01	0.01
Benzene	0.01	0.01
Carbon Tetrachloride	0.02	0.05
Chloroform	0.12	0.52
Ethylene Dichloride	0.01	0.01
Formaldehyde	0.01	0.01
Hexane	0.01	0.03
Methanol	2.11	9.21
Styrene	0.02	0.07
Tetrachloroethylene	0.01	0.01
Toluene	0.02	0.06

Pollutant	lb/hr	tpy
Xylene	0.01	0.02

NSPS BB

68. The Batch Digesters (SN-59) are subject to and shall comply with all applicable provisions of §19.304 of Regulation 19 and 40 CFR Part 60 BB - *Standards of Performance for Kraft Pulp and Paper Mills*. The Incinerator (SN-83) satisfies the requirements under §60.283(a)(1)(iii). A copy of Subpart BB is provided in Appendix C.
- The permittee shall not cause to be discharged into the atmosphere from the digester system any gases which contain TRS in excess of 5 ppm by volume on a dry basis, corrected to 10 percent oxygen, unless the conditions of 40 CFR §60.283(a)(1)(i)-(vi) are met. [§19.304 of Regulation 19 and 40 CFR §60.283(a)(1)]
 - The permittee shall install, calibrate, maintain, and operate a continuous monitoring system 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 digester system, except where the provisions of 40 CFR §60.283(a)(1)(iii) or (iv) apply. This system shall be located downstream of the control device and the span shall be set at a TRS concentration of 30 ppm for the TRS continuous monitoring system and at 25 percent oxygen for the continuous oxygen monitoring system. [§19.304 of Regulation 19 and 40 CFR §60.284(a)(2)]
 - The permittee shall 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 1-hour average total reduced sulfur concentrations provided by each continuous monitoring system installed under paragraph (a)(2) of this section. [§19.304 of Regulation 19 and 40 CFR §284(c)(1)]
 - For the purpose of reports required under 40 CFR §60.7(c), the permittee shall report semiannually periods of excess emissions where 60.284(c)(3)(i) and (ii) apply. The applicant must also report the nature and cause of the excess emissions in accordance with 40 CFR §60.7(c)(2). Excess emission reports shall be submitted to the address in General Provision 7. [§19.304 of Regulation 19 and 40 CFR §60.284(d)]
 - The permittee shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures in this section, except as provided in 40 CFR §60.8(b). Acceptable alternative methods and procedures are

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given in paragraph (f) of this section. [§19.304 of Regulation 19 and 40 CFR §60.285(a)]

Recordkeeping

69. The permittee shall not process in excess of 8,757 tons of wood chips per day, 30 day rolling average. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70]
70. The permittee shall maintain records which demonstrate compliance with the limits specified in Specific Condition #69. The records shall be updated on a monthly basis. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. A rolling twelve month total and each individual month's data shall be submitted in accordance with General Provision #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]

SN-33, 34, 60 and 61
 Pulp Mill Operations

Source Description

When the pulp and black liquor exit the blow tank, the pulp goes through several processing steps before it is stored in the unbleached high density storage chest. First, knots are removed prior to washing. The knots are recovered and used as woodwaste fuel. Second, the pulp is washed to separate the pulp from the spent cooking chemicals and the black liquor. There are two horizontal washers. The emissions from the associated black liquor storage tank and Line 1 Decker (SN-60) are routed to the Incinerator (SN-83) with the 9A Boiler (SN-22) operating as a backup control device. Next, the pulp passes through the decker system. The decker system (SN-60 and 61) thickens the pulp for storage in the high density storage chests. Although the operations at the pulp mill are in parallel, the two lines are run separately.

Specific Conditions

71. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #78. [Regulation No. 19 §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	ton/yr
33	Line 1 Washer	VOC	7.5	28.4
		TRS	2.1	7.9
34	Line 2 Washer	VOC	7.5	28.4
		TRS	2.1	7.9
60	Line 1 Decker	Routed to the Incinerator (SN-83)		
61	Line 2 Decker	VOC	4.5	16.9
		TRS	2.1	7.7

72. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #78. [Regulation No. §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Description	Pollutant	lb/hr	ton/yr
33	Line 1 Washer	Acetaldehyde	0.10	0.35
		Acetone	0.3	0.8
		Acetophenone	0.21	0.79
		Acrolein	0.01	0.02
		Benzene	0.01	0.02
		Carbon Tetrachloride	0.03	0.09

SN	Description	Pollutant	lb/hr	ton/yr
		Carbonyl Sulfide	0.07	0.25
		Chloroform	0.01	0.01
		Cresol	0.34	1.29
		Ethylene Dichloride	0.01	0.03
		Formaldehyde	0.01	0.01
		Hexane	0.01	0.03
		Methanol	4.66	17.69
		Methylene Chloride	0.01	0.01
		Phenol	0.37	1.40
		Styrene	0.01	0.04
		Tetrachloroethylene	0.04	0.15
		Toluene	0.02	0.05
		1,2,4-Trichlorobenzene	0.02	0.08
		Xylene	0.01	0.02
34	Line 2 Washer	Acetaldehyde	0.10	0.35
		Acetone	0.3	0.8
		Acetophenone	0.21	0.79
		Acrolein	0.01	0.02
		Benzene	0.01	0.02
		Carbon Tetrachloride	0.03	0.09
		Carbonyl Sulfide	0.07	0.25
		Chloroform	0.01	0.01
		Cresol	0.34	1.29
		Ethylene Dichloride	0.01	0.03
		Formaldehyde	0.01	0.01
		Hexane	0.01	0.03
		Methanol	4.66	17.69
		Methylene Chloride	0.01	0.01
		Phenol	0.37	1.40
		Styrene	0.01	0.04
		Tetrachloroethylene	0.04	0.15
		Toluene	0.02	0.05
		1,2,4-Trichlorobenzene	0.02	0.08
		Xylene	0.01	0.02
61	Line 2 Decker	Acetaldehyde	0.33	1.23
		Acetone	0.5	1.8
		Acrolein	0.01	0.02
		Benzene	0.01	0.01
		Carbon Tetrachloride	0.02	0.07
		Chloroform	0.13	0.49
		Cresol	1.56	5.90

SN	Description	Pollutant	lb/hr	ton/yr
		Formaldehyde	0.09	0.33
		Methanol	2.02	7.65
		Propionaldehyde	0.10	0.35
		Styrene	0.02	0.06
		Tetrachloroethylene	0.04	0.15
		Toluene	0.01	0.02
		1,2,4-Trichlorobenzene	0.11	0.40
		Xylene	0.02	0.05

NSPS BB

73. The Line 1 Washer (SN-33) and the Line 2 Washer (SN-34) are subject to and shall comply with all applicable provisions of §19.304 of Regulation 19 and 40 CFR Part 60 Subpart BB - *Standards of Performance for Kraft Pulp and Paper Mills*. The Incinerator (SN-83) satisfies the requirements under §60.283(a)(1)(iii). A copy of Subpart BB is provided in Appendix C.
- The permittee shall not cause to be discharged into the atmosphere from SN-33 and SN-34 any gases which contain TRS in excess of 5 ppm by volume on a dry basis, corrected to 10 percent oxygen, unless the conditions of 40 CFR §60.283(a)(1)(i)-(vi) are met. [§19.304 of Regulation #19 and 40 CFR §60.283(a)(1)]
 - The permittee shall install, calibrate, maintain, and operate a continuous monitoring system 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 SN-33 and SN-34, except where the provisions of 40 CFR §60.283(a)(1)(iii) or (iv) apply. This system shall be located downstream of the control device and the span shall be set at a TRS concentration of 30 ppm for the TRS continuous monitoring system and at 25 percent oxygen for the continuous oxygen monitoring system. [§19.304 of Regulation #19 and 40 CFR §60.284(a)(2)]
 - The permittee shall 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 1-hour average total reduced sulfur concentrations provided by each continuous monitoring system installed under paragraph (a)(2) of this section. [§19.304 of Regulation #19 and 40 CFR §60.284(c)(1), except where the provisions of 40 CFR §60.283(a)(1)(iv) or (a)(4) apply]
 - For the purpose of reports required under 40 CFR §60.7(c), the permittee shall report semiannually periods of excess emissions where 60.284(c)(3)(i) and (ii)

apply. The applicant must also report the nature and cause of the excess emissions in accordance with 40 CFR §60.7(c)(2). Excess emission reports shall be submitted to the address in General Provision 7. [§19.304 of Regulation #19 and 40 CFR §60.284(d)]

- e. In conducting the performance tests required in 40 CFR §60.8, the permittee shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures in this section, except as provided in 40 CFR §60.8(b). Acceptable alternative methods and procedures are given in paragraph (f) of this section. [§19.304 of Regulation #19 and 40 CFR §60.285(a)]

NESHAP S

- 74. The Line 1 Washer (SN-33) and the Line 2 Washer (SN-34) shall comply with applicable provisions of §19.304 of Regulation 19 and 40 CFR Part 63 Subpart S - *National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry*. A copy of Subpart S is provided in Appendix E.

- a. The permittee shall visually inspect each closed-vent system every 30 days. 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)]
- b. The permittee shall demonstrate no detectable leaks as specified in §63.450(c) measured initially and annually by the procedures specified in §63.457(d). [40 CFR §63.453(k)(3)]
- c. The permittee shall operate the closed-vent system with no detectable leaks as indicated by an instrument reading of less than 500 parts per million by volume (ppm) above background as specified by §63.457(d). [40 CFR §63.450(c)]
- d. The permittee shall perform corrective action, in the event of visible leak detection or instrument reading of 500 ppm above background, according to §63.453(k)(6)(i) and (ii). [40 CFR §63.457(k)(6)]

As part of an alternative monitoring requirement approved by the EPA, a copy of which is located in Appendix I, the permittee shall comply with the following:

- e. In lieu of monthly visual monitoring, the permittee shall conduct monthly Method 21 monitoring of leaks found around the feed and exit roll seals and along the side gaskets of the washers. [40 CFR §63.453(d)(4)]

SN-30
Bleach Plant

Source Description

The unbleached Kraft pulp is taken from the high density storage chest for further processing in the bleach plant. The bleaching process removes lignin and Kraft color from the unbleached pulp.

Bleaching is performed in several stages using chlorine/chlorine dioxide, caustic soda, oxygen, acid, hydrogen peroxide, and other non-chlorine bleaching aids. Chlorine dioxide is generated using sodium chlorate, methanol and sulfuric acid. The chlorine dioxide gas that is produced is absorbed in chilled water and sent to storage for further use in the bleaching operations. The bleach plant uses a scrubber (SN-30) to control chlorine/chlorine dioxide emissions. All equipment in the bleach plant is either pressurized or is kept under negative pressure and connected to the scrubbing system. The Bleach Plant scrubber is a packed tower with mist eliminators. In order to satisfy Cluster Rule requirements, Crossett Paper Operations has phased out Cl₂ and hypochlorite usage by the Cluster Rule compliance date of deadline of April 16, 2001.

As part of permit revision 597-AOP-R4, the Bleach Plant was required to undergo BACT for CO. Due to the phasing out of hypochlorite and limited available data concerning the resulting carbon monoxide emissions, the facility was required to modify the permit. The increase was above the PSD significance threshold for CO. BACT was determined to be no controls.

Specific Conditions

75. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #78. [Regulation No. 19 §19.501 et seq. and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	21.4	93.7

76. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #78. [§19.501 et seq. and §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]

Pollutant	lb/hr	ton/yr
CO	136.1	596.1

77. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #78. [Regulation No. §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Acetaldehyde	0.23	0.99
Acetone	0.5	2.0
Acrolein	0.01	0.01
Benzene	0.01	0.01
Carbon Tetrachloride	0.01	0.01
Chloroform	7.64	33.44
Cresol	0.06	0.25
Cumene	0.01	0.01
Ethylene Dibromide	0.03	0.11
Ethylene Dichloride	0.01	0.01
Formaldehyde	0.05	0.21
Hexachlorocyclopentadiene	0.16	0.66
Hexachloroethane	0.21	0.90
Hydrogen Chloride	2.48	10.83
Hexane	0.01	0.01
Methanol	12.90	56.51
Methylene Chloride	0.01	0.03
Propionaldehyde	0.06	0.25
Phenol	0.04	0.14
Styrene	0.02	0.09
Tetrachloroethylene	0.01	0.05
Toluene	0.01	0.01
1,2,4-Trichlorobenzene	0.01	0.03
Xylene	0.01	0.01

Throughput Requirements

78. The permittee shall not produce in excess of 2,150 air dried tons of bleached pulp per day, 30 day rolling average. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]
79. The permittee shall maintain records which demonstrate compliance with the limits listed in Specific Condition #78. The records shall be updated on a monthly basis. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. A twelve month total and each individual month's data shall be submitted in accordance with General Provision #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]

Testing Requirements

80. The permittee shall test for carbon monoxide emissions from the Bleach Plant Scrubber (SN-30) every five years. Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 10 as found in 40 CFR Appendix A. During the test the permittee shall operate the plant within 10 percent of the rated throughput capacity. If 90 percent of the rated throughput capacity cannot be achieved, the permittee shall be limited to 10 percent above the actual tested throughput. The permittee shall reference this limitation in any compliance reports submitted to the Department. [§19.702 and §19.901 of Regulation #19 and 40 CFR Part 52 Subpart E]

NESHAP S

81. The Bleach Plant is subject to and shall comply with applicable provisions of §19.304 of Regulation 19 and 40 CFR Part 63 Subpart S – *National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry*. A copy of Subpart S is provided in Appendix E.
 - a. The equipment at each bleaching stage, of the bleaching systems listed in paragraph (a) of 40 CFR §63.445, 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 paragraph (c) of 40 CFR §63.445. The enclosures and closed-vent system shall meet the requirements specified in 40 CFR §63.450. [40 CFR §63.445(b)]
 - b. The control device used to reduce chlorinated HAP emission (not including chloroform) from the equipment specified in paragraph (b) of 40 CFR §63.445, the permittee shall comply with the emissions limitations required for bleaching systems by one of the following methods 1) achieving a 99% reduction efficiency across the scrubber or 2) achieving <10 ppm HAPs or 0.002 lbs/ODTP, measured as chlorine. [40 CFR §63.445(c)(3)]

- c. The owner or operator of each bleaching system subject to paragraph (a)(2) of 40 CFR §63.445 shall comply with paragraph (d)(1) or (d)(2) of 40 CFR §63.445 to reduce chloroform air emissions to the atmosphere, except where the owner or operator of each bleaching system complying with extended compliance under 40 CFR §63.440(d)(3)(ii) shall comply with paragraph (d)(1) of 40 CFR §63.445. [40 CFR §63.445(d)]
 - d. The permittee shall use no hypochlorite or elemental chlorine for bleaching in the bleaching system or line. [40 CFR §63.445(d)(2)]
82. The Bleach Plant scrubber shall be kept in good working condition at all times and shall meet the following conditions as part of an alternative monitoring requirement approved by the EPA on July 26, 2001. A copy of this letter is included in Appendix G. [40 CFR §63.453(m)]
- a. Perform a successful initial performance test to determine an acceptable range of electrical current (amps) within which the fan needs to be operated. The fan amp range is 30-70 amps.
 - b. Continuously record and monitor the fan motor amperage loading to ensure proper rotational fan speed and pressure drop for the bleach plant scrubber fan.
 - c. Conduct monthly visual inspections under the Leak Detection and Repair plan provisions for the scrubber fan and associated process.
 - d. Conduct annual negative pressure checks to ensure that the bleach plant scrubber fan induces the desired negative pressure across the system.
 - e. Conduct periodic preventative maintenance of the bleach plant scrubber fan to ensure safe and proper operation of the system.
 - f. Respond immediately to any signs or indications of visible emissions from the scrubber stack, washer hoods, or towers at the bleach plant.
 - g. Replacement of fan blades or fan motor will require a demonstration by the facility that gas flow rate to the scrubber has not increased or a performance test to ensure that the scrubber meets the emission limitations.

SN-26 and SN-96
8R Recovery Furnace and Salt Cake Mix Tank

Source Description

Recovery is the set of operations that recover spent cooking chemicals for reuse in the digesters. The recovery process uses a multi-effect evaporator to concentrate weak black liquor. Concentrated black liquor is burned in the 8R Recovery Furnace (SN-26) to recover spent chemicals, the inorganic chemicals that are necessary for pulp making. Auxiliary fuels, such as oil, may be used by the furnace for startup or to augment liquor combustion. Exhaust gases from the recovery furnace are treated in an electrostatic wet bottom precipitator. The spent chemicals leave the recovery furnace in a molten form and enter the smelt dissolving tanks.

Evaporation and concentration operations remove water from the black liquor in order to facilitate combustion in the recovery furnace. The solids in the liquor are generated from the digester and washing filtrates. The evaporators convert the weak black liquor to strong (heavy) black liquor.

There are six effects in the evaporator train at the mill, each effect operating at a different pressure. Plant steam flows countercurrent to the black liquor through the evaporators. Combined condensate from the evaporator is used in washing and recausticizing. A Low Energy Environmental Pre-evaporator and Stripper (LEEPS) system added to the evaporator system treats the foul (or strip) condensates produced in the evaporation process. The LEEPS system also treats foul condensates generated from the pulping process. The clean water produced is re-used for pulp washing. The stripped condensate (methanol) is routed to the incinerator as a liquid for destruction. The stripper overhead gases (SOGs) are routed to the incinerator for destruction, or as a backup, to the No. 4 Lime Kiln or the 9A Boiler.

Black liquor of varying concentration is stored in above ground storage tanks. There are two large weak black liquor tanks and one weak black liquor storage basin (approximately 4 acres, SN-76F). In addition, there are two strong black liquor tanks and two concentrated strong black liquor holding tanks. There are also seven multiple service tanks that may store black liquor. There are also additional, smaller black liquor storage tanks.

The concentrated black liquor is burned in the 8R Recovery Furnace with the heat being used to produce steam and electricity. Flue gas from the furnace is sent through an economizer followed by an electrostatic precipitator (ESP). The ESP is used to control particulate matter emissions. Salt cake from the ESP is sent to the Salt Cake Mix Tank (SN-96).

The 8R Recovery Furnace was installed in 1981. It is subject to regulation under NSPS Subpart BB and NESHAP Subpart MM. As a result of the R10 modification, this source has undergone PSD review for PM/PM₁₀, SO₂, VOC, CO, and NO_x. BACT is defined as the use of an ESP, boiler design, and combustion control.

Specific Conditions

83. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #93 and #94. [Regulation No. 19 §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	ton/yr
26	8R Recovery Furnace	Pb	0.01	0.01
96	Salt Cake Mix Tank	VOC	0.7	2.4
		TRS	0.1	0.2

84. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #94, #95, #96, and #99. [§19.501 et seq. and §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]

SN	Pollutant	lb/hr	ton/yr
26	Startup – Specification Oil Only		
	SO ₂	989.1	371.0
	Normal Operation – BLS with Supplemental Specification Oil Firing		
	SO ₂	84.7	371.0
		0.589 lb/ton BLS	

85. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #93 and #94. [§19.501 et seq. and §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]

SN	Pollutant	lb/hr	ton/yr
26	NO _x	276.0	1,208.6
		110 ppmdv @ 8% O ₂	

86. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #93 and #94. [§19.501 et seq., §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]

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SN	Pollutant	lb/hr	ton/yr
26	CO	1,420.0	6,219.6
		930 ppm _{dv} @ 8% O ₂	

87. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #93 and #94. [§19.304, §19.501 et seq., §19.901 of Regulation #19, 40 CFR Part 52 Subpart E]

SN	Pollutant	lb/hr	ton/yr
26	PM/PM ₁₀	60.0	262.8
		0.02 gr/dscf @ 8% O ₂	

88. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #93 and #94. [§19.501 et seq., §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]

SN	Pollutant	lb/hr	ton/yr
26	VOC	25.9	98.6
		0.18 lb/ton of BLS	

89. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #93 and #94. [§19.304, §19.501 et seq., and §19.801 of Regulation #19; 40 CFR Part 52 Subpart E; and 40 CFR §60.283]

SN	Pollutant	lb/hr	ton/yr
26	TRS	11.2	48.8
		5 ppm @ 8% O ₂ , 12-hr average	

90. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #93. [§19.501 et seq. and §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]

SN	Pollutant	lb/hr	ton/yr
26	Sulfuric Acid Mist (SAM)	7.3	27.6
		0.0504 lb/ton of BLS	

91. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with

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Specific Conditions #94, #95, #96, and #99. [Regulation No. §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Description	Pollutant	lb/hr	ton/yr
26	8R Recovery Furnace	Acetaldehyde	0.08	0.28
		Acetone	2.3	8.6
		Arsenic	0.01	0.01
		Benzene	0.12	0.43
		Beryllium	0.01	0.01
		Cadmium	0.01	0.01
		Chloroform	0.01	0.02
		Chromium, Hex	0.01	0.01
		Cobalt	0.01	0.01
		Formaldehyde	1.35	5.13
		Hexane	0.05	0.17
		Hydrogen Chloride	9.49	36.14
		Manganese	0.01	0.04
		Methanol	7.59	28.91
		Mercury	0.01	0.01
		Methylene Chloride	0.09	0.32
		Naphthalene	0.05	0.18
		Nickel	0.01	0.03
		Phosphorous	0.04	0.14
		POM	0.02	0.06
		Selenium	0.01	0.01
		Styrene	0.10	0.37
		Tetrachloroethylene	0.09	0.32
		Toluene	0.01	0.03
		1,2,4-Trichlorobenzene	0.14	0.51
		Xylene	0.09	0.34
96	Salt Cake Mix Tank	Acetaldehyde	0.03	0.12
		Acetone	0.1	0.2
		Acrolein	0.01	0.01
		Benzene	0.01	0.01
		Formaldehyde	0.01	0.01
		Hexane	0.01	0.01
		Methanol	0.51	1.91
		Styrene	0.01	0.01
		Tetrachloroethylene	0.01	0.01
		Toluene	0.01	0.01
		1,2,4-Trichlorobenzene	0.01	0.01
		Xylene	0.01	0.01

Opacity

92. The permittee shall not cause to be discharged to the atmosphere from the 8R Recovery Furnace gases which exhibit opacity greater than 20%. Compliance shall be demonstrated by the use of the Recovery Furnace's continuous opacity monitor. [§19.503 of Regulation #19 and 40 CFR Part 52 Subpart E]

NSPS BB

93. The 8R Recovery Furnace (SN-26) is subject to and shall comply with all applicable provisions of §19.304 of Regulation 19, 40 CFR Part 60 Subpart BB - *Standards of Performance for Kraft Pulp and Paper Mills*, and 40 CFR Part 63 Subpart MM - *National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Sulfite, and Stand-Alone Semichemical Pulp Mills*. A copy of Subpart BB is provided in Appendix C. The Incinerator (SN-83) satisfies the requirements under §60.283(a)(1)(iii). A copy of Subpart MM is provided in Appendix H.
- a. The permittee shall not cause to be discharged into the atmosphere from the recovery furnace gases which contain particulate matter in excess of 0.044 gr/dscf corrected to 8 percent oxygen. [§19.304 of Regulation #19 and 40 CFR §60.282(a)(1)(i) and 40 CFR §63.862(a)(i)(A)]
 - b. The permittee shall not cause to be discharged into the atmosphere from the recovery furnace gases which exhibit 35 percent opacity or greater. [§19.304 of Regulation #19 and 40 CFR §60.282(a)(1)(ii)]
 - c. The permittee shall not cause to be discharged into the atmosphere from the recovery furnace gases which contain TRS in excess of 5 ppm by volume on a dry basis, corrected to 8 percent oxygen. [§19.304 of Regulation #19 and 40 CFR §60.283(a)(2)]
 - d. The permittee shall install, calibrate, maintain, and operate continuous monitoring systems (CEMs) 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, except where the provisions of §60.283(a)(1) (iii) or (iv) apply. This system shall be located downstream of the control device and the span shall be set at a TRS concentration of 50 ppm for the TRS continuous monitoring system and at 25 percent oxygen for the continuous oxygen monitoring system. [§19.304 of Regulation #19 and 40 CFR §60.284(a)(2)]
 - e. The permittee shall 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 1-hour average total reduced sulfur concentrations provided by each continuous monitoring system installed under paragraph (a)(2) of this section. [§19.304 of Regulation #19 and 40 CFR §60.284(c)(1)]

- f. The permittee shall 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 paragraph (c)(1) of this section and shall be determined as an arithmetic mean of the appropriate 12 contiguous 1-hour average oxygen concentrations provided by each continuous monitoring system installed under paragraph (a)(2) of this section. [§19.304 of Regulation #19 and 40 CFR §60.284(c)(2)]
- g. For the purpose of reports required under 40 CFR §60.7(c), the permittee shall report semiannually periods of excess emissions where 60.284(c)(3)(i) and (ii) apply. The applicant must also report the nature and cause of the excess emissions in accordance with 40 CFR §60.7(c)(2). Excess emission reports shall be submitted to the address in General Provision 7. [§19.304 of Regulation #19 and 40 CFR §60.284(d)]
- h. The permittee shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures in this section, except as provided in 40 CFR §60.8(b). Acceptable alternative methods and procedures are given in paragraph (f) of this section. [§19.304 of Regulation #19 and 40 CFR §60.285(a)]
- i. The permittee is limited to a particulate concentration of no more than 0.044 gr/scf at 8% O₂. [§19.304 of Regulation #19 and 40 CFR §60.282, and 40 CFR §63.862(a)(i)(A)]

Fuel Requirements

- 94. The permittee shall not fire in excess of 1.095 million tons of black liquor solids to the recovery furnace per twelve consecutive months. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]
- 95. The permittee shall not fire in excess of 5,256,000 gallons of glycerin to the recovery furnace per twelve consecutive months. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8 4-311, and 40 CFR §70.6]
- 96. The permittee may fire up to 1.0 gal/min ultra-low sulfur diesel to the recovery furnace. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8 4-311, and 40 CFR §70.6]

97. Specification grade oil, ultra-low sulfur diesel, and glycerin may be used as fuel in the 8R Recovery Furnace (SN-26) during startup and to supplement BLS firing during periods deemed necessary by operations. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]
98. The permittee shall maintain records of fuel usage which demonstrate compliance with Specific Conditions #94, #95, #96, and #97. These records shall be updated monthly, kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. A twelve month total and each month's individual data shall be submitted to the Department in accordance with General Provision #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]
99. The sulfur content of the specification grade oil shall not exceed 1.5% by weight and 1.0% on a 30-day average. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]
100. Sulfur dioxide emissions shall be determined through a mass balance based on incoming materials and worst-case firing of specification grade oil based on the limits in Condition #99. This mass balance shall be submitted to the Department in accordance with General Provision #7. [§19.703 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Testing Requirements

101. The permittee shall perform testing of particulate matter emissions from the 8R Recovery Furnace (SN-26) every five years. Testing shall be performed in accordance with Plantwide Condition #3 and using EPA Reference Method 5 with inclusion of back half sampling train particulate. Results from the Method 5 test shall be compared to the NSPS limit 0.044 gr/scf at 8% O₂ for compliance purposes. During the test the permittee shall operate the source within 10 percent of the rated throughput capacity. If 90 percent of the rated throughput capacity cannot be achieved, the permittee shall be limited to 10 percent above the actual tested throughput. The permittee shall reference this limitation in any compliance reports submitted to the Department. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]
102. The permittee shall perform testing of the following emissions from the 8R Recovery Furnace (SN-26) every five years to verify compliance with the BACT emission limits. During the test the permittee shall operate the source within 10 percent of the rated throughput capacity. If 90 percent of the rated throughput capacity cannot be achieved, the permittee shall be limited to 10 percent above the actual tested throughput. The permittee shall reference this limitation in any compliance reports submitted to the Department. [§19.702 and §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]

Pollutant	Reference Method (or other pre-approved)
SO ₂	6C
VOC	25A
NO _x	7E
CO	10
SAM	8

CEMS Requirements

103. The permittee shall continue to operate and maintain opacity, TRS and O₂ continuous emission monitors at the 8R Recovery Furnace (SN-26). [§19.304 and §19.703 of Regulation #19, 40 CFR Part 52 Subpart E, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §60.284]
104. The continuous emission monitors for TRS and O₂ at the 8R Recovery Furnace shall be operated in accordance with the Department Continuous Emission Monitoring Systems Conditions (Appendix A) and the applicable Performance Standards of 40 CFR Part 60 Appendix B. [§19.703 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
105. All continuous monitoring data may, at the discretion of the Department, be used to determine violations of the emissions limits or conditions of this permit. [§19.703 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
106. The TRS concentration of gases leaving the 8R Recovery Furnace (SN-26) shall not exceed 5 ppm, measured as H₂S on a dry basis and on a 12 hour average, corrected to 8% volume oxygen. The permittee shall continue to operate and maintain CEMs which record the TRS concentration of gases leaving the 8R Recovery Furnace (SN-26). The TRS monitors shall be operated in accordance with the requirements of 40 CFR §60.284 (date of installation notwithstanding) and the Department Continuous Emission Monitoring Systems Conditions (Appendix A). [§19.304 and §19.801 of Regulation #19, 40 CFR §60.283, and 40 CFR §60.284]

SN-27A and 27B
 Smelt Dissolving Tanks

Source Description

The combusted black liquor generates molten salts that are drained from the bottom of the 8R Recovery Furnace into one of two smelt dissolving tanks (SN-27A and SN-27B) on either side of the 8R Recovery Furnace. The smelt dissolving tanks cool the molten salts in large water tanks. Each smelt dissolving tank has an independent stack that is routed through a wet scrubber. The smelt dissolving tanks are subject to NSPS Subpart BB - *National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry* and NESHAP Subpart MM - *National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Sulfite, and Stand-Alone Semichemical Pulp Mills*.

Specific Conditions

107. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #94. [Regulation No. 19 §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	ton/yr
27A	Smelt Dissolving Tank (East)	SO ₂	0.5	1.7
		VOC	1.5	5.5
		CO	0.7	2.7
		NO _x	1.8	6.6
		Pb	0.01	0.01
27B	Smelt Dissolving Tank (West)	SO ₂	0.5	1.7
		VOC	1.5	5.5
		CO	0.7	2.7
		NO _x	1.8	6.6
		Pb	0.01	0.01

108. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #94, #114, and #116. [§19.304 and §19.501 et seq. of Regulation #19, and 40 CFR Part 52 Subpart E, and 40 CFR §63.862(a)(i)(B)]

SN	Description	Pollutant	lb/hr	ton/yr
27A	Smelt Dissolving Tank (East)	PM PM ₁₀	14.4	54.8
			0.2 lb PM/PM ₁₀ per ton of black liquor solids (TBLS)	
27B	Smelt Dissolving Tank (West)	PM PM ₁₀	14.4	54.8
			0.2 lb PM/PM ₁₀ per ton of black liquor solids (TBLS)	

109. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #94, #116, and #118. [§19.304, §19.501 et seq., and §19.801 of Regulation #19; 40 CFR Part 52 Subpart E, 40 CFR §60.283]

SN	Description	Pollutant	lb/hr	ton/yr
27A	Smelt Dissolving Tank (East)	TRS	2.4	9.1
			0.016 g TRS per kg of black liquor solids (0.033 lb/TBLS) as H ₂ S	
27B	Smelt Dissolving Tank (West)	TRS	2.4	9.1
			0.016 g TRS per ton of black liquor solids (0.033 lb/TBLS) as H ₂ S	

110. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #94. [Regulation No. §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Description	Pollutant	lb/hr	ton/yr
27A	Smelt Dissolving Tank (East)	Acetaldehyde	0.08	0.30
		Acetone	0.2	0.5
		Acrolein	0.01	0.01
		Arsenic	0.01	0.01
		Benzene	0.01	0.01
		Beryllium	0.01	0.01
		Cadmium	0.01	0.01
		Carbon Disulfide	0.01	0.01
		Chloroform	0.01	0.01

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SN	Description	Pollutant	lb/hr	ton/yr
		Cobalt	0.01	0.01
		Cumene	0.01	0.01
		Formaldehyde	0.31	1.15
		Hexachlorocyclopentadiene	0.01	0.04
		Hexane	0.01	0.01
		Manganese	0.01	0.01
		Mercury	0.01	0.01
		Methanol	0.95	3.62
		Methylene Chloride	0.01	0.01
		Naphthalene	0.05	0.17
		Nickel	0.01	0.01
		Phosphorous	0.01	0.01
		POM	0.04	0.15
		Selenium	0.01	0.01
		Styrene	0.02	0.04
		Tetrachloroethylene	0.01	0.01
		Toluene	0.01	0.01
		1,2,4-Trichlorobenzene	0.01	0.01
		Xylene	0.01	0.01
27B	Smelt Dissolving Tank (East)	Acetaldehyde	0.08	0.30
		Acetone	0.2	0.5
		Acrolein	0.01	0.01
		Arsenic	0.01	0.01
		Benzene	0.01	0.01
		Beryllium	0.01	0.01
		Cadmium	0.01	0.01
		Carbon Disulfide	0.01	0.01
		Chloroform	0.01	0.01
		Cobalt	0.01	0.01
		Cumene	0.01	0.01
		Formaldehyde	0.31	1.15
		Hexachlorocyclopentadiene	0.01	0.04
		Hexane	0.01	0.01
		Manganese	0.01	0.01
		Mercury	0.01	0.01
		Methanol	0.95	3.62
		Methylene Chloride	0.01	0.01
		Naphthalene	0.05	0.17
		Nickel	0.01	0.01
		Phosphorous	0.01	0.01
		POM	0.04	0.15

SN	Description	Pollutant	lb/hr	ton/yr
		Selenium	0.01	0.01
		Styrene	0.02	0.04
		Tetrachloroethylene	0.01	0.01
		Toluene	0.01	0.01
		1,2,4-Trichlorobenzene	0.01	0.01
		Xylene	0.01	0.01

Opacity

111. The permittee shall not cause to be discharged from the Smelt Dissolving Tanks (SN-27A and 27B) gases which exhibit opacity greater than 20%. [§19.503 of Regulation #19 and 40 CFR Part 52 Subpart E]
112. The permittee shall conduct weekly observations of the opacity at SN-27A and B. Observations shall be conducted by personnel familiar with the permittee's visible emissions. If visible emissions in excess of the permitted opacity are detected, then a Method 9 reading is required. The permittee shall then take immediate action to identify the cause of the visible emissions, implement all necessary corrective action, and reassess the visible emissions after corrective action is taken. The permittee shall maintain records related to all observations/readings, to be updated on a weekly basis. The records shall contain the date and time of each observation/reading, the cause of any observed exceedance of opacity limits, corrective action taken, and results of the reassessment, and the name of the person conducting the observation/reading. The records shall be kept on site and made available to Department personnel upon request. [§19.705 of Regulation 19 and 40 CFR Part 52, Subpart E]

Scrubber Monitoring Requirements

113. The permittee shall continue to operate and maintain a monitoring device for the continuous measurement of the differential pressure drop across the scrubber. [§19.304 and §19.703 of Regulation #19, 40 CFR Part 52 Subpart E, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §60.284]
114. The scrubbers shall be kept in good working condition at all times and shall meet the conditions shown in the following table. The scrubber liquid flow rate and the gas pressure drop across the units shall be measured hourly and compliance shall be based upon the daily average of these measurements. The results shall be kept on site and be available to the Department personnel upon request. Future compliance tests may be used to establish the daily average pressure drop and flow rate values that are contained in the permit. [§19.303 of Regulation #19 and A.C.A §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Control Equipment	Parameter	Units	Operation Limits (minimum)
27A	scrubber	liquid flow rate	gal/min	135
		gas pressure drop across unit	inches, H ₂ O	5
27B	scrubber	liquid flow rate	gal/min	135
		gas pressure drop across unit	inches, H ₂ O	5

115. The permittee shall abide by the following alternative scenario only during emergency maintenance for scrubbers for the Smelt Dissolving Tanks (SN-27A and 27B). [§19.303 of Regulation #19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
- Black liquor solids feed to the 8R Boiler (SN-26) shall be reduced to 3.91 MM lb/day.
 - Uncontrolled emissions shall be quantified and recorded.
 - Repair time must not extend beyond a 6 hour period.
 - Down time of the equipment will be monitored and submitted to the Department in accordance with General Provision 8.

NSPS BB and NESHAP S

116. The Smelt Dissolving Tanks (SN-27A and 27B) are subject to and shall comply with all applicable provisions of §19.304 of Regulation 19, 40 CFR Part 60 Subpart BB - *Standards of Performance for Kraft Pulp and Paper Mills* and 40 CFR Part 63 Subpart MM - *National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Sulfite, and Stand-Alone Semichemical Pulp Mills*. A copy of Subpart BB is provided in Appendix C. The Incinerator (SN-83) satisfies the requirements under §60.283(a)(1)(iii). A copy of Subpart MM is provided in Appendix H.
- The permittee shall not cause to be discharged into the atmosphere from the smelt dissolving tanks any gases which contain particulate matter in excess of 0.2 lb/ton black liquor solids (dry weight). [§19.304 of Regulation 19, 40 CFR §60.282(a)(2) and 40 CFR §63.862(a)(i)(B)]
 - The permittee shall not cause to be discharged into the atmosphere from the smelt dissolving tanks any gases which contain TRS in excess of 0.033 lb/ton black liquor solids as H₂S. [§19.304 of Regulation 19 and 40 CFR §60.283(a)(4)]

- c. The permittee shall install, calibrate, maintain, and operate continuous monitoring devices for the smelt dissolving tanks because they use a scrubber emission control device. [§19.304 of Regulation 19 and 40 CFR §60.284(b)(2)]
- d. For the purpose of reports required under 40 CFR §60.7(c), the permittee shall report semiannually periods of excess emissions where 60.284(c)(3)(i) and (ii) apply. The applicant must also report the nature and cause of the excess emissions in accordance with 40 CFR §60.7(c)(2). Excess emission reports shall be submitted to the address in General Provision 7. [§19.304 of Regulation 19 and 40 CFR §60.284(d)]
- e. The permittee shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures in this section, except as provided in 40 CFR §60.8(b). Acceptable alternative methods and procedures are given in paragraph (f) of this section. [§19.304 of Regulation 19 and 40 CFR §60.285(a)]

Testing Requirements

- 117. The permittee shall test particulate matter emissions from the Smelt Dissolving Tanks (SN-27A and 27B) every 5 years. Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 5 with inclusion of back half sampling train particulate. Results from the Method 5 test shall be compared to the NSPS limit of 0.2 lb PM/PM₁₀ per ton of black liquor solids (TBLS) for compliance purposes. During the test the permittee shall operate the sources within 10 percent of the rated throughput capacity. If 90 percent of the rated throughput capacity cannot be achieved, the permittee shall be limited to 10 percent above the actual tested throughput. The permittee shall reference this limitation in any compliance reports submitted to the Department. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]
- 118. The TRS concentration of gases leaving the Smelt Dissolving Tanks (SN-27A and 27B) shall not exceed 0.0168 g TRS per kg of black liquor solids. The permittee shall conduct annual compliance testing of TRS emissions from the Smelt Dissolving Tanks (SN-27A and 27B). Data reduction shall be performed as set forth in 40 CFR §60.8. Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 16 or 16A. During the test the permittee shall operate the source within 10 percent of the rated throughput capacity. If 90 percent of the rated throughput capacity cannot be achieved, the permittee shall be limited to 10 percent above the actual tested throughput. The permittee shall reference this limitation in any compliance reports submitted to the Department. [§19.702 and §19.801 et seq of Regulation #19, and 40 CFR Part 52 Subpart E]

SN-25
Lime Kiln

Source Description

The lime kiln heats calcium carbonate (lime mud) to form calcium oxide (lime product). Fuels used in the lime kiln include specification grade oil and natural gas. Emissions from the lime kiln are controlled by a wet scrubber. Non-condensable gases (NCGs) from processes are routed to the lime kiln for thermal destruction. The lime kiln is subject to NSPS Subpart BB and NESHAP Subpart MM. The kiln is also subject to CAM requirements due to SO₂ emissions. The maximum firing rate of the lime kiln is 128 million Btu per hour. NCGs from several pulp mill sources are collected and routed to the lime kiln for combustion. The evaporator vents, digester vents and blow tank condensers are all part of the NCG system at the Crossett Paper Operations.

Reburnt lime product from the lime kiln is conveyed to a lime bin where it is fed into the slaker. The lime handling and storage system includes elevators, conveyors and lime bins. Conveyors transport lime from the storage silos to the slakers. Fresh lime is added to the system from delivery trucks by pneumatic conveyance to the two lime silos.

Specific Conditions

119. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #127, #128, #130 and #131. [Regulation No. 19 §19.501 et seq. and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	ton/yr
SO ₂	10.9	41.2
VOC	1.5	5.6
CO	5.8	21.9
NO _x	53.5	203.6
Pb	0.01	0.02

120. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #127, #128, and #131. [§19.304 and §19.501 et seq. of Regulation #19, 40 CFR Part 52 Subpart E, and 40 CFR §63.862(a)(i)(C)]

Pollutant	lb/hr	ton/yr
PM	28.3	123.8
PM ₁₀	0.064 gr/dscf corrected to 10% O ₂	

121. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #127, #128, and #131. [§19.304, §19.501 et seq., §19.801 of Regulation #19; CFR Part 52 Subpart E; and 40 CFR §60.283]

Pollutant	lb/hr	ton/yr
TRS	2.2	9.6
	8 ppm measured as H ₂ S on a dry basis, on a 12-hour average, corrected to 10% O ₂	

122. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #128. [Regulation No. §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	ton/yr
Acetaldehyde	0.18	0.67
Acetone	0.1	0.1
Acrolein	0.01	0.01
Arsenic	0.01	0.01
Benzene	0.02	0.04
Beryllium	0.01	0.01
Cadmium	0.01	0.01
Carbon Disulfide	0.01	0.04
Chloroform	0.01	0.01
Chromium Hex	0.01	0.01
Cobalt	0.01	0.01
Formaldehyde	0.18	0.67
Hexane	0.01	0.01
Hydrogen Chloride	0.01	0.03
Manganese	0.01	0.04
Mercury	0.01	0.01
Methanol	0.38	1.45
Methylene Chloride	0.01	0.01
Naphthalene	0.42	1.57
Nickel	0.01	0.02
Phenol	0.01	0.04
Phosphorous	0.06	0.21
POM	0.01	0.02
SAM	0.7	2.6
Selenium	0.01	0.01

Pollutant	lb/hr	ton/yr
Styrene	0.01	0.01
Tetrachloroethylene	0.01	0.04
Toluene	0.01	0.01
1,2,4-Trichlorobenzene	0.01	0.02
Xylene	0.01	0.03

Opacity

123. The permittee shall not cause to be discharged to the atmosphere gases which exhibit opacity greater than 20%. [§19.503 of Regulation #19 and 40 CFR Part 52 Subpart E]
124. The permittee shall conduct daily observations of the opacity at SN-25. Observations shall be conducted by personnel familiar with the permittee's visible emissions. If visible emissions in excess of the permitted opacity are detected, then a Method 9 reading is required. The permittee shall then take immediate action to identify the cause of the visible emissions, implement all necessary corrective action, and reassess the visible emissions after corrective action is taken. The permittee shall maintain records related to all observations/readings, to be updated on a daily basis. The records shall contain the date and time of each observation/reading, the cause of any observed exceedance of opacity limits, corrective action taken, and results of the reassessment, and the name of the person conducting the observation/reading. The records shall be kept on site and made available to Department personnel upon request. [§19.705 of Regulation 19 and 40 CFR Part 52, Subpart E]

CAM

125. The Lime Kiln (SN-25) is subject to and shall comply with all applicable provisions §19.304 of Regulation 19, 40 CFR Part 52 Subpart E, and Part §64.6 for Compliance Assurance Monitoring. Post control of particulate emissions from SN-25 is above major source levels.
- The permittee shall maintain caustic liquid flow rate in the scrubber of at least 500 gallons per minute. [40 CFR Part §64.6(c)(1)]
 - The permittee shall maintain a gas pressure drop of at least 25 inches of water. [40 CFR Part §64.6(c)(1)]
 - The permittee shall monitor and maintain records every 15 minutes of the parameters in Specific Conditions #125 (A) and (B). Compliance shall be based upon a 3-hr average. Records shall be kept onsite and made available to the Department upon request. [40 CFR Part §64.6(c)(3)]

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- d. The permittee shall maintain the scrubber in good working condition at all times so that pollutant removal is maintained. [40 CFR Part §64.6(c)(1)]
126. The Lime Kiln (SN-25) is subject to and shall comply with all applicable provisions §19.304 of Regulation 19, 40 CFR Part 52 Subpart E, and Part §64.9 for Compliance Assurance Monitoring. The following information pertaining to exceedances or excursions from permitted values shall be submitted in semi-annual reports in accordance with General Provision 7 as outlined in 40 CFR §70.6.
- a. The permittee shall maintain records for SN-25 that summarizes the number, duration, and cause of excursions or exceedances of emission limits as well as corrective action taken. [40 CFR §64.9(a)(2)(i) and §64.9(b)]
 - b. The permittee shall maintain records for SN-25 that summarizes the number, duration, and cause of monitoring equipment downtime incidents, other than routine downtime for calibration checks. [40 CFR §64.9(a)(2)(ii) and §64.9(b)]
 - c. The permittee shall maintain a quality improvement plan (QIP) threshold for each indicator of no more than nine excursions or 5% of the daily averages in a six-month period. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]
 - d. The permittee shall develop and implement a new QIP if the threshold is exceeded during any six-month period. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]
 - e. The permittee shall maintain records for SN-25 that describes the actions taken to implement the QIP. Upon completion of the QIP, documentation shall be maintained to confirm that the plan was completed and reduced the likelihood of similar excursions or exceedances. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]

NSPS BB and NESHAP MM

127. The No. 4 Lime Kiln (SN-25) is subject to and shall comply with all applicable provisions of §19.304 of Regulation 19, 40 CFR Part 60 Subpart BB - *Standards of Performance for Kraft Pulp and Paper Mills* and 40 CFR Part 63 Subpart MM - *National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Sulfite, and Stand-Alone Semichemical Pulp Mills*. A copy of Subpart BB is provided in Appendix C. The Incinerator (SN-83) satisfies the requirements under §60.283(a)(1)(iii). A copy of Subpart MM is provided in Appendix H.
- a. The permittee shall not cause to be discharged into the atmosphere from the lime kiln any gases which contain particulate matter in excess of 0.064 gr/dscf corrected to 10 percent oxygen, when gaseous fossil fuel is burned. [40 CFR §63.862(a)(i)(C)]

- b. The permittee shall not cause to be discharged into the atmosphere from the lime kiln gases which contain TRS in excess of 8 ppm by volume on a dry basis, corrected to 10 percent oxygen. [§19.304 of Regulation 19 and 40 CFR §60.283(a)(5)]
- c. The permittee shall install, calibrate, maintain, and operate continuous monitoring systems 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 lime kiln. This system shall be located downstream of the control device and the span shall be set at a TRS concentration of 30 ppm for the TRS continuous monitoring system and at 20 percent oxygen for the continuous oxygen monitoring system. [§19.304 of Regulation 19 and 40 CFR §60.284(a)(2)]
- d. The permittee shall install, calibrate, maintain, and operate continuous monitoring devices (CEMs) for the lime kiln because it uses a scrubber emission control device. [§19.304 of Regulation 19 and 40 CFR §60.284(b)(2)]
- e. The permittee shall 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 1-hour average total reduced sulfur concentrations provided by each continuous monitoring system installed under paragraph (a)(2) of this section. [§19.304 of Regulation 19 and 40 CFR §60.284(c)(1)]
- f. The permittee shall calculate and record on a daily basis 12-hour average oxygen concentrations for the two consecutive periods of each operating day for the lime kiln. These 12-hour averages shall correspond to the 12-hour average TRS concentrations under paragraph (c)(1) of this section and shall be determined as an arithmetic mean of the appropriate 12 contiguous 1-hour average oxygen concentrations provided by each continuous monitoring system installed under paragraph (a)(2) of this section. [§19.304 of Regulation 19 and 40 CFR §60.284(c)(2)]
- g. For the purpose of reports required under 40 CFR §60.7(c), the permittee shall report semiannually periods of excess emissions where 60.284(c)(3)(i) and (ii) apply. The applicant must also report the nature and cause of the excess emissions in accordance with 40 CFR §60.7(c)(2). Excess emission reports shall be submitted to the address in General Provision 7. [§19.304 of Regulation 19 and 40 CFR §60.284(d)]
- h. The permittee shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures in this section, except as provided in 40 CFR §60.8(b). Acceptable alternative methods and procedures are

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given in paragraph (f) of this section. [§19.304 of Regulation 19 and 40 CFR §60.285(a)]

Production Limits

128. Calcium oxide production at this source is limited to 632.4 tons/day, maximum, and 550 tons/day on an annual average. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]
129. The permittee shall maintain a record daily calcium oxide production. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. A twelve month total and each individual month's data shall be submitted in accordance with General Provision #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]

Fuel Requirements

130. Either natural gas, specification oil, or a combination of natural gas and specification oil may be used as fuel in the No. 4 Lime Kiln. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]
131. The sulfur content of the specification grade oil shall not exceed 1.5% by weight and 1.0% on a 30-day average. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

Testing Requirements

132. The permittee shall test particulate matter emissions from the No. 4 Lime Kiln (SN-25) every five years. The permittee shall test at the minimum scrubber parameters of Specific Condition 125. Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 5 with inclusion of back half sampling train particulate. Results from the Method 5 test shall be compared to the NSPS limit 0.064 gr/dscf corrected to 10% O₂ for compliance purposes. During the test the permittee shall operate the source within 10 percent of the rated throughput capacity. If 90 percent of the rated throughput capacity cannot be achieved, the permittee shall be limited to 10 percent above the actual tested throughput. The permittee shall reference this limitation in any compliance reports submitted to the Department. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]
133. The permittee shall test sulfur dioxide emissions from the No. 4 Lime Kiln (SN-25) every five years. Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 6C. The permittee shall test at the minimum scrubber parameters of Specific Condition 125. During the test the permittee shall operate the source within 10 percent of the rated throughput capacity. If 90 percent of the rated throughput capacity cannot be achieved, the permittee shall be limited to 10 percent above the actual

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tested throughout. The permittee shall reference this limitation in any compliance reports submitted to the Department. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]

CEM Requirements

134. The permittee shall continue to operate and maintain for the No. 4 Lime Kiln a continuous monitoring system to monitor and record TRS concentration on a dry basis, percent of O₂ by volume on a dry basis, pressure drop across the scrubber and liquid supply pressure. [§19.304 and §19.703 of Regulation #19, 40 CFR Part 52 Subpart E, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §60.284]
135. The continuous emission monitors at the No. 4 Lime Kiln shall be operated in accordance with the Department Continuous Emission Monitoring Systems Conditions (Appendix A) and the applicable Performance Standards of 40 CFR Part 60 Appendix B. [§19.703 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
136. All continuous monitoring data may, at the discretion of the Department, be used to determine violations of the emissions limits or conditions of this permit. [§19.703 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
137. The TRS concentration of gases leaving the No. 4 Lime Kiln (SN-25) shall not exceed 8 ppm, measured as H₂S on a dry basis and on a 12 hour average, corrected to 10% volume oxygen. The permittee shall continue to operate and maintain CEMs which record the TRS concentration of gases leaving the No. 4 Lime Kiln (SN-25). The TRS monitors shall be operated in accordance with the requirements of 40 CFR §60.284 (date of installation notwithstanding) and the Department Continuous Emission Monitoring Systems Conditions (Appendix A). [§19.304, §19.501 et seq., and §19.801 et seq of Regulation #19; 40 CFR §60.283; and 40 CFR §60.284]

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SN-55F, 56F, SN-94, SN-98, SN-99, SN-100
SN-103, SN-105, SN-106, SN-107, SN-108, SN-109, and SN-110

Slaker Vents, Green Liquor Clarifier A, "A" and "B" Side Causticizers, White Liquor Storage Tanks, Green Liquor Clarifier A, White Liquor Clarifier, Mud Washers A and B, Pre-Coats Filter, Green Liquor Stabilization Tank, and White Liquor Splitter Box

Source Description

Causticizing vents contributions are also included with the slaker emission estimates. The causticizing operation reacts molten inorganic salts from the smelt dissolving tanks with weak wash to form green liquor. Undissolved particles in the green liquor are allowed to settle out in the Green Liquor Clarifiers A or B (SN-94 and SN-103).

The mixing of green liquor with lime to form slurry is termed slaking. The slaking process is designed to combine green liquor and burnt lime (CaO). This mixing, which involves an exothermic chemical reaction, takes place in one of two Slakers. The emissions are exhausted through two adjacent Slaker Vents, SN-55 and SN-56. After being mixed with lime in the slakers the green liquor goes through a series of causticizing tanks. These causticizers provide the residence time necessary for the lime to react with the green liquor and form white liquor. White liquor is used as the main cooking liquor in the digester. The white liquor is allowed to settle in the White Liquor Clarifier (SN-105).

The facility also has four white liquor storage tanks (SN-100) of approximately 1 million (3) and 5 million (1) gallons.

As a result of the R10 modification, SN-103, SN-105, SN-106, SN-107, SN-108, SN-109, and SN-110 underwent PSD review for VOC. BACT is defined as no controls.

Specific Conditions

138. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition is demonstrated by compliance with Specific Condition #69. [Regulation No. 19 §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	ton/yr
55F	Lime Slaker Vent #1	PM ₁₀	0.4	1.4
		VOC	0.7	2.5
		TRS	0.8	2.8
56F	Lime Slaker Vent #2	PM ₁₀	0.4	1.4
		VOC	0.7	2.5
		TRS	0.8	2.8
94	Green Liquor Clarifier A	VOC	1.1	4.0
		TRS	0.1	0.1

SN	Description	Pollutant	lb/hr	ton/yr
98	“A” Side Causticizers	VOC	0.1	0.1
		TRS	0.4	1.2
99	“B” Side Causticizers	VOC	0.1	0.1
		TRS	0.4	1.2
100	White Liquor Storage Tanks (4 total)	VOC	0.2	0.6
		TRS	0.3	1.0
103	Green Liquor Clarifier B	TRS	0.1	0.1
106	Mud Washer A	TRS	0.1	0.2
107	Mud Washer B	TRS	0.1	0.2
108	Pre-Coats Filter	TRS	0.1	0.1
109	Green Liquor Stabilization Tank	TRS	0.1	0.2

139. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition is demonstrated by compliance with Specific Condition #69. [Regulation No. 19 §19.501 et seq., §19.901, and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	ton/yr
103	Green Liquor Clarifier B	VOC	0.2	0.8
105	White Liquor Clarifier	VOC	0.2	0.7
106	Mud Washer A	VOC	1.4	5.2
107	Mud Washer B	VOC	1.4	5.2
108	Pre-Coats Filter	VOC	0.1	0.2
109	Green Liquor Stabilization Tank	VOC	0.6	2.4
110	White Liquor Splitter Box	VOC	0.2	0.7

140. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition is demonstrated by compliance with Specific Condition #69. [Regulation No. §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Description	Pollutant	lb/hr	ton/yr
55F	Lime Slaker Vent #1	Acetaldehyde	0.11	0.41
		Acetone	0.2	0.5
		Acrolein	0.01	0.01

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SN	Description	Pollutant	lb/hr	ton/yr
		Ammonia	7.0	26.5
		Benzene	0.01	0.01
		Methanol	0.09	0.33
		Styrene	0.01	0.01
		Tetrachloroethylene	0.01	0.01
		Toluene	0.01	0.02
		1,2,4-Trichlorobenzene	0.01	0.01
		Xylene	0.01	0.01
56F	Lime Slaker Vent #2	Acetaldehyde	0.11	0.41
		Acetone	0.2	0.5
		Acrolein	0.01	0.01
		Ammonia	7.0	26.5
		Benzene	0.01	0.01
		Methanol	0.09	0.33
		Styrene	0.01	0.01
		Tetrachloroethylene	0.01	0.01
		Toluene	0.01	0.02
		1,2,4-Trichlorobenzene	0.01	0.01
		Xylene	0.01	0.01
94	Green Liquor Clarifier	Acetaldehyde	0.01	0.01
		Acetone	0.1	0.1
		Benzene	0.01	0.01
		Methanol	0.21	0.79
		Styrene	0.01	0.01
		Toluene	0.01	0.01
		Xylene	0.01	0.02
98	"A" Side Causticizers	Acetaldehyde	0.02	0.07
		Acetone	0.1	0.1
		Benzene	0.01	0.01
		Methanol	0.01	0.01
		Styrene	0.01	0.01
		Xylene	0.01	0.01
99	"B" Side Causticizers	Acetaldehyde	0.02	0.07
		Acetone	0.1	0.1
		Benzene	0.01	0.01
		Methanol	0.01	0.01
		Styrene	0.01	0.01
		Xylene	0.01	0.01
100	White Liquor Storage Tanks	Acetone	0.1	0.2
		Methanol	0.01	0.02
103	Green Liquor	Acetaldehyde*	0.01	0.01

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SN	Description	Pollutant	lb/hr	ton/yr
	Clarifier B	Acetone	0.1	0.1
		Benzene*	0.01	0.01
		Methanol*	0.18	0.66
		Styrene*	0.01	0.01
		Toluene*	0.01	0.01
		Xylene*	0.01	0.02
105	White Liquor Clarifier	Acetone	0.1	0.1
		Benzene	0.01	0.01
		Formaldehyde	0.07	0.27
		Methanol	0.05	0.19
		Styrene	0.01	0.01
		Xylene	0.01	0.01
106	Mud Washer A	Acetone	0.1	0.1
		Benzene	0.01	0.01
		Formaldehyde	0.04	0.14
		Methanol	0.03	0.10
		Styrene	0.01	0.01
		Xylene	0.01	0.01
107	Mud Washer B	Acetone	0.1	0.1
		Benzene	0.01	0.01
		Formaldehyde	0.04	0.14
		Methanol	0.03	0.10
		Styrene	0.01	0.01
		Xylene	0.01	0.01
108	Pre-Coats Filter	Acetaldehyde	0.01	0.01
		Acetone	0.1	0.1
		Benzene	0.01	0.01
		Chloroform	0.01	0.01
		Methanol	0.04	0.14
		Tetrachloroethylene	0.01	0.01
		Toluene	0.01	0.01
		Xylene	0.01	0.01
109	Green Liquor Stabilization Tank	Acetaldehyde	0.04	0.14
		Acetone	0.2	0.6
		Chloroform	0.01	0.01
		Cresol	0.03	0.12
		Methanol	0.37	1.63
		Phenol	0.02	0.09
110	White Liquor Splitter Box	Acetone	0.1	0.1
		Benzene	0.01	0.01
		Formaldehyde	0.07	0.27

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SN	Description	Pollutant	lb/hr	ton/yr
		Methanol	0.05	0.19
		Styrene	0.01	0.01
		Xylene	0.01	0.01

*Actual, unrounded emissions of all HAP are less than the total VOCs

SN-62 and 63
 No. 1 and 2 Fine Paper Machines

Source Description

Communication paper is made on the two fine paper machines (No. 1 and 2 Fine Paper Machines). Each machine includes its own stock preparation, head box, wire section, press section, dryer sections, coater section, calendar stacks, reel and drum winder. The fine paper machines produce a variety of products, including but not limited to, bond paper, envelope, tablet and copier paper. Emissions from Fine Paper Machine No. 1 (SN-62) occur primarily from the fourdrinier vacuum pump exhausts, press section vents, dryer exhaust and coating section. Fine Paper Machine No. 2 (SN-63) is nearly identical to Fine Paper Machine No. 1.

Specific Conditions

141. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #143. [Regulation No. 19 §19.501 et seq., §19.901, and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	ton/yr
62	Fine Paper Machine No. 1	VOC	18.6	81.3
			0.89 lb/ADTFP*	
63	Fine Paper Machine No. 2	VOC	11.3	49.3
			0.54 lb/ADTFP*	

*Air Dried Tons of Finished Paper

142. The permittee estimates the emission rates set forth in the following table will not be exceeded. The pollutant emission rates are effectively limited by Specific Condition #143. [Regulation No. §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Description	Pollutant	lb/hr	ton/yr
62	Fine Paper Machine No. 1	Acetaldehyde	1.20	5.23
		Acetone	0.8	4.0
		Acrolein	0.05	0.20
		Formaldehyde	0.24	1.05
		Methanol	1.20	5.23
		Methylene Chloride	0.10	0.41
		Tetrachloroethylene	0.09	0.37
		1,2,4-Trichlorobenzene	0.05	0.22
		Xylene	0.03	0.11

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SN	Description	Pollutant	lb/hr	ton/yr
62	Fine Paper Machine No. 2	Acetaldehyde	1.20	5.23
		Acetone	0.8	4.0
		Acrolein	0.05	0.20
		Formaldehyde	0.24	1.05
		Methanol	1.20	5.23
		Methylene Chloride	0.10	0.41
		Tetrachloroethylene	0.09	0.37
		1,2,4-Trichlorobenzene	0.05	0.22
		Xylene	0.03	0.11

Production Limits

143. The permittee shall not produce in excess of 1050 machine dried tons of paper per day from the Fine Paper Machines No. 1 and No. 2 combined, 30 day rolling average. A conversion factor of 1.05 MDT/ ADTFP is used to account for fiber loss. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]
144. The permittee shall maintain records which demonstrate compliance with the paper production limits, VOC annual emission limits in tpy, and VOC BACT limits in lb/MDT listed in Specific Conditions #141 and #143. The records shall be updated on a monthly basis. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. A twelve month rolling total and each individual month's data shall be submitted in accordance with General Provision #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]

SN-64 and 65
 Board Machine No. 3 and Burners

Source Description

The Board Machine No. 3 produces bleached board using the wet end, dry end and broke systems. The board is used primarily as cup stock and liner board for boxes. Emissions from Board Machine No. 3 occur primarily from the vacuum pump exhausts, press section vents, dryer exhausts, coating section and combustion sources in the coating section. Emissions from the wet end, dry end and coating operations of Board Machine No. 3 are bubbled together (SN-64). There are sixteen gas burners (SN-65) with a total heating value of 12.3 million Btu per hour located on the board machine following the coating operations.

Specific Conditions

145. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #149 and #150. [Regulation No. 19 §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	ton/yr
65	Board Machine No. 3 Burners	PM ₁₀	0.2	0.5
		SO ₂	0.1	0.1
		VOC	0.1	0.4
		CO	1.3	5.5
		NO _x	1.5	6.5
		Pb	0.01	0.01

146. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #151. [Regulation No. 19 §19.501 et seq., §19.901, and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	ton/yr
64	Board Machine No. 3	VOC	10.6	46.4
			0.31 lb/ADTFP Annual Average	

*Air Dried Tons of Finished Paper

147. The permittee estimates the emission rates set forth in the following table will not be exceeded. The pollutant emission rates are effectively limited by Specific Conditions

#149 and #150. [Regulation No. §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Description	Pollutant	lb/hr	ton/yr
64	Board Machine No. 3	Acetaldehyde	1.95	8.51
		Acetone	1.3	5.7
		Acrolein	0.08	0.32
		Formaldehyde	0.39	1.69
		Methanol	1.95	8.51
		Methylene Chloride	0.15	0.66
		Tetrachloroethylene	0.14	0.59
		1,2,4-Trichlorobenzene	0.09	0.36
		Xylene	0.04	0.18
65	Board Machine No. 3 Burners	PM	0.2	0.5
		Arsenic	0.01	0.01
		Benzene	0.01	0.01
		Cadmium	0.01	0.01
		Cobalt	0.01	0.01
		Formaldehyde	0.01	0.01
		Hexane	0.03	0.12
		Manganese	0.01	0.01
		Mercury	0.01	0.01
		Naphthalene	0.01	0.01
		Nickel	0.01	0.01
		Toluene	0.01	0.01

Opacity

148. The permittee shall not cause to be discharged to the atmosphere from the Board Machine No. 3 Burners (SN-65) gases which exhibit opacity greater than 5%. Compliance with this opacity limit shall be the use of natural gas only. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-11]
149. Natural gas shall be the only fuel used for the Board Machine No. 3 Burners (SN-65). [§18.1004 of Regulation #18, §19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

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Production Limits

150. The permittee shall not produce in excess of 850 machine dried tons of paper per day, 30 day rolling average, from the Board Machine No. 3. A conversion factor of 1.05 MDT/ADTFP is used to account for fiber loss. [§18.1004 of Regulation #18, §19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]
151. The permittee shall maintain records which demonstrate compliance with the paper production limits, VOC annual emissions in tpy, and VOC BACT limits listed in Specific Conditions #146 and #150. The records shall be updated on a monthly basis. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. A twelve month rolling total and each individual month's data shall be submitted in accordance with General Provision #7. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Tissue Machines No. 4 through No. 8

Source Description

There are currently five tissue machines (Tissue Machines No. 4 through No. 8) at the Georgia-Pacific Crossett Paper Mill which manufacture tissue for conversion into bathroom tissue, towel, facial tissues, and napkins. In addition, the Mill also has an additional three machines that produce communications papers and bleached paperboard.

Pulp is supplied to the five tissue machines in varying proportions depending upon the desired product. The tissue papermaking process involves stock preparation, wet end - fourdrinier, press sections mix tanks and blend tanks, dry end - dryer sections with air hoods, reel and winder, and broke system finishing operations. Pulp stock is made into paper by forming a sheet on a continuously moving wire screen (the fourdrinier); removing water by gravity, vacuum and pressing, and drying with heated rolls. The water removed from the stock is called white water. The white water is collected for reuse in stock preparation or sewerage as wastewater. Scrubbers control particulate from the reel sections of the No. 4 through No. 8 Tissue machines as well as the Rewinder of the No. 6 Tissue Machine.

Tissue converting includes the operations involved in converting large parent rolls of tissue from the tissue machines into finished products. This includes rewinding into smaller sized rolls, folding, printing, cutting, packaging and shipping.

Dust in the tissue converting area is controlled using filters with the exhaust air being recycled back into the building. Trim from the converting operations is sent to the repulpers by pneumatic systems. A cyclone removes the trim from the air stream prior to discharging the air through the roof. Minimal amounts of VOCs may be emitted from the glue that is used to seal boxes, the lubricants used on the machines and the dye used for printing patterns on the material.

SN-46, 66, and 67
 Tissue Machine No. 4

Source Description

Emissions from the wet end and dry end of Tissue Machine No. 4 (SN-66) have been bubbled together. The Tissue Machine No. 4 Burners (SN-46) have a total heating rate of 20 million Btu per hour. Tissue Machine No. 4 Dust System (SN-67) uses a 20,000 cfm scrubber to control particulate matter emissions.

Specific Conditions

152. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #159 and #160. [Regulation No. 19 §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	ton/yr
46	Tissue Machine No. 4 Burners	PM ₁₀	0.2	0.8
		SO ₂	0.1	0.1
		VOC	0.2	0.6
		CO	2.1	8.9
		NO _x	2.4	10.6
		Pb	0.01	0.01
67	Tissue Machine No. 4 Dust System	PM ₁₀	0.3	1.1

153. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #160 and #161. [Regulation No. 19 §19.501 et seq., §19.901, and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	ton/yr
66	Tissue Machine No. 4	PM ₁₀	0.5	2.0
			0.0646 lb/ ADTFP*	
		VOC	17.0	74.5
			2.47 lb/ADTFP* Annual Average	

*Air Dried Tons of Finished Paper

154. The permittee estimates the emission rates set forth in the following table will not be exceeded. The pollutant emission rates are effectively limited by Specific Conditions

#159 and #160. [Regulation No. §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Description	Pollutant	lb/hr	ton/yr
46	Tissue Machine No. 4 Burners	Arsenic	0.01	0.01
		Benzene	0.01	0.01
		Cadmium	0.01	0.01
		Cobalt	0.01	0.01
		Formaldehyde	0.01	0.01
		Hexane	0.05	0.19
		Manganese	0.01	0.01
		Mercury	0.01	0.01
		Naphthalene	0.01	0.01
		Nickel	0.01	0.01
		Toluene	0.01	0.01
66	Tissue Machine No. 4	Acetaldehyde	0.11	0.47
		Biphenyl	0.81	3.54
		Chloroform	0.03	0.10
		Formaldehyde	0.01	0.01
		Methanol	0.05	0.19
		Methylene Chloride	0.01	0.04
		Phenol	0.18	0.76
		Propionaldehyde	0.01	0.01
		Toluene	0.03	0.10
67	Tissue Machine No. 4 Dust System	PM	0.3	1.1

Opacity

155. The permittee shall not cause to be discharged to the atmosphere from SN-46 and SN-67 gases which exhibit opacity greater than 5%. Compliance with this opacity limit shall be the use of natural gas only for SN-46. §18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
156. The permittee shall conduct weekly observations of the opacity at SN-67. Observations shall be conducted by personnel familiar with the permittee's visible emissions. If visible emissions in excess of the permitted opacity are detected, then a Method 9 reading is required. The permittee shall then take immediate action to identify the cause of the visible emissions, implement all necessary corrective action, and reassess the visible emissions after corrective action is taken. The permittee shall maintain records related to all observations/readings, to be updated on a weekly basis. The records shall contain the date and time of each observation/reading, the cause of any observed exceedance of opacity limits, corrective action taken, and results of the reassessment, and the name of

the person conducting the observation/reading. The records shall be kept on site and made available to Department personnel upon request. [§19.705 of Regulation 19 and 40 CFR Part 52, Subpart E]

157. The permittee shall not cause to be discharged to the atmosphere from SN-66 gases which exhibit any visible emissions exceeding 6 minutes during a 60-minute period. The permittee shall check for the presence of visible emissions from each corner of the building housing SN-66 once during each calendar week. This test will not be an EPA Method 9 test, only a yes/no check for visible emissions, and does not require that the observer be a certified visible emission reader. If visible emissions are detected for more than 6 minutes per hour, then the permittee shall determine the source of the visible emissions. Once the source is identified, the permittee shall immediately take action to identify the cause of the visible emissions, implement corrective action, and document that visible emissions did not appear following the corrective action. The permittee shall maintain log records which contain the following items in order to demonstrate compliance with this specific condition. These records shall be updated weekly, kept on site, and made available to Department personnel upon request. [§19.503 and §19.901 et seq of Regulation #19, and 40 CFR Part 52 Subpart E]
 - a. The date and time of the observation
 - b. If visible emissions were detected
 - c. If visible emissions were detected, the source number causing the visible emissions, the cause of the visible emissions, the corrective action taken, and whether any visible emissions appeared after the corrective action was taken.
 - d. The name of the person conducting the observation.
158. The permittee may, in the event of emergency maintenance on SN-67 (Tissue No. 4 Dust System), shut down the dust collection system and contain the tissue dust within the building during the continued operation of the paper machine. Good housekeeping practices shall be used to control tissue dust and prevent visible emissions to the atmosphere. In the event that repairs on a scrubber extend beyond 12 hours, then a 6 minute observation for visible emissions shall be conducted once per 12 hour shift. The observation shall be a yes/no check and shall be conducted at the outside corners of the affected Tissue Machine building. If visible tissue dust emissions are detected for more than 6 minutes per hour, then corrective action shall be taken to reduce emissions and document that visible emissions do not appear after corrective action is taken. [§19.303 of Regulation #19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

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Fuel Requirements

159. Natural gas shall be the only fuel used for Tissue Machine No. 4 Burners (SN-46).
[§18.1004 of Regulation #18, §19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

Production Limits

160. The permittee shall not produce in excess of 173 machine dried tons of paper per day, 30 day rolling average, from the Tissue Machine No. 4. A conversion factor of 1.05 MDT/ADTFP is used to account for fiber loss. [§18.1004 of Regulation #18, §19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]
161. The permittee shall maintain records which demonstrate compliance with the paper production limits, VOC annual emission, and VOC BACT limits listed in Specific Conditions #153 and #160. The records shall be updated on a monthly basis. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. A twelve month rolling total and each individual month's data shall be submitted in accordance with General Provision #7. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Scrubber Monitoring

162. The scrubber shall be kept in good working condition at all times and shall meet the conditions shown in the following table. The scrubber liquid flow rate shall be measured daily. The results shall be kept on site and be available to Department personnel upon request. [§18.1104 of Regulation #18, §19.303 of Regulation #19, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Control Equipment	Parameter	Units	Minimum Operating Limits
67	scrubber	liquid flow rate	gal/min	70

SN-47, 54, and 68
 Tissue Machine No. 5

Source Description

Emissions from the wet end and dry end of Tissue Machine No. 5 (SN-68) have been bubbled together. The Tissue Machine No. 5 Burners (SN-47) are rated at 21 million Btu per hour. The burners are low NO_x burners. The Tissue Machine No. 5 Dust System (SN-54) uses a 20,000 cfm scrubber to control particulate matter emissions. The No. 5 Tissue Machine Burners (SN-47) underwent a BACT review in Air Permit 597-AOP-R0. Clean fuel, good combustion practice, and low NO_x burners were chosen as BACT at the time.

Specific Conditions

163. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #170 and #171. [Regulation No. 19 §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	ton/yr
47	Tissue Machine No. 5 Burners	Pb	0.01	0.01
54	Tissue Machine No. 5 Dust System	PM ₁₀	0.3	1.1

164. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #170, #171. [§19.501 et seq. and §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]

SN	Description	Pollutant	lb/hr	ton/yr
47	Tissue Machine No. 5 Burners	PM PM ₁₀	0.4	1.5
			0.0164 lb/MMBtu	
		SO ₂	0.1	0.1
			0.0007 lb/MMBtu	
		VOC	1.2	5.2
			0.0564 lb/MMBtu	
		CO	4.5	19.7
			0.2142 lb/MMBtu	
		NO _x	2.0	8.4

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SN	Description	Pollutant	lb/hr	ton/yr
			0.0913 lb/MMBtu	
68	Tissue Machine No. 5	PM PM ₁₀	0.3	1.1
			0.0646 lb/ ADTFP*	
		VOC	13.0	57.0
			3.37 lb/ ADTFP* Annual Average	

*Air Dried Tons of Finished Paper

165. The permittee estimates the emission rates set forth in the following table will not be exceeded. The pollutant emission rates are effectively limited by Specific Conditions #170 and #171. [Regulation No.§18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Description	Pollutant	lb/hr	ton/yr
47	Tissue Machine No. 5 Burners	Arsenic	0.01	0.01
		Benzene	0.01	0.01
		Cadmium	0.01	0.01
		Cobalt	0.01	0.01
		Formaldehyde	0.01	0.01
		Hexane	0.05	0.20
		Manganese	0.01	0.01
		Mercury	0.01	0.01
		Naphthalene	0.01	0.01
		Nickel	0.01	0.01
		Toluene	0.01	0.01
54	Tissue Machine No. 5 Dust System	PM	0.3	1.1
68	Tissue Machine No. 5	Acetaldehyde	0.07	0.27
		Biphenyl	0.46	1.99
		Chloroform	0.02	0.06
		Formaldehyde	0.01	0.01
		Methanol	0.03	0.11
		Methylene Chloride	0.01	0.03
		Phenol	0.10	0.43
		Propionaldehyde	0.01	0.01
		Toluene	0.02	0.06

Opacity

166. The permittee shall not cause to be discharged to the atmosphere from SN-47 and SN-54 gases which exhibit opacity greater than 5%. Compliance with this opacity limit shall be the use of natural gas only at SN-47. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
167. The permittee shall conduct weekly observations of the opacity at SN-54. Observations shall be conducted by personnel familiar with the permittee's visible emissions. If visible emissions in excess of the permitted opacity are detected, then a Method 9 reading is required. The permittee shall then take immediate action to identify the cause of the visible emissions, implement all necessary corrective action, and reassess the visible emissions after corrective action is taken. The permittee shall maintain records related to all observations/readings, to be updated on a weekly basis. The records shall contain the date and time of each observation/reading, the cause of any observed exceedance of opacity limits, corrective action taken, and results of the reassessment, and the name of the person conducting the observation/reading. The records shall be kept on site and made available to Department personnel upon request. [§19.705 of Regulation 19 and 40 CFR Part 52, Subpart E]
168. The permittee shall not cause to be discharged to the atmosphere from SN-68 gases which exhibit any visible emissions exceeding 6 minutes during a 60-minute period. The permittee shall check for the presence of visible emissions from each corner of the building housing SN-68 once during each calendar week. This test will not be an EPA Method 9 test, only a yes/no check for visible emissions, and does not require that the observer be a certified visible emission reader. If visible emissions are detected for more than 6 minutes per hour, then the permittee shall determine the source of the visible emissions. Once the source is identified, the permittee shall immediately take action to identify the cause of the visible emissions, implement corrective action, and document that visible emissions did not appear following the corrective action. The permittee shall maintain log records which contain the following items in order to demonstrate compliance with this specific condition. These records shall be updated weekly, kept on site, and made available to Department personnel upon request. [§19.503 and §19.901 et seq of Regulation #19, and 40 CFR Part 52 Subpart E]
 - a. The date and time of the observation
 - b. If visible emissions were detected
 - c. If visible emissions were detected, the source number causing the visible emissions, the cause of the visible emissions, the corrective action taken, and whether any visible emissions appeared after the corrective action was taken.
 - d. The name of the person conducting the observation.

169. The permittee may, in the event of emergency maintenance on SN-54, shut down the dust collection system and contain the tissue dust within the building during the continued operation of the paper machine. Good housekeeping practices shall be used to control tissue dust and prevent visible emissions to the atmosphere. In the event that repairs on a scrubber extend beyond 12 hours, then a 6 minute observation for visible emissions shall be conducted once per 12 hour shift. The observation shall be a yes/no check and shall be conducted at the outside corners of the affected Tissue Machine building. If visible tissue dust emissions are detected for more than 6 minutes per hour, then corrective action shall be taken to reduce emissions and document that visible emissions do not appear after corrective action is taken. [§19.303 of Regulation #19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Fuel Requirements

170. Natural gas shall be the only fuel used for the Tissue Machine No. 5 Burners (SN-47). [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

Production Limits

171. The permittee shall not produce in excess of 97 machine dried tons of paper per day, 30 day rolling average, from the Tissue Machine No. 5. A conversion factor of 1.05 MDT/ADTFP is used to account for fiber loss. [§18.1004 of Regulation #18, §19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]
172. The permittee shall maintain records which demonstrate compliance with the paper production limits, paper machine VOC annual emission, and paper machine VOC BACT limits listed in Specific Conditions #168 and #171. The records shall be updated on a monthly basis. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. A twelve month rolling total and each individual month's data shall be submitted in accordance with General Provision #7. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Scrubber Monitoring

173. The scrubber shall be kept in good working condition at all times and shall meet the conditions shown in the following table. The scrubber liquid flow rate and the gas pressure drop across the unit shall be measured daily. The results shall be kept on site and be available to the Department personnel upon request. [§18.1104 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

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SN	Control Equipment	Parameter	Units	Minimum Operating Limits
54	scrubber	liquid flow rate	gal/min	70
		gas pressure drop across unit	inches, H ₂ O	8

Testing Requirements

174. The permittee shall test SN-47 for CO and NO_x to verify compliance with the BACT emission limits specified in Specific Condition #168 every five years. Testing shall be performed in accordance with Plantwide Condition #3. Testing for CO and NO_x shall also be performed in accordance with EPA Reference Methods 10 and 7E respectively. During the test the permittee shall operate the source within 10 percent of the rated throughput capacity. If 90 percent of the rated throughput capacity cannot be achieved, the permittee shall be limited to 10 percent above the actual tested throughput. The permittee shall reference this limitation in any compliance reports submitted to the Department. [§19.702 and §19.901 et seq of Regulation #19, and 40 CFR Part 52 Subpart E]

SN-48, 51, 52, and 69
Tissue Machine No. 6

Source Description

Emissions from the wet end and dry end of Tissue Machine No. 6 (SN-69) have been bubbled together. The Tissue Machine No. 6 Burners (SN-48) are rated at 41.0 million Btu per hour. The burners are low NO_x burners. Tissue Machine No. 6 Dust System (SN-52) uses a 47,000 cfm scrubber to control particulate matter emissions. A 47,000 cfm scrubber is used to control particulate emissions from the Rewinder (SN-51) near Tissue Machine No. 6. The No. 6 Tissue Machine Burners (SN-48) underwent a BACT review in Air Permit 597-AOP-R0. Clean fuel, good combustion practice, and low NO_x burners were chosen as BACT at the time.

The R11 modification was for the replacement of the No. 6 Tissue Machine Burners (SN-48). The facility replaced the existing Hauck burners with Maxon burners rated at 20.5 MMBTU/hr each. BACT limits for particulate and VOC decreased. The source will continue to meet the CO, NO_x, and SO₂ limits.

Specific Conditions

175. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #183 and #190. [Regulation No. 19 §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	ton/yr
48	Tissue Machine No. 6 Burners (41 MMBtu/hr)	Pb	0.01	0.01
51	Tissue Machine No. 6 Rewinder	PM ₁₀	0.5	1.9
52	Tissue Machine No. 6 Dust System	PM ₁₀	0.5	1.9

176. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #189. [§19.501 et seq. and §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]

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SN	Description	Pollutant	lb/hr	ton/yr
48	Tissue Machine No. 6 Burners (41 MMBtu/hr)	PM PM ₁₀	0.4	1.8
			0.00912 lb/MMBtu	
		SO ₂	0.1	0.2
			0.0007 lb/MMBtu	
		VOC	0.3	1.4
			0.0066 lb/MMBtu	
		CO	4.7	20.6
			0.1139 lb/MMBtu	
69	Tissue Machine No. 6	PM ₁₀ PM	3.8	16.7
			0.0913 lb/MMBtu	
		VOC	0.7	3.1
			0.0646 lb/ ADTFP*	
			26.7	116.6
			2.48 lb/ ADTFP*	

*Air Dried Tons of Finished Paper

177. The permittee estimates the emission rates set forth in the following table will not be exceeded. The pollutant emission rates are effectively limited by Specific Conditions #188 and #190. [Regulation No. §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Description	Pollutant	lb/hr	ton/yr
48	Tissue Machine No. 6 Burners	Arsenic	0.01	0.01
		Benzene	0.01	0.01
		Cadmium	0.01	0.01
		Cobalt	0.01	0.01
		Formaldehyde	0.01	0.02
		Hexane	0.09	0.39
		Manganese	0.01	0.01
		Mercury	0.01	0.01
		Naphthalene	0.01	0.01
		Nickel	0.01	0.01
		Toluene	0.01	0.01
51	Tissue Machine No. 6 Rewinder	PM	0.5	1.9

SN	Description	Pollutant	lb/hr	ton/yr
52	Tissue Machine No. 6 Dust System	PM	0.5	1.9
69	Tissue Machine No. 6	Acetaldehyde	0.17	0.74
		Biphenyl	1.26	5.52
		Chloroform	0.04	0.15
		Formaldehyde	0.01	0.01
		Methanol	0.07	0.29
		Methylene Chloride	0.02	0.08
		Phenol	0.27	1.19
		Propionaldehyde	0.01	0.01
		Toluene	0.04	0.15

Opacity

178. The permittee shall not cause to be discharged to the atmosphere from SN-48, SN-51, and SN-52 gases which exhibit opacity greater than 5%. Compliance with this opacity limit shall be the use of natural gas only at SN-48. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
179. The permittee shall conduct weekly observations of the opacity at SN-51 and 52. Observations shall be conducted by personnel familiar with the permittee's visible emissions. If visible emissions in excess of the permitted opacity are detected, then a Method 9 reading is required. The permittee shall then take immediate action to identify the cause of the visible emissions, implement all necessary corrective action, and reassess the visible emissions after corrective action is taken. The permittee shall maintain records related to all observations/readings, to be updated on a weekly basis. The records shall contain the date and time of each observation/reading, the cause of any observed exceedance of opacity limits, corrective action taken, and results of the reassessment, and the name of the person conducting the observation/reading. The records shall be kept on site and made available to Department personnel upon request. [§19.705 of Regulation 19 and 40 CFR Part 52, Subpart E]
180. The permittee shall not cause to be discharged to the atmosphere from SN-69 gases which exhibit any visible emissions exceeding 6 minutes during a 60-minute period. The permittee shall check for the presence of visible emissions from each corner of the building housing SN-69 once during each calendar week. This test will not be an EPA Method 9 test, only a yes/no check for visible emissions, and does not require that the observer be a certified visible emission reader. If visible emissions are detected for more than 6 minutes per hour, then the permittee shall determine the source of the visible emissions. Once the source is identified, the permittee shall immediately take action to identify the cause of the visible emissions, implement corrective action, and document that visible emissions did not appear following the corrective action. The permittee shall

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maintain log records which contain the following items in order to demonstrate compliance with this specific condition. These records shall be updated weekly, kept on site, and made available to Department personnel upon request. [§19.503 and §19.901 et seq of Regulation #19, and 40 CFR Part 52 Subpart E]

- a. The date and time of the observation.
- b. If visible emissions were detected.
- c. If visible emissions were detected, the source number causing the visible emissions, the cause of the visible emissions, the corrective action taken, and whether any visible emissions appeared after the corrective action was taken.
- d. The name of the person conducting the observation.

Scrubber Monitoring

181. The permittee shall keep the scrubber on SN-52 in good working condition at all times and shall meet the conditions shown in the following table. The scrubber liquid flow rate and the gas pressure drop across the unit shall be measured daily. The results shall be kept on site and be available to the Department personnel upon request. [§18.1104 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Control Equipment	Parameter	Units	Minimum Operating Limits
52	scrubber	liquid flow rate	gal/min	300
		gas pressure drop across unit	inches, H ₂ O	8

182. The permittee may, in the event of emergency maintenance on SN-52, shut down the dust collection system and contain the tissue dust within the building during the continued operation of the paper machine. Good housekeeping practices shall be used to control tissue dust and prevent visible emissions to the atmosphere. In the event that repairs on a scrubber extend beyond 12 hours, then a 6 minute observation for visible emissions shall be conducted once per 12 hour shift. The observation shall be a yes/no check and shall be conducted at the outside corners of the affected Tissue Machine building. If visible tissue dust emissions are detected for more than 6 minutes per hour, then corrective action shall be taken to reduce emissions and document that visible emissions do not appear after corrective action is taken. [§19.303 of Regulation #19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

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Fuel Requirements

183. Natural gas shall be the only fuel used for the Tissue Machine No. 6 Burners (SN-48). [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

Production Limits

184. The permittee shall not produce in excess of 270 machine dried tons of paper per day, 30 day rolling average, from the Tissue Machine No. 6. A conversion factor of 1.05 MDT/ADTFP is used to account for fiber loss. [§18.1004 of Regulation #18, §19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, and 40 CFR §70.6]
185. The permittee shall maintain records which demonstrate compliance with the paper production limits, the paper machine VOC annual emissions, and the paper machine VOC BACT limits Specific Condition #176 and #184. The records shall be updated on a monthly basis. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. A twelve month rolling total and each individual month's data shall be submitted in accordance with General Provision #7. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Testing Requirements

186. The permittee shall test SN-48 for CO and NO_x to verify compliance with the BACT emission limits specified in Specific Condition #180 every five years thereafter. Testing shall be performed in accordance with Plantwide Condition #3. Testing for CO and NO_x shall also be performed in accordance with EPA Reference Methods 10 and 7E respectively. During the test the permittee shall operate the source within 10 percent of the rated throughput capacity. If 90 percent of the rated throughput capacity cannot be achieved, the permittee shall be limited to 10 percent above the actual tested throughput. The permittee shall reference this limitation in any compliance reports submitted to the Department. [§19.702 and §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]

SN-49, 50, and 70
 Tissue Machine No. 7

Emissions from the wet end and dry end of Tissue Machine No. 7 (SN-70) have been bubbled together. The Tissue Machine No. 7 Burners (SN-49) combust natural gas at a total heating rate of 41 million Btu per hour. The burners are low NO_x burners. Tissue Machine No. 7 Dust System (SN-50) uses a 44,000 cfm scrubber to control particulate matter emissions.

187. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #197 and #198. [Regulation No. 19 §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	ton/yr
49	Tissue Machine No. 7 Burners	PM ₁₀	0.4	1.7
		SO ₂	0.1	0.2
		VOC	0.3	1.2
		CO	4.2	18.2
		NO _x	2.5	10.8
		Pb	0.01	0.01
50	Tissue Machine No. 7 Dust System	PM ₁₀	0.5	2.1

188. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #198. [§19.501 et seq. and §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]

SN	Description	Pollutant	lb/hr	ton/yr
70	Tissue Machine No. 7	PM ₁₀ PM	0.7	2.9
			0.0646 lb/ ADTFP*	
		VOC	17.7	77.4
			1.78 lb/ ADTFP* Annual Average	

*Air Dried Tons of Finished Paper

189. The permittee estimates the emission rates set forth in the following table will not be exceeded. The pollutant emission rates are effectively limited by Specific Conditions #197 and #198. [Regulation No. §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Description	Pollutant	lb/hr	ton/yr
49	Tissue Machine No. 7 Burners	PM	0.4	1.7
		Arsenic	0.01	0.01
		Benzene	0.01	0.01
		Cadmium	0.01	0.01
		Cobalt	0.01	0.01
		Formaldehyde	0.01	0.02
		Hexane	0.09	0.39
		Manganese	0.01	0.01
		Mercury	0.01	0.01
		Naphthalene	0.01	0.01
		Nickel	0.01	0.01
		Toluene	0.01	0.01
50	Tissue Machine No. 7 Dust System	PM	0.5	2.1
70	Tissue Machine No. 7	Acetaldehyde	0.16	0.68
		Biphenyl	1.17	5.11
		Chloroform	0.04	0.14
		Formaldehyde	0.01	0.01
		Methanol	0.07	0.27
		Methylene Chloride	0.02	0.06
		Phenol	0.25	1.10
		Propionaldehyde	0.01	0.01
		Toluene	0.04	0.14

Opacity

190. The permittee shall not cause to be discharged to the atmosphere from SN-49 and SN-50 gases which exhibit opacity greater than 5%. Compliance with this opacity limit shall be the use of natural gas only at SN-49. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
191. The permittee shall conduct weekly observations of the opacity at SN-50. Observations shall be conducted by personnel familiar with the permittee's visible emissions. If visible emissions in excess of the permitted opacity are detected, then a Method 9 reading is required. The permittee shall then take immediate action to identify the cause of the visible emissions, implement all necessary corrective action, and reassess the visible emissions after corrective action is taken. The permittee shall maintain records related to all observations/readings, to be updated on a weekly basis. The records shall contain the date and time of each observation/reading, the cause of any observed exceedance of opacity limits, corrective action taken, and results of the reassessment, and the name of the person conducting the observation/reading. The records shall be kept on site and

made available to Department personnel upon request. [§19.705 of Regulation 19 and 40 CFR Part 52, Subpart E]

192. The permittee shall not cause to be discharged to the atmosphere from SN-70 gases which exhibit any visible emissions exceeding 6 minutes during a 60-minute period. The permittee shall check for the presence of visible emissions from each corner of the building housing SN-70 once during each calendar week. This test will not be an EPA Method 9 test, only a yes/no check for visible emissions, and does not require that the observer be a certified visible emission reader. If visible emissions are detected for more than 6 minutes per hour, then the permittee shall determine the source of the visible emissions. Once the source is identified, the permittee shall immediately take action to identify the cause of the visible emissions, implement corrective action, and document that visible emissions did not appear following the corrective action. The permittee shall maintain log records which contain the following items in order to demonstrate compliance with this specific condition. These records shall be updated weekly, kept on site, and made available to Department personnel upon request. [§19.503 and §19.901 et seq of Regulation #19, and 40 CFR Part 52 Subpart E]
- a. The date and time of the observation.
 - b. If visible emissions were detected.
 - c. If visible emissions were detected, the source number causing the visible emissions, the cause of the visible emissions, the corrective action taken, and whether any visible emissions appeared after the corrective action was taken.
 - d. The name of the person conducting the observation.
193. The permittee may, in the event of emergency maintenance on SN-50, shut down the dust collection system and contain the tissue dust within the building during the continued operation of the paper machine. Good housekeeping practices shall be used to control tissue dust and prevent visible emissions to the atmosphere. In the event that repairs on a scrubber extend beyond 12 hours, then a 6 minute observation for visible emissions shall be conducted once per 12 hour shift. The observation shall be a yes/no check and shall be conducted at the outside corners of the affected Tissue Machine building. If visible tissue dust emissions are detected for more than 6 minutes per hour, then corrective action shall be taken to reduce emissions and document that visible emissions do not appear after corrective action is taken. [§19.303 of Regulation #19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Fuel Requirements

194. Natural gas shall be the only fuel used for Tissue Machine No. 7 Burners (SN-49). [§18.1004 of Regulation #18, §19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

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Production Limits

195. The permittee shall not produce in excess of 250 machine dried tons of paper per day, 30 day rolling average, from the Tissue Machine No. 7. A conversion factor of 1.05 MDT/ADTFP is used to account for fiber loss. [§18.1004 of Regulation #18, §19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]
196. The permittee shall maintain records which demonstrate compliance with the paper production limits, the VOC annual emissions, and the VOC BACT limits Specific Condition #188 and #195. The records shall be updated on a monthly basis. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. A twelve month rolling total and each individual month's data shall be submitted in accordance with General Provision #7. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

CAM

197. The Tissue Machine No. 7 Dust System (SN-50) is subject to and shall comply with all applicable provisions of §19.304 of Regulation 19, 40 CFR Part 52 Subpart E, and Part §64.6 for Compliance Assurance Monitoring. Post control of particulate emissions from SN-50 is below major source levels.
 - a. The permittee shall maintain a scrubber liquid flow rate of at least 300 gallons per minute. [40 CFR Part §64.6(c)(1)]
 - b. The permittee shall monitor and maintain daily records to demonstrate compliance with Specific Condition #197 (A). Records shall be kept onsite and made available to the Department upon request. [40 CFR Part §64.6(c)(3)]
 - c. The permittee shall maintain the scrubber in good working condition at all times so that pollutant removal is maintained. [40 CFR Part §64.6(c)(1)]
198. The Tissue Machine No. 7 Dust System (SN-50) is subject to and shall comply with all applicable provisions §19.304 of Regulation 19, 40 CFR Part 52 Subpart E, and Part §64.6 for Compliance Assurance Monitoring. The following information pertaining to exceedances or excursions from permitted values shall be submitted in semi-annual reports in accordance with General Provision #7 as outlined in 40 CFR §70.6.
 - a. The permittee shall maintain records for SN-50 that summarizes the number, duration, and cause of excursions or exceedances of emission limits as well as corrective action taken. [40 CFR §64.9(a)(2)(i) and §64.9(b)]

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- b. The permittee shall maintain records for SN-50 that summarizes the number, duration, and cause of monitoring equipment downtime incidents, other than routine downtime for calibration checks. [40 CFR §64.9(a)(2)(ii) and §64.9(b)]
- c. The permittee shall maintain a quality improvement plan (QIP) threshold for each indicator of no more than nine excursions or 5% of the daily averages in a six-month period. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]
- d. The permittee shall develop and implement a new QIP if the threshold is exceeded during any six-month period. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]
- e. The permittee shall maintain records for SN-50 that describes the actions taken to implement the QIP. Upon completion of the QIP, documentation shall be maintained to confirm that the plan was completed and reduced the likelihood of similar excursions or exceedances. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]

SN-79, 80, and 81
 Tissue Machine No. 8

Source Description

The Tissue Machine No. 8 Burners (SN-79) combusts natural gas at a total heating rate of 50 million Btu per hour. The burners are low NO_x burners. Tissue Machine No. 8 Dust System (SN-81) is equipped with a 58,000 cfm wet venturi scrubber dust system to control particulate matter emissions.

The No. 8 Tissue Machine (SN-80) and associate equipment was subjected to a BACT review in Air Permit 597-AOP-R0. Clean fuel, good combustion practice, and low NO_x burners were chosen as BACT for the burners. For particulate control on the dust system, a wet scrubber was determined as BACT.

The proposed project, which is expected to improve production efficiency and allow for an increase in the paper machine design capacity. There will not be any changes made to the existing Yankee Dryer section of the tissue machine or the Yankee Dryer burners as part of this project. The changes will include replacement of the paper machine press section on the existing tissue machine to allow for more energy efficient drying and replacement of the dry end dust collection equipment on the existing tissue machine, including a new wet venturi scrubber rated at 58,000 dry standard cubic feet per minute (dscfm). This new dust collection equipment will replace the existing wet venturi scrubber (SN-81, rated at 55,000 dscfm) and will be used to reduce particulate matter emissions from the dry end of the paper machine and wind-up reel.

Specific Conditions

199. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #206. [Regulation No. 19 §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	ton/yr
79	Tissue Machine No. 8 Burners	Pb	0.01	0.01

200. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #206, #207, and #208. [§19.501 et seq. and §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]

SN	Description	Pollutant	lb/hr	ton/yr
79		PM/ PM ₁₀	0.9	3.6
			0.0164 lb/MMBtu	

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SN	Description	Pollutant	lb/hr	ton/yr
	Tissue Machine No. 8 Burners (50 MMBtu/hr)	SO ₂	0.1	0.2
			0.0007 lb/MMBtu	
		VOC	1.0	4.2
			0.0192 lb/MMBtu	
		CO	5.7	24.9
			0.1139 lb/MMBtu	
80	Tissue Machine No. 8	PM/ PM ₁₀	4.6	20.0
			0.0913 lb/MMBtu	
		VOC	0.8	3.2
			0.0646 lb/ ADTFP*	
81	Tissue Machine No. 8 Dust System	PM/ PM ₁₀	13.6	59.6
			1.29 lb/MDT Annual Average	
			1.8	7.7
			0.0035 gr/dscf	

201. The permittee estimates the emission rates set forth in the following table will not be exceeded. The pollutant emission rates are effectively limited by Specific Condition #206 and #207. [Regulation No. §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Description	Pollutant	lb/hr	ton/yr
79	Tissue Machine No. 8 Burners	Arsenic	0.01	0.01
		Benzene	0.01	0.01
		Cadmium	0.01	0.01
		Cobalt	0.01	0.01
		Formaldehyde	0.01	0.02
		Hexane	0.11	0.48
		Manganese	0.01	0.01
		Mercury	0.01	0.01
		Naphthalene	0.01	0.01
		Nickel	0.01	0.01
		Toluene	0.01	0.01
80	Tissue Machine No. 8	Acetaldehyde	0.36	1.54
		Acetone	0.2	0.8
		Acrolein	0.03	0.10
		Benzene	0.01	0.02
		Carbon Disulfide	0.01	0.05
		Chloroform	0.01	0.01
		Formaldehyde	0.06	0.25
		Hexane	0.01	0.02

SN	Description	Pollutant	lb/hr	ton/yr
		Methanol	0.45	1.91
		Methylene Chloride	0.03	0.11
		Naphthalene	0.01	0.03
		Phenol	0.10	0.44
		Propionaldehyde	0.10	0.44
		Styrene	0.01	0.02
		Tetrachloroethylene	0.01	0.04
		Toluene	0.01	0.01
		1,2,4 Trichlorobenzene	0.03	0.11
		Xylene	0.04	0.14

Opacity

202. The permittee shall not cause to be discharged to the atmosphere from SN-79 and SN-81 gases which exhibit opacity greater than 5%. Compliance with this opacity limit shall be the use of natural gas only at SN-79. [§19.503 and §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]
203. The permittee shall conduct weekly observations of the opacity at SN-81. Observations shall be conducted by personnel familiar with the permittee's visible emissions. If visible emissions excess of the permitted opacity are detected, then a Method 9 reading is required. The permittee shall then take immediate action to identify the cause of the visible emissions, implement all necessary corrective action, and reassess the visible emissions after corrective action is taken. The permittee shall maintain records related to all observations/readings, to be updated on a weekly basis. The records shall contain the date and time of each observation/reading, the cause of any observed exceedance of opacity limits, corrective action taken, and results of the reassessment, and the name of the person conducting the observation/reading. The records shall be kept on site and made available to Department personnel upon request. [§19.705 of Regulation 19 and 40 CFR Part 52, Subpart E]
204. The permittee shall not cause to be discharged to the atmosphere from SN-80 gases which exhibit any visible emissions exceeding 6 minutes during a 60-minute period. The permittee shall check for the presence of visible emissions from each corner of the building housing SN-80 once during each calendar week. This test will not be an EPA Method 9 test, only a yes/no check for visible emissions, and does not require that the observer be a certified visible emission reader. If visible emissions are detected for more than 6 minutes per hour, then the permittee shall determine the source of the visible emissions. Once the source is identified, the permittee shall immediately take action to identify the cause of the visible emissions, implement corrective action, and document that visible emissions did not appear following the corrective action. The permittee shall maintain log records which contain the following items in order to demonstrate compliance with this specific condition. These records shall be updated weekly, kept on

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site, and made available to Department personnel upon request. [§19.503 and §19.901 et seq of Regulation #19, and 40 CFR Part 52 Subpart E]

- a. The date and time of the observation
 - b. If visible emissions were detected
 - c. If visible emissions were detected, the source number causing the visible emissions, the cause of the visible emissions, the corrective action taken, and whether any visible emissions appeared after the corrective action was taken.
 - d. The name of the person conducting the observation.
205. The permittee may, in the event of emergency maintenance on SN-81, shut down the dust collection system and contain the tissue dust within the building during the continued operation of the paper machine. Good housekeeping practices shall be used to control tissue dust and prevent visible emissions to the atmosphere. In the event that repairs on a scrubber extend beyond 12 hours, then a 6 minute observation for visible emissions shall be conducted once per 12 hour shift. The observation shall be a yes/no check and shall be conducted at the outside corners of the affected Tissue Machine building. If visible tissue dust emissions are detected for more than 6 minutes per hour, then corrective action shall be taken to reduce emissions and document that visible emissions do not appear after corrective action is taken. [§19.303 of Regulation #19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Fuel Requirements

206. Natural gas shall be the only fuel used for Tissue Machine No. 8 Burners (SN-79). [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

Production Limits

207. The permittee shall not produce in excess the machine dried tons of paper per day, 30 day rolling average, from the Tissue Machine No. 8 as represented in the January 2011 confidential application submitted Department. [18.1004 of Regulation #18, §19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]
208. The permittee shall maintain records which demonstrate compliance with the paper production limits, the paper machine VOC annual emissions, and the paper machine VOC BACT limits listed in Specific Conditions #200 and #207. The records shall be updated on a monthly basis. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. For VOC annual emissions and the paper machine VOC BACT limit, a twelve month

rolling total and each individual month's data shall be submitted in accordance with General Provision #7. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

CAM

209. The Tissue Machine No. 8 Dust System (SN-81) is subject to and shall comply with all applicable provisions of §19.304 of Regulation 19, 40 CFR Part 52 Subpart E, and Part §64.6 for Compliance Assurance Monitoring. Post control of particulate emissions from SN-81 is below major source levels.
- a. The permittee shall maintain a scrubber liquid pressure of at least 8 inches of water. [40 CFR Part §64.6(c)(1)]
 - b. The permittee shall monitor and maintain daily records to demonstrate compliance with Specific Condition #209(A). Records shall be kept onsite and made available to the Department upon request. [40 CFR Part §64.6(c)(3)]
 - c. The permittee shall maintain the scrubber in good working condition at all times so that pollutant removal is maintained. [40 CFR Part §64.6(c)(1)]
210. The Tissue Machine No. 8 Dust System (SN-81) is subject to and shall comply with all applicable provisions of §19.304 of Regulation 19, 40 CFR Part 52 Subpart E, and Part §64.6 for Compliance Assurance Monitoring. The following information pertaining to exceedances or excursions from permitted values shall be submitted in semi-annual reports in accordance with General Provision 7 as outlined in 40 CFR §70.6.
- a. The permittee shall maintain records for SN-81 that summarizes the number, duration, and cause of excursions or exceedances of emission limits as well as corrective action taken. [40 CFR §64.9(a)(2)(i) and §64.9(b)]
 - b. The permittee shall maintain records for SN-81 that summarizes the number, duration, and cause of monitoring equipment downtime incidents, other than routine downtime for calibration checks. [40 CFR §64.9(a)(2)(ii) and §64.9(b)]
 - c. The permittee shall maintain a quality improvement plan (QIP) threshold for each indicator of no more than nine excursions or 5% of the daily averages in a six-month period. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]
 - d. The permittee shall develop and implement a new QIP if the threshold is exceeded during any six-month period. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]
 - e. The permittee shall maintain records for SN-81 that describes the actions taken to implement the QIP. Upon completion of the QIP, documentation shall be maintained to confirm that the plan was completed and reduced the likelihood of similar excursions or exceedances. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]

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Testing Requirements

211. The permittee shall test SN-79 for CO and NO_x to verify compliance with the BACT emission limits specified in Specific Condition #200 every five years. Testing for CO and NO_x shall be performed in accordance with Plantwide Condition #3 and EPA Reference Methods 10 and 7E respectively. During the test the permittee shall operate the source within 10 percent of the rated throughput capacity. If 90 percent of the rated throughput capacity cannot be achieved, the permittee shall be limited to 10 percent above the actual tested throughput. The permittee shall reference this limitation in any compliance reports submitted to the Department. [§19.702 and §19.901 et seq of Regulation #19, and 40 CFR Part 52 Subpart E]
212. The permittee shall test SN-81 for PM/PM₁₀ to verify compliance with the BACT emission limit specified in Specific Conditions #200 every five years. Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 5 with inclusion of back half sampling train particulate. The permittee shall test at the minimum scrubber parameters of Specific Condition 209. During the test the permittee shall operate the source within 10 percent of the rated throughput capacity. If 90 percent of the rated throughput capacity cannot be achieved, the permittee shall be limited to 10 percent above the actual tested throughput. The permittee shall reference this limitation in any compliance reports submitted to the Department. [§19.702 and §19.901 et seq of Regulation #19, and 40 CFR Part 52 Subpart E]

SN-71 and 72
 No. 8 and No. 9 Extruder Machines

Source Description

The extrusion plant includes the No. 8 and No. 9 extruder machines which polycoat board. The extrusion plant receives board from the board machine and outside board customers and applies a polymer coating. Rolls of board are loaded onto an unwind stand. The board passes through a calender stack and is subjected to a burner which flame seals the board. An extruded poly sheet is then pressed together with the board. The combined product is then passed through an electrostatic treater (SN-71 for No. 8 Extruder and SN-72 for No. 9 Extruder) which enhances the surface quality of the product. Each extruder has two electrostatic treaters which emit ozone. Both extrusion lines also include rewinding facilities which can be used to cut the extruded product to size and rewind the material so poly can be applied to the opposite side. The extrusion plant also performs shredding, trim chopping and spool cutting. Particulate matter emissions from these activities are controlled by cyclones.

Specific Conditions

213. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #217. [§19.501 et seq. and §19.901 et seq of Regulation #19, and 40 CFR Part 52 Subpart E]

SN	Description	Pollutant	lb/hr	ton/yr
71	No. 8 Extruder Electrostatic Treaters (A&B)	PM ₁₀	0.4	1.5
72	No. 9 Extruder Electrostatic Treater	PM ₁₀	0.6	2.5

214. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #217. [Regulation No. §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Description	Pollutant	lb/hr	ton/yr
71	No. 8 Extruder Electrostatic Treaters (A&B)	PM Ozone	0.4 0.8	1.5 3.2
72	No. 9 Extruder Electrostatic Treater	PM Ozone	0.6 1.5	2.5 6.3

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Opacity

215. The permittee shall not cause to be discharged to the atmosphere from SN-71 and SN-72 gases which exhibit opacity greater than 10%. [§19.503 and §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]
216. The permittee shall conduct weekly observations of the opacity at SN-71 and SN-72. Observations shall be conducted by personnel familiar with the permittee's visible emissions. If visible emissions exceed the permitted opacity are detected, then a Method 9 reading is required. The permittee shall then take immediate action to identify the cause of the visible emissions, implement all necessary corrective action, and reassess the visible emissions after corrective action is taken. The permittee shall maintain records related to all observations/readings, to be updated on a weekly basis. The records shall contain the date and time of each observation/reading, the cause of any observed exceedance of opacity limits, corrective action taken, and results of the reassessment, and the name of the person conducting the observation/reading. The records shall be kept on site and made available to Department personnel upon request. [§19.705 of Regulation 19 and 40 CFR Part 52, Subpart E]

Production Limits

217. The permittee shall not produce in excess of 750 machine dried tons of coated paper per day, 30 day rolling average, from the No. 8 and No. 9 Extruder Machines combined. [§18.1004 of Regulation #19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
218. The permittee shall maintain records which demonstrate compliance with the limits listed in Specific Condition #217. The records shall be updated on a monthly basis. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. A twelve month total and each individual month's data shall be submitted in accordance with General Provision #7. [§18.1004 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-35
Aeration Stabilization Basin

Source Description

Wastewater is treated by the Crossett Paper Operations treatment plant. The wastewater is gathered in two open sewers, a bleach plant/utilities sewer and a process sewer. Wastewater Treatment System nutrients are added to the bleach plant/utilities sewer to enhance biological activity. After primary clarification, the process sewer and the bleach plant/utilities sewer combine and flow into one of two settling basins. The effluent travels through a surge basin and is combined with the City of Crossett's treated effluent as it enters a 265 acre extended aeration stabilization basin (ASB, SN-35F). The effluent from the ASB is sent to a holding basin called Mossy Lake, which has a surface area that varies from 200 to 600 acres. Treated effluent is discharged from Mossy Lake to the Ouachita River via Coffee Creek.

Air emissions result from the biological wastewater treatment processes. The air emissions are a factor of such things as the flow to the secondary treatment, the volume of the aeration stabilization basin, the temperature of the aeration stabilization basin and the surface area of the aeration stabilization basin. Also included in the estimation, are contributions from the wastewater clarifier, settling ponds, and sludge dewatering. These potential emissions were not accounted for in the initial permit.

Specific Conditions

219. The permittee shall not exceed the emission rates set forth in the following table. The emissions from this source are limited by the production levels of the mill. [Regulation No. 19 §19.501 et seq. and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	ton/yr
VOC	17.3	75.5

220. The permittee shall not exceed the emission rates set forth in the following table. The emissions from this source are limited by the production levels of the mill. [Regulation No. §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	ton/yr
Acetaldehyde	0.14	0.61
Acrolein	0.01	0.04
Benzene	0.02	0.07
Biphenyl	0.01	0.02
Carbon Disulfide	0.05	0.21
Chloroform	0.61	2.66
Cresol	0.01	0.01

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Pollutant	lb/hr	ton/yr
Cumene	0.41	1.77
Formaldehyde	0.04	0.18
Methanol	15.24	66.74
Naphthalene	0.09	0.36
Phenol	0.01	0.01
Propionaldehyde	0.01	0.04
Styrene	0.08	0.34
Toluene	0.03	0.11
Xylene	0.37	1.59

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SN-40, 75, 76F, 78F, 82F, and 97
Tanks and Miscellaneous Activities

Source Description

There are nine large pulp storage tanks located at Crossett Paper Operations (SN-75). An open storage basin (SN-76F) at the facility stores black liquor. The front black liquor storage basin at the facility was closed in 1996.

Fugitive emissions from unpaved roads (SN-78F) are generated by vehicle traffic. Unpaved roads are located in the utilities area, Woodyard, laydown area, contractors' area and around the wastewater treatment system.

The Methanol Tank (SN-40) is subject to regulation under NSPS Subpart Kb. The emissions are due to the working and standing losses from the tank.

There are two landfills at Crossett Paper Operations, the East Landfill and the North Landfill. The East Landfill is permitted to operate as a Class IV Landfill and accepts only woodwaste and concrete debris. The North Landfill is an industrial landfill which accepts general waste from the mill. No municipal waste is disposed in either landfill. The only significant source of emissions expected from these landfills is VOC emissions from the North Landfill. The North Landfill was permitted by the Department and began operation on September 1, 1998. The North Landfill is located approximately two miles north of the mill. The West Landfill ceased operation on September 1, 1998.

Specific Conditions

221. The permittee shall not exceed the emission rates set forth in the following table. Compliance with the pollutant emission rates associated with the Methanol Tank is demonstrated by compliance with Specific Condition #224. The emissions from the other sources are limited by the production levels of the mill. [Regulation No. 19 §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	ton/yr
40	Methanol Storage Tank	VOC	0.3	1.0
75	Pulp Storage Chests	VOC	43.2	189.3
		TRS	3.8	16.6
97	Storage Tanks	VOC	4.4	19.0
		TRS	2.5	11.0
76F	Black Liquor Storage Basin No. 1	VOC	4.4	19.3
78F	Road Emissions	PM ₁₀	3.0	9.7
82F	Landfill Operations	PM ₁₀	0.1	0.1

222. The permittee estimates the emission rates set forth in the following table will not be exceeded. The pollutant emission rates associated with the Methanol Tank are effectively limited by Specific Condition #224. The emissions from the other sources are limited by the production levels of the mill. [Regulation No. §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Description	Pollutant	lb/hr	ton/yr
40	Methanol Storage Tank	Methanol	0.22	1.0
97	Storage Tanks	Acetaldehyde	0.01	0.02
		Acrolein	0.01	0.01
		Benzene	0.01	0.01
		Carbon Tetrachloride	0.01	0.02
		Ethylene Dichloride	0.01	0.01
		Hexane	0.01	0.01
		Methanol	0.48	2.11
		Styrene	0.01	0.01
		Tetrachloroethylene	0.01	0.01
		Toluene	0.01	0.01
		1,2,4-Trichlorobenzene	0.01	0.01
		Xylene	0.01	0.03
75	Pulp Storage Chests	Acetaldehyde	0.05	0.21
		Benzene	0.01	0.01
		Chloroform	0.10	0.44
		Hexane	0.01	0.01
		Methanol	0.22	0.95
		Phenol	0.18	0.75
		Styrene	0.01	0.02
		Tetrachloroethylene	0.01	0.02
		Toluene	0.01	0.01
		Xylene	0.01	0.01
76F	Black Liquor Storage Basin No. 1	Acetaldehyde	0.20	0.87
		Acetone	0.2	0.7
		Methanol	4.02	17.61
78F	Road Emissions	PM	12.0	39.0
82F	Landfill Operations	PM	0.2	0.1

NSPS Kb

223. The Methanol Tank is subject to and shall comply with all applicable provisions of 40 CFR Part 60 Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels. A copy of Subpart Kb is provided in Appendix D.

Applicable provisions include, but are not limited to, maintaining records showing the dimension of the storage vessel, and an analysis showing the design capacity of the storage vessel. [§19.304 of Regulation #19 and 40 CFR 60.116b (a) and (b)]

Throughput Limits

224. Throughput of methanol at SN-40 shall not exceed 40,000 barrels per twelve consecutive months. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]
225. The permittee shall maintain records which demonstrate compliance with the limits listed in Specific Condition #224. These records shall be updated on a monthly basis. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. A twelve month total and each individual month's data shall be submitted in accordance with General Provision #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]

Dust Suppression

226. Dust suppression activities should be conducted in a manner and at a rate of application that will not cause runoff from the area being applied. Best Management Practices (40 CFR §122.44(k)) should be used around streams and waterbodies to prevent the dust suppression agent from entering Waters of the State. Except for potable water, no agent shall be applied within 100 feet of wetlands, lakes, ponds, springs, streams, or sinkholes. Failure to meet this condition may require the permittee to obtain a National Pollutant Discharge Elimination System (NPDES) permit in accordance with 40 CFR §122.1(b). [A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

SN-93
Repulpers A, B, and C

Source Description

Three repulpers are used to reprocess broke as well as pulp that is purchased and produced in-house. These are identified as Repulpers A, B, and C. Each repulper is identical. The repulpers operate without any hoods or fans. A sodium hypochlorite pulping aid is required to break down the broke; however not the pulp. The sodium hypochlorite is added subsurface to the repulpers. All VOC emissions are non-stack in nature. The broke that is repulped is stored in the existing broke stock chests. As part of the permit renewal, the repulpers were added as permitted sources. A minor modification allowed the reconstruction of Repulper A.

Specific Conditions

227. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #229. [Regulation No. 19 §19.501 et seq. and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	ton/yr
VOC	1.0	4.4

228. The permittee estimates the emission rates set forth in the following table will not be exceeded. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #229. [Regulation No. §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	ton/yr
Chloroform	0.99	4.32

Throughput Limits

229. The permittee shall not process in excess of 270 tons per day of broke, 30-day rolling average, total combined, at all repulpers at SN-93. This limit does not apply to purchased pulp or pulp produced in-house for purposes of recycle. [§18.1004 of Regulation #18, §19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]
230. The permittee shall maintain records of the amount of broke that is processed in Repulpers A, B and C which demonstrate compliance with the limits listed in Specific Condition #229. These records shall be updated on a monthly basis. These records shall be kept on site, provided to Department personnel upon request and may be used by the

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Department for enforcement purposes. A twelve month total and each individual month's data shall be submitted in accordance with General Provision #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]

SN-83
Incinerator and Scrubber

Source Description

Gas streams from the LVHC Collection System, the HVLC Collection System, and SOGs from the LEEPS System are fed into the Incinerator via a common burner. The HVLC system is diluted with combustion air before being fed to the combustion chamber. The Incinerator consists of a horizontal combustion chamber followed by a vertical SO₂ caustic packed-tower scrubber which, in turn, is followed by several mist eliminators.

Minimum incineration temperature in the primary combustion zone is required for efficient oxidation. For this Kraft mill application, combustion requirements dictate a minimum temperature of 1,600°F with a 0.75 second retention time (*see* 40 CFR §63.443(d)(3)). Since the Incinerator combusts NCGs from both LVHC and HVLC Collection Systems, it has to meet a 96% uptime requirement. Crossett Paper Operations complies by using the Incinerator as the primary combustion device with the 9A Boiler (SN-22) as a backup combustion device for the LVHC NCGs and SOGs only. The HVLC gases, which by definition have lower concentrations of NCGs, are vented to the atmosphere when the Incinerator is down. In the event that downtime occurs, excess emissions will be reported as required by 40 CFR §63.455.

Under normal operation, the fuel flow is controlled by the operating temperature in the Incinerator. The fuel requirements will vary with the amount of waste gases introduced into the collection system. Maximum fuel consumption will be required to bring the system up to temperature, but the consumption will be greatly reduced during normal incineration of the NCGs and SOGs. The NCGs have some heat content which reduces fuel consumption once normal incineration begins.

The Incinerator system consists of a refractory lined Incinerator, a waste heat boiler, a cooler section, an SO₂ scrubber, a sulfuric acid removal system, and a discharge stack.

The waste heat boiler is located between the Incinerator outlet and the scrubber inlet. This boiler is a fire-tube type boiler with three passes. The boiler does not combust fuels; rather it scavenges the waste heat from the Incinerator to produce steam.

The gases exiting the Incinerator are in excess of 1,600°F. In order to scrub the SO₂ from these gases, the temperature is lowered. The gases pass through a waste heat boiler. The boiler is followed by a vertical SO₂ scrubber that continues to lower the temperature as it removes most of the sulfur gases from the combustion exhaust.

The adsorption tower is followed by a sulfuric acid removal system that uses a caustic solution. A recirculation loop is used to minimize caustic use. The makeup caustic is controlled by scrubber pH to maintain scrubbing effectiveness and efficiency.

The primary fuels for the Incinerator are methanol recovered from the foul condensates via the steam stripper and the LVHC gases. Natural gas is used as a backup fuel. For a given pollutant,

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the combustion of methanol produces the highest emission rates. The Incinerator is equipped with low-NO_x burners to control NO_x emissions and a scrubber to control PM/PM₁₀ and SO₂ emissions.

In 597-AOP-R8, the facility underwent PSD review in order to modify nine of their Digesters (SN-59), replacing the six-inch blow valves with eight-inch valves. All six hardwood pulp digesters were modified, along with one "swing" pulp digester (used for either hardwood or softwood) and two softwood pulp digesters. BACT for VOC was determined to be combustion of the digester gases in an incinerator, SN-83.

Specific Conditions

231. The permittee shall not exceed the emission rates set forth in the following table for the Incinerator (SN-83). Emissions are based on maximum capacity. [Regulation No. 19 §19.501 et seq. and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	ton/yr
PM ₁₀	2.7	11.9
SO ₂	9.1	39.9
CO	6.0	26.3
NO _x	23.0	100.8
TRS	0.9	3.8

232. The permittee shall not exceed the emission rates set forth in the following table for the Incinerator (SN-83). Emissions are based on maximum capacity. [Regulation No. 19 §19.501 et seq. , §19.901, and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	ton/yr
VOC	0.8	3.5

233. The permittee shall not exceed the emission rates set forth in the following table for the Incinerator (SN-83). Emissions are based on maximum capacity. [Regulation No. §18.801 effective and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	ton/yr
PM	2.7	11.9
SAM	13.7	4.3
Acetaldehyde	0.03	0.11
Acetone	0.1	0.2
Benzene	0.04	0.14
Carbon Tetrachloride	0.01	0.04
Formaldehyde	0.03	0.09

Pollutant	lb/hr	ton/yr
Hexane	0.01	0.03
Methanol	0.81	3.06
Styrene	0.01	0.01
1,2,4-Trichlorobenzene	0.01	0.02
Xylene	0.02	0.05

Opacity

234. The permittee shall not cause to be discharged to the atmosphere from the Incinerator gases which exhibit opacity greater than 20%. [§19.503 of Regulation #19 and 40 C.F.R. Part 52 Subpart E]
235. The permittee shall conduct weekly observations of the opacity at SN-83. Observations shall be conducted by personnel familiar with the permittee's visible. If visible emissions excess of the permitted opacity are detected, then a Method 9 reading is required. The permittee shall then take immediate action to identify the cause of the visible emissions, implement all necessary corrective action, and reassess the visible emissions after corrective action is taken. The permittee shall maintain records related to all observations/readings, to be updated on a weekly basis. The records shall contain the date and time of each observation/reading, the cause of any observed exceedance of opacity limits, corrective action taken, and results of the reassessment, and the name of the person conducting the observation/reading. The records shall be kept on site and made available to Department personnel upon request. [§19.705 of Regulation 19 and 40 CFR Part 52, Subpart E]

Fuel Requirements

236. Natural gas may be used as a backup fuel for the Incinerator. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]
237. The permittee shall maintain records which demonstrate compliance with Specific Condition #236. These records shall be updated on a monthly basis and shall include periods of usage of natural gas, (not quantities) of fuel used. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. A twelve month total and each individual month's data shall be submitted in accordance with General Provision #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]

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238. Incinerator (SN-83) is subject to and shall comply with all applicable provisions §19.304 of Regulation 19, 40 CFR Part 52 Subpart E, and Part §64.6 for Compliance Assurance Monitoring. Post control of sulfur dioxide emissions from SN-83 are below major source levels.
- a. The permittee shall maintain a scrubber liquid flow rate of at least 768 gallons per minute. [40 CFR Part §64.6(c)(1)]
 - b. The permittee shall maintain a pH of at least 7.6 in the scrubber liquid. [40 CFR Part §64.6(c)(1)]
 - c. The permittee shall monitor and maintain daily records to demonstrate compliance with Specific Condition #238 (A) and (B). Records shall be kept onsite and made available to the Department upon request. [40 CFR Part §64.6(c)(3)]
 - d. The permittee shall maintain the caustic scrubber in good working condition at all times so that pollutant removal is maintained. [40 CFR Part §64.6(c)(1)]
239. The Incinerator (SN-83) is subject to and shall comply with all applicable provisions §19.304 of Regulation 19, 40 CFR Part 52 Subpart E, and Part §64.9 for Compliance Assurance Monitoring. The following information pertaining to exceedances or excursions from permitted values shall be submitted in semi-annual reports in accordance with General Provision 7 as outlined in 40 CFR §70.6.
- a. The permittee shall maintain records for SN-83 that summarizes the number, duration, and cause of excursions or exceedances of emission limits as well as corrective action taken. [40 CFR §64.9(a)(2)(i) and §64.9(b)]
 - b. The permittee shall maintain records for SN-83 that summarizes the number, duration, and cause of monitoring equipment downtime incidents, other than routine downtime for calibration checks. [40 CFR §64.9(a)(2)(ii) and §64.9(b)]
 - c. The permittee shall maintain a quality improvement plan (QIP) threshold for each indicator of no more than nine excursions or 5% of the total daily averages in a six-month period.
 - d. The permittee shall develop and implement a new QIP if the threshold is exceeded during any six-month period. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]
 - e. The permittee shall maintain records for SN-83 that describes the actions taken to implement the QIP. Upon completion of the QIP, documentation shall be

maintained to confirm that the plan was completed and reduced the likelihood of similar excursions or exceedances. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]

Testing Requirements

240. The permittee shall test volatile organic compound emissions from the Incinerator every five years to confirm the BACT limit for this source. Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 25A. During the test the permittee shall operate the source within 10 percent of the rated throughput capacity. If 90 percent of the rated throughput capacity cannot be achieved, the permittee shall be limited to 10 percent above the actual tested throughput. The permittee shall reference this limitation in any compliance reports submitted to the Department. [§19.702 and §19.901 of Regulation #19 and 40 CFR Part 52 Subpart E]
241. The permittee shall test sulfur dioxide emissions from the Incinerator every five years. Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 6C. The permittee shall test at the minimum scrubber parameters of Specific Condition 238. During the test the permittee shall operate the source within 10 percent of the rated throughput capacity. If 90 percent of the rated throughput capacity cannot be achieved, the permittee shall be limited to 10 percent above the actual tested throughput. The permittee shall reference this limitation in any compliance reports submitted to the Department. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]
242. The permittee shall test carbon monoxide emissions from the Incinerator every five years. Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 10. During the test the permittee shall operate the source within 10 percent of the rated throughput capacity. If 90 percent of the rated throughput capacity cannot be achieved, the permittee shall be limited to 10 percent above the actual tested throughput. The permittee shall reference this limitation in any compliance reports submitted to the Department. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]
243. The permittee shall test nitrogen oxides emissions from the Incinerator every five years. Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 7E. During the test the permittee shall operate the source within 10 percent of the rated throughput capacity. If 90 percent of the rated throughput capacity cannot be achieved, the permittee shall be limited to 10 percent above the actual tested throughput. The permittee shall reference this limitation in any compliance reports submitted to the Department. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]

NSPS BB and NESHAP S

244. The Incinerator (SN-83) is subject to and shall comply with applicable provisions of §19.804 of Regulation #19, NSPS Subpart BB, and NESHAP Subpart S. Section 19.804 of Regulation #19 and NSPS Subpart BB both require incineration of NCGs at a minimum temperature of 1200°F for at least 0.5 seconds. NESHAP Subpart S requires

incineration at a minimum temperature of 1600°F for at least 0.75 seconds. [§19.804 of Regulation #19, NSPS Subpart BB, and NESHAP Subpart S]

245. The permittee shall maintain records which demonstrate compliance with Specific Condition #244. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]
246. The pulping system (which is comprised of all pulping process equipment beginning with the digester system, up to and including the last piece of pulp conditioning equipment prior to the bleaching system) is subject to and shall comply with applicable provisions of 40 CFR Part 63 Subpart S -*National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry*. A copy of Subpart S is provided in Appendix E.

Standards for the Kraft pulping systems.

- a. The permittee shall control the total HAP emissions from the equipment systems listed in 40 CFR §63.443(a), as specified in paragraphs (c) and (d) of 40 CFR §63.443. [40 CFR §63.443(a)]
- b. The equipment systems listed in paragraphs (a) and (b) of 40 CFR §63.443 shall be enclosed and vented into a closed-vent system and routed to a control device that meets the requirements specified in paragraph (d) of 40 CFR §63.443. The enclosure 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 paragraphs (a) and (b) of 40 CFR §63.443 shall reduce total HAP emissions using a thermal oxidizer designed and operated at a minimum temperature of 871°C (1600°F) and a minimum residence time of 0.75 seconds. [40 CFR §63.443(d)(3)]
- d. Periods of excess emissions reported under 40 CFR §63.455 shall not be a violation of 40 CFR §63.443 (c) and (d) provided that the time of excess emissions (excluding periods of startup, shutdown, or malfunction) divided by the total process operating time in a semi-annual period does not exceed the following levels: (1) one percent for control devices used to reduce the total HAP emissions from the LVHC system; and (2) four percent for control devices used to reduce the total HAP emissions from the HVLC system; and (3) four percent for control devices used to reduce the total HAP emissions from both the LVHC and HVLC systems. [40 CFR §63.443(e)]

Standards for Kraft pulping process condensates.

- e. The pulping process condensates from the equipment systems listed in 40 CFR §63.446(b) shall be treated to meet the requirements specified in paragraphs (c), (d), and (e) of 40 CFR §63.446. [40 CFR §63.446(b)]
- f. One of the combinations of HAP-containing pulping process condensates listed in 40 CFR §63.446(c) which is generated, produced, or associated with the equipment systems listed in paragraph (b) of 40 CFR §63.446 shall be subject to the requirements of paragraph (d) and (e) of 40 CFR §63.446. [40 CFR §63.446(c)]
- g. The pulping process condensates from the equipment systems listed in paragraph (b) of 40 CFR §63.446 shall be conveyed in a closed collection system that is designed and operated to meet the requirements specified in paragraphs (d)(1) and (d)(2) of 40 CFR §63.446. [40 CFR §63.446(d)]
- h. Each pulping process condensate from the equipment systems listed in paragraph (b) of 40 CFR §63.446 shall be treated according to the following option: at mills that perform bleaching, treat the pulping process condensates to remove 5.1 kilograms or more of total HAP per megagram (10.2 pounds per ton) of ODP (bleached), or achieve a total HAP concentration of 330 parts per million or less by weight at the outlet of the control device. [40 CFR §63.446(e)(5)]
- i. Each HAP removed from a pulping process condensate stream during treatment and handling under paragraph (d) or (e) of 40 CFR §63.446 shall be controlled as specified in 40 CFR '43.443(c) and (d). [40 CFR §63.446(f)]
- j. The permittee shall evaluate all new or modified pulping process condensates or changes in the annual bleached or non-bleached ODP used to comply with paragraph (i) of 40 CFR §63.446, to determine if they meet the applicable requirements of 40 CFR §63.446. [40 CFR §63.446(h)]
- k. For the purposes of meeting the requirements in paragraphs (c)(2), (e)(4), or (e)(5) of 40 CFR §63.446 at mills producing both bleached and unbleached pulp products, the permittee may meet a prorated mass standard that is calculated by prorating the applicable mass standards (kilograms of total HAP per megagram of ODP) for bleached and unbleached specified in paragraphs (c)(2), (e)(4), or (e)(5) of 40 CFR §63.446 by the ratio of annual megagrams of bleached and unbleached ODP. [40 CFR §63.446(i)]

Monitoring Requirements

- l. The Incinerator shall meet the monitoring requirements set forth in 40 CFR §63.453(b). [40 CFR §63.453(b)]

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- m. The Steam Stripper shall meet the monitoring requirements set forth in 40 CFR §63.453(g). [40 CFR §63.453(g)]
- n. The Closed Vent System shall meet the monitoring requirements set forth in 40 CFR §63.453(k). [40 CFR §63.453(k)]

Recordkeeping and Reporting Requirements

- o. The permittee shall prepare and maintain a site-specific inspection plan for the closed vent LVHC, HVLC, and SOG collection systems. [40 CFR §63.454(b)]
 - p. Excess emissions shall be reported as required by 40 CFR §63.455. [40 CFR §63.455]
247. The permittee may allow emissions from the incinerator and associated scrubber to be released to the atmosphere bypassing the associated candle filter sulfuric acid mist eliminator. Bypass shall only be allowed during periods of emergency maintenance to the sulfuric acid mist eliminator system. Bypass emissions shall also be counted toward annual limits. [A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-111, 112, 113, 114
Converting Lines No. 1, 2, and 3
and Trim System

Source Description

This section is being installed due to the changes at the No. 8 Paper Machine. The converting lines prepare the paper for the consumer by uses of inks, glues, and cleaners. This equipment will be enclosed in a building with a drum filtering system rated at 50,000 dscfm for each line. The drum filtering system will be designed to recirculate 100% of the exhaust air back into the building. This drum filtering system is used to eliminate any potential particulate emissions from the trim line in addition to the converting lines. The drum filtering systems will be designed to recirculate 100 percent of the exhaust air back into the building.

Specific Conditions

248. The permittee shall not exceed the totals set forth in the following table for combined emissions from Converting Lines (SN-111, 112, and 113). Compliance with the VOC emission rates shall be demonstrated by Specific Condition #250. [Regulation No. 19 §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Pollutant	lb/hr	ton/yr
111	VOC	1.8	7.8
112			
113			

Throughput Limits

249. The permittee shall maintain MSDS or other records which indicate the VOC content of all inks, glues and cleaners in use in converting lines SN-111, 112, and 113. MSDS sheets should be updated annually. These records shall be maintained on-site and shall be made available to Department personnel upon request. [§19.705 of Regulation 19 and 40 CFR Part 52 Subpart E and/or §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
250. The permittee shall maintain monthly records which demonstrate the amount of VOC emitted from the converting lines SN-111, 112, and 113. These records shall be maintained in a spreadsheet, database, or other well-organized format. These records shall indicate the amount of each ink, glue, or cleaner used. It shall include the corresponding VOC content of each material, and the total amount of VOC emissions from usage. Each individual month's data and a 12-month rolling total shall be maintained on-site, shall be made available to Department personnel upon request, and

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shall be submitted in accordance with General Provision #7. [§19.705 of Regulation 19
and 40 CFR Part 52 Subpart E]

SN-115-ct, 116-ct, and 117-ct
 Cooling Towers

Source Description

Cooling towers shall be installed for servicing the HVAC system (117-ct), No.8 Tissue Machine vacuum pump (115-ct), and No.8 Tissue Machine building HVAC system(116-ct). The total circulation flow rate for the three cooling towers shall be 12,500 gallons per minute (gpm).

Specific Conditions

251. The permittee shall not exceed the emission rates set forth in the following table for the Cooling Towers SN-115-ct, 116-ct, and 117-ct. Compliance with the PM₁₀ emission rates shall be demonstrated by Specific Condition #254. [Regulation No. 19 §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Pollutant	lb/hr	ton/yr
115-ct	PM ₁₀	0.1	0.1
116-ct	PM ₁₀	0.1	0.1
117-ct	PM ₁₀	0.1	0.2

252. The permittee estimates the emission rates set forth in the following table for the Cooling Towers (SN115-ct, 116-ct, and 117-ct) will not be exceeded. Compliance with the PM emissions shall be demonstrated by Specific Condition #254. [Regulation No. §18.801 effective and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Pollutant	lb/hr	ton/yr
115-ct	PM	0.1	0.1
116-ct	PM	0.1	0.1
117-ct	PM	0.1	0.2

253. Visible emissions may not exceed the limits specified in the following table.

SN	Limit	Regulatory Citation
115-ct, 116-ct, & 117-ct	20%	[§19.503 and 40 CFR Part 52, Subpart E]

254. The total dissolved solids shall not exceed 750 mg/l at SN-115-ct, 116-ct, and 117-ct. [§19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]

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255. The permittee shall monitor and maintain monthly records which demonstrate compliance with the limits set in Specific Condition #254. Records shall be updated by the 15th day following the end of the month to which the records pertain. These records shall be kept on site and made available to Department personnel upon request. [§19.705 and 40 CFR Part 52, Subpart E]

SN-114, 115, SN-116, SN-117, SN-118, SN-119, SN-120, and SN-121
 Temporary Chipping and Debarking Equipment
 and
 Emergency Generators

Source Description

The facility has seven emergency engines on site which use diesel fuel. SN-115, SN-116, and SN-117 Firewater Pumps are Caterpillar Model 3406 engines of model year 2002 (SN-115) and 2004 (SN-116, 117) of 420 hp each. These engines are subject to NSPS ZZZZ requirements but not NSPS IIII. SN-118 and SN-119 are John Deere JU6H-UF58 engines are model year 2007 and are 138 hp. These engines are subject to both ZZZZ and IIII NSPS requirements. The facility also has a backup generator for two leachate pumps

Specific Conditions

256. The permittee shall not exceed the emission rates set forth in the following table. Compliance shall be demonstrated by compliance with Specific Condition #260. [Regulation No. 19 §19.501 et seq. and 40 CFR Part 52, Subpart E]

SN	Description	Pollutant	lb/hr	ton/yr
114	Temporary Debarking and Chipping equipment	PM ₁₀	2.5	2.6
		SO ₂	1.1	1.1
		VOC	2.5	2.6
		CO	20.8	22.5
		NO _x	16.8	18.1
115	Caterpillar Model No. 3406 Firewater Pump	PM ₁₀	1.0	0.3
		SO ₂	0.9	0.3
		VOC	1.1	0.3
		CO	2.9	0.8
		NO _x	13.1	3.3
116	Caterpillar Model No. 3406 Firewater Pump	PM ₁₀	1.0	0.3
		SO ₂	0.9	0.3
		VOC	1.1	0.3
		CO	2.9	0.8
		NO _x	13.1	3.3
117	Caterpillar Model No. 3406 Firewater Pump	PM ₁₀	1.0	0.3
		SO ₂	0.9	0.3
		VOC	1.1	0.3
		CO	2.9	0.8
		NO _x	13.1	3.3
118	John Deere JU6H-UF58	PM ₁₀	0.2	0.1
		SO ₂	0.3	0.1

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SN	Description	Pollutant	lb/hr	ton/yr
	Firewater Pump	VOC	0.1	0.1
		CO	0.3	0.1
		NO _x	1.8	0.5
119	John Deere JU6H-UF58 Firewater Pump	PM ₁₀	0.2	0.1
		SO ₂	0.3	0.1
		VOC	0.1	0.1
		CO	0.3	0.1
		NO _x	1.8	0.5
120	Cummins Series 382 Backup Generator	PM ₁₀	0.2	0.1
		SO ₂	0.2	0.1
		VOC	0.3	0.1
		CO	0.6	0.2
		NO _x	2.8	0.7
121	Caterpillar 3116 Backup Lime Kiln Rotation	PM ₁₀	0.6	0.2
		SO ₂	0.5	0.2
		VOC	0.6	0.2
		CO	1.6	0.4
		NO _x	7.2	1.8

257. The permittee shall not exceed the emission rates set forth in the following table. Compliance shall be demonstrated by compliance with Specific Condition #260. [Regulation No. §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Description	Pollutant	lb/hr	ton/yr
114	Temporary Debarking and Chipping equipment	PM	3.6	3.9
		Acetaldehyde	0.01	0.01
		Acrolein	0.01	0.01
		Benzene	0.01	0.01
		Formaldehyde	0.01	0.01
		POM	0.01	0.01
		Naphthalene	0.01	0.01
		Toluene	0.01	0.01
		Xylene	0.01	0.01
115	Caterpillar Model No. 3406 Firewater Pump	PM	1.0	0.3
		Acetaldehyde	0.01	0.01
		Acrolein	0.01	0.01
		Benzene	0.01	0.01
		Formaldehyde	0.01	0.01
		Naphthalene	0.01	0.01
		POM	0.01	0.01
		Toluene	0.01	0.01

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SN	Description	Pollutant	lb/hr	ton/yr
		Xylene	0.01	0.01
116	Caterpillar Model No. 3406 Firewater Pump	PM	1.0	0.3
		Acetaldehyde	0.01	0.01
		Acrolein	0.01	0.01
		Benzene	0.01	0.01
		Formaldehyde	0.01	0.01
		Naphthalene	0.01	0.01
		POM	0.01	0.01
		Toluene	0.01	0.01
		Xylene	0.01	0.01
117	Caterpillar Model No. 3406 Firewater Pump	PM	1.0	0.3
		Acetaldehyde	0.01	0.01
		Acrolein	0.01	0.01
		Benzene	0.01	0.01
		Formaldehyde	0.01	0.01
		Naphthalene	0.01	0.01
		POM	0.01	0.01
		Toluene	0.01	0.01
		Xylene	0.01	0.01
118	John Deere JU6H-UF58 Firewater Pump	PM	0.2	0.1
		Acetaldehyde	0.01	0.01
		Acrolein	0.01	0.01
		Benzene	0.01	0.01
		Formaldehyde	0.01	0.01
		Naphthalene	0.01	0.01
		POM	0.01	0.01
		Toluene	0.01	0.01
		Xylene	0.01	0.01
119	John Deere JU6H-UF58 Firewater Pump	PM	0.2	0.1
		Acetaldehyde	0.01	0.01
		Acrolein	0.01	0.01
		Benzene	0.01	0.01
		Formaldehyde	0.01	0.01
		Naphthalene	0.01	0.01
		POM	0.01	0.01
		Toluene	0.01	0.01
		Xylene	0.01	0.01
120	Cummins Series 382 Backup Generator	PM	0.2	0.1
		Acetaldehyde	0.01	0.01
		Acrolein	0.01	0.01
		Benzene	0.01	0.01

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SN	Description	Pollutant	lb/hr	ton/yr
		Formaldehyde	0.01	0.01
		Naphthalene	0.01	0.01
		POM	0.01	0.01
		Toluene	0.01	0.01
		Xylene	0.01	0.01
121	Caterpillar 3116 Backup Lime Kiln Rotation	PM	0.6	0.2
		Acetaldehyde	0.01	0.01
		Acrolein	0.01	0.01
		Benzene	0.01	0.01
		Formaldehyde	0.01	0.01
		Naphthalene	0.01	0.01
		POM	0.01	0.01
		Toluene	0.01	0.01
		Xylene	0.01	0.01

Opacity

258. The permittee shall not cause to be discharged to the atmosphere from the Emergency Generators, SN-115 through SN-121, and the Temporary Chipper and Debarker, SN-114, gases which exhibit opacity greater than 20%. [§19.503 of Regulation #19 and 40 CFR Part 52 Subpart E]
259. The permittee shall conduct daily observations when use exceeds 24-hours per event. Observations shall be conducted by personnel familiar with the permittee's visible emissions. If visible emissions excess of the permitted opacity are detected, then a Method 9 reading is required. The permittee shall then take immediate action to identify the cause of the visible emissions, implement all necessary corrective action, and reassess the visible emissions after corrective action is taken. The permittee shall maintain records related to all observations/readings, to be updated on a weekly basis. The records shall contain the date and time of each observation/reading, the cause of any observed exceedance of opacity limits, corrective action taken, and results of the reassessment, and the name of the person conducting the observation/reading. The records shall be kept on site and made available to Department personnel upon request. [§19.705 of Regulation 19 and 40 CFR Part 52, Subpart E]

Fuel Requirements

260. The permittee is limited to 500 hours of operation for each source, SN-115 through SN-121. [Regulation No. 19 §19.501 et seq. and 40 CFR Part 52, Subpart E]
261. Diesel fuel shall be the only fuel used for the Emergency Generators, SN-115 through SN-121. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

Limits at Temporary Debarker and Chipper

262. The permittee shall not operate either the debarker or the chipper engine in excess of 2,160 hours. The generator shall have a non-resettable hour meter in order to verify compliance with this limit. The permittee shall maintain monthly and 12-month total records in order to demonstrate compliance with the limit and which may be used by the Department for enforcement purposes. These records shall be updated no later than the fifteenth day of the month following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. [Regulation 18, §18.1004 and Regulation 19, §19.705 et seq. and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
263. The permittee shall remove the debarker/chipper engines after 12 months at the location or the maximum hours allowed in Specific Condition #262, whichever occurs first. The permittee shall maintain records of equipment placement and removal in order to demonstrate compliance with these limits. These records shall include the dates the engines are moved and the correlating hour meter readings. These records shall be kept on site and shall be made available to Department personnel upon request. [40 CFR 1068.30(2)(iii) and §19.304 of Regulation #19]
264. The permittee shall operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer. Records of required maintenance shall be kept on site and shall be made available to Department personnel upon request. [Regulation 18, §18.1004 and Regulation 19, §19.705 et seq. and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

NSPS IIII

265. SN-118 and SN-119, as CI ICE, certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006, are subject to the requirements of Subpart IIII—*Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*. [40 CFR §60.4200]
266. As owners or operations of SN-118 and SN-119, engines with a displacement of less than 30 liters per cylinder, the permittee must comply with the emission standards in Table 4 to this subpart, for all pollutants. [40 CFR §60.4205(c)]

Size	Year	NMHC + NO _x g/HP-hr	CO g/HP-hr	PM g/HP-hr
100≤HP<175	2009 and earlier	7.8	3.7	0.6

267. Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in §60.4205 according to the manufacturer's written instructions or procedures developed by the owner or operator that

are approved by the engine manufacturer, over the entire life of the engine. [40 CFR §60.4206]

268. Beginning October 1, 2010, owners and operators of stationary CI ICE subject to this subpart with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(b) for non-road diesel fuel. [40 CFR §60.4207(b)]
269. Owners and operators of pre-2011 model year stationary CI ICE subject to this subpart may petition the Administrator for approval to use remaining non-compliant fuel that does not meet the fuel requirements of paragraphs (a) and (b) of this section beyond the dates required for the purpose of using up existing fuel inventories. If approved, the petition will be valid for a period of up to 6 months. If additional time is needed, the owner or operator is required to submit a new petition to the Administrator. [40 CFR §60.4207(c)]
270. The permittee must install a non-resettable hour meter at SN-118 and SN-119. [40 CFR §60.4209(a)]
271. The permittee must operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer. In addition, owners and operators may only change those settings that are permitted by the manufacturer. The permittee must also meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply to you. [40 CFR §60.4211(a)]
272. The permittee, as an owner or operator of a CI fire pump engine that is manufactured prior to the model years in table 3 to this subpart and must comply with the emission standards specified in §60.4205(c), must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) through (5) of this section. [40 CFR §60.4211(b)]
 - a. Purchasing an engine certified according to 40 CFR part 89 or 40 CFR part 94, as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications.
 - b. Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this subpart and these methods must have been followed correctly.
 - c. Keeping records of engine manufacturer data indicating compliance with the standards.
 - d. Keeping records of control device vendor data indicating compliance with the standards.

- e. Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in §60.4212, as applicable.
273. Emergency stationary ICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary ICE in emergency situations. Anyone 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 owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. For owners and operators of emergency engines meeting standards under §60.4205 but not §60.4204, any operation other than emergency operation, and maintenance and testing as permitted in this section, is prohibited. [40 CFR §60.4211(e)]
274. The permittee must conduct performance tests according to paragraphs (a) through (d) of this section. [40 CFR §60.4212]
- a. The performance test must be conducted according to the in-use testing procedures in 40 CFR part 1039, subpart F.
 - b. Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1039 must not exceed the not-to-exceed (NTE) standards for the same model year and maximum engine power as required in 40 CFR 1039.101(e) and 40 CFR 1039.102(g)(1), except as specified in 40 CFR 1039.104(d). This requirement starts when NTE requirements take effect for nonroad diesel engines under 40 CFR part 1039.
 - c. Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8, as applicable, must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in 40 CFR 89.112 or 40 CFR 94.8, as applicable, determined from the following equation:

$$\text{NTE requirement for each pollutant} = (1.25) \times (\text{STD}) \quad (\text{Eq. 1})$$

Where:

STD = The standard specified for that pollutant in 40 CFR 89.112 or 40 CFR 94.8, as applicable.

Alternatively, stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8 may follow the testing procedures specified in §60.4213 of this subpart, as appropriate.

- d. Exhaust emissions from stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in §60.4204(a), §60.4205(a), or §60.4205(c) must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in §60.4204(a), §60.4205(a), or §60.4205(c), determined from the equation in paragraph (c) of this section.

Where:

STD = The standard specified for that pollutant in §60.4204(a), §60.4205(a), or §60.4205(c).

Alternatively, stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in §60.4204(a), §60.4205(a), or §60.4205(c) may follow the testing procedures specified in §60.4213, as appropriate.

275. If the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the owner or operator is not required to submit an initial notification. [40 CFR §60.4214(b)]

NESHAP ZZZZ

276. The Emergency Generators, SN-115 through SN-121, are subject to the requirements of NESHAP ZZZZ- *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*.
 - a. SN-118 and SN-119 are new (commenced construction on or after June 12, 2006) compression ignition (CI) stationary RICEs with a site rating of less than or equal to 500 brake HP and located at a major source of HAP emissions. [40 CFR §63.6590(a)(2)(ii)]
 - b. SN-115, SN-116, SN-117, SN-120, and SN-121 are existing (commenced construction before June 12, 2006) compression ignition (CI) stationary RICEs with a site rating of less than or equal to 500 brake HP located at a major source of HAP. [40 CFR §63.6590(a)(1)(ii)]
277. SN-118 and SN-119, as new compression ignition stationary RICE with a site rating of less than or equal to 500 HP, must meet the requirements of NESHAP ZZZZ by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines. No further requirements apply for such engines under this subpart. [40 CFR §63.6590(c)]

278. SN-115, SN-116, SN-117, SN-120, and SN-121 must comply with the applicable requirements in Table 2c. [40 CFR §63.6602 and Table 2c]
- a. Change oil and filter every 500 hours of operation or annually, whichever comes first.
 - b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first.
 - c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.
 - d. Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement in Table 2c of this subpart.
 - e. Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.
279. The permittee must be in compliance with the operating limitations in this subpart that apply to you at all times. [40 CFR §63.6605(a)]
280. 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 §63.6605(b)]
281. 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)]
282. The permittee must install a non-resettable hour meter at SN-115, SN-116, SN-117, SN-120, and SN-121, if one has not already been installed. [40 CFR §63.6625 (f)]
283. The permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of

the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 CFR §63.6625(h)(i)]

284. The permittee must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1)(i) through (iii) of this section. Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1)(i) through (iii) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1)(i) through (iii) of this section, the engine will not be considered an emergency engine under this subpart and will need to meet all requirements for non-emergency engines. [40 CFR §63.6640(f)]
- a. There is no time limit on the use of emergency stationary RICE in emergency situations. [40 CFR §63.6640(f)(i)]
 - b. You may operate your emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. The owner or operator 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 owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year. [40 CFR §63.6640(f)(ii)]
 - c. You may operate your emergency stationary RICE up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. 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; except that owners and operators may operate the emergency engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as

unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level. The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for non-emergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by this paragraph (f)(1)(iii), as long as the power provided by the financial arrangement is limited to emergency power. [40 CFR §63.6640(f)(iii)]

285. As existing stationary emergency RICE, or an existing stationary RICE that is not subject to any numerical emission standards, the permittee is exempt from submitting the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h). [40 CFR §63.6645(a)(5)]
286. The permittee must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan if you own or operate any of the following stationary RICE. [40 CFR §63.6655(e)]
287. The permittee must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator 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 engines are used for demand response operation, the owner or operator must keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response. [40 CFR §63.6655(f)]
288. The permittee must be in a form suitable and readily available for expeditious review according to §63.10(b)(1). [40 CFR §63.6660(a)]
289. 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)]
290. 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 §63.10(b)(1). [40 CFR §63.6660(c)]

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SECTION V: COMPLIANCE PLAN AND SCHEDULE

Georgia-Pacific LLC - Crossett Paper Operations will continue to operate in compliance with those identified regulatory provisions. The facility will examine and analyze future regulations that may apply and determine their applicability with any necessary action taken on a timely basis.

SECTION VI: PLANTWIDE CONDITIONS

1. The permittee shall notify the Director in writing within thirty (30) days after commencing construction, completing construction, first placing the equipment and/or facility in operation, and reaching the equipment and/or facility target production rate. [Regulation 19 §19.704, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
2. If the permittee fails to start construction within eighteen months or suspends construction for eighteen months or more, the Director may cancel all or part of this permit. [Regulation 19 §19.410(B) and 40 CFR Part 52, Subpart E]
3. The permittee must test any equipment scheduled for testing, unless otherwise stated in the Specific Conditions of this permit or by any federally regulated requirements, within the following time frames: (1) new equipment or newly modified equipment within sixty (60) days of achieving the maximum production rate, but no later than 180 days after initial start up of the permitted source or (2) operating equipment according to the time frames set forth by the Department or within 180 days of permit issuance if no date is specified. The permittee must notify the Department of the scheduled date of compliance testing at least fifteen (15) business days in advance of such test. The permittee shall submit the compliance test results to the Department within thirty (30) calendar days after completing the testing. [Regulation 19 §19.702 and/or Regulation 18 §18.1002 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
4. The permittee must provide:
 - a. Sampling ports adequate for applicable test methods;
 - b. Safe sampling platforms;
 - c. Safe access to sampling platforms; and
 - d. Utilities for sampling and testing equipment.

[Regulation 19 §19.702 and/or Regulation 18 §18.1002 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
5. The permittee must operate the equipment, control apparatus and emission monitoring equipment within the design limitations. The permittee shall maintain the equipment in good condition at all times. [Regulation 19 §19.303 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
6. This permit subsumes and incorporates all previously issued air permits for this facility. [Regulation 26 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Chemical Accident Prevention Provisions

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7. The permittee shall comply with all applicable provisions of 40 CFR §68.1 through §68.220. [40 CFR Part §68]

Oil Tank Requirement for SN-22, SN-25, and SN-26

8. The permittee shall monitor and record on a daily basis the fuel oil storage tank level which will be used to calculate the as fired sulfur content on a 30-day rolling average. The recorded 30-day rolling average value shall not exceed 1.0% by weight. This record shall be updated on a monthly basis. This report shall be submitted to the Department in accordance with General Provision #7 [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]
9. The sulfur content of the fuel oil shall be verified by testing or vendors' guarantees. The permittee shall maintain a record of each fuel shipment and the associated sulfur content. This record shall be updated with each shipment, kept on site, shall be made available to Department personnel upon request and may be used by the Department for enforcement purposes. This report shall be submitted to the Department in accordance with General Provision #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]

Requirements for a Passing NAAQS Demonstration

10. In accordance with the air dispersion modeling analyses report submitted for the Crossett Complex on March 29, 2011, the permittee shall assure that the following changes to the Plywood/Studmill are completed before starting up any new and/or modified air emitting equipment associated with the Diamond Project. Upon completion of the changes, Georgia-Pacific's Crossett Paper Operations will submit a written report to the Department certifying that all of the changes described in sections a- c below, or as alternatively agreed pursuant to section d below, have been completed:
 - a. Install a powered ventilation system over each board press and discharge the press exhaust through a stack. Each stack will have a height of 40 feet or greater, and a stack diameter of 4.5 feet or less.
 - b. Pave sections of unpaved log truck roads at the Plywood/Studmill facility to mitigate fugitive dust emissions. The sections of log truck roads to be paved are identified in the March 29, 2011 modeling analyses report.
 - c. The following wood residual material handling cyclones shall be retrofitted with baghouses to reduce PM₁₀ emissions. The permittee shall maintain documentation that each baghouse achieves an outlet PM₁₀ grain loading of 0.005 grain/dscf or less:
 - i. C9, Wood Residuals Collection System (Plant #2)
 - ii. C11, Wood Residuals Collection System (Plant #1)
 - iii. C12, Wood Residuals Collection System (Plant #1)

- d. Georgia-Pacific Plywood/Studmill may elect to conduct additional air dispersion modeling which demonstrates compliance with the National Ambient Air Quality Standards (NAAQS) modeled in the March 29, 2011 report. Such additional modeling may consider any combination of the above listed changes, or any other facility configuration (including other changes not listed above) that achieves a modeling resolution showing compliance with the pertinent NAAQS. Any such additional modeling, along with supporting documentation, shall be submitted to the Department prior to the planned commencement of any of the Plywood/Studmill changes. If such additional modeling demonstrates that any of the facility changes listed in #s 1-3 above are no longer necessary for NAAQS compliance demonstration purposes, and written concurrence is obtained from the Department, then the permittee shall only be required to complete the facility changes, if any, relied upon in the updated modeling analysis.
 - e. Prior to starting up any new and/or modified air emitting equipment associated with the Diamond Project, the Paper Operations shall submit written certification to the Department that the Plywood/Studmill has completed all such required changes (i.e., those listed in #s 1-3 above or as relied upon in any revised complex-wide air dispersion modeling analyses reviewed and approved by the Department). [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]
11. In accordance with the air dispersion modeling analyses report submitted for the Crossett Complex on March 29, 2011, the permittee shall assure that the following changes to the Paper facility are completed before starting up any new and/or modified air emitting equipment associated with the Diamond Project of Air Permit 597-AOP-R13:

Source	Stack Change
SN-115	Modify to Vertical Stack
SN-116	
SN-117	
SN-118	
SN-119	
SN-120	
SN-121	

Upon completion of the changes, Georgia-Pacific's Crossett Paper Operations will submit a written report to the Department certifying that all of the changes described below have been completed. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]

12. The following requirements shall apply to any new Diamond project source or any existing source affected by the Diamond project changes as submitted to the Department in the January 11, 2011 application.
- a. Except as otherwise provided in paragraph (r)(6)(vi)(b) of this section, the provisions of this paragraph (r)(6) apply with respect to any regulated NSR pollutant emitted from projects at existing emissions units at a major stationary source (other than projects at a source with a PAL) in circumstances where there is a reasonable possibility, within the meaning of paragraph (r)(6)(vi) of this section, that a project that is not a part of a major modification may result in a significant emissions increase of such pollutant, and the owner or operator elects to use the method specified in paragraphs (b)(41)(ii)(a) through (c) of this section for calculating projected actual emissions.
 - i. Before beginning actual construction of the project, the owner or operator shall document and maintain a record of the following information:
 - ii. A description of the project;
 - iii. Identification of the emissions unit(s) whose emissions of a regulated NSR pollutant could be affected by the project; and
 - iv. A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including the baseline actual emissions, the projected actual emissions, the amount of emissions excluded under paragraph (b)(41)(ii)(c) of this section and an explanation for why such amount was excluded, and any netting calculations, if applicable.
 - b. The owner or operator shall monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any emissions unit identified in paragraph (r)(6)(i)(b) of this section; and calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change, or for a period of 10 years following resumption of regular operations after the change if the project increases the design capacity or potential to emit that regulated NSR pollutant at such emissions unit.
 - c. If the unit is an existing unit other than an electric utility steam generating unit, the owner or operator shall submit a report to the Administrator if the annual emissions, in tons per year, from the project identified in paragraph (r)(6)(i) of this section, exceed the baseline actual emissions (as documented and maintained pursuant to paragraph (r)(6)(i)(c) of this section), by a significant amount (as defined in paragraph (b)(23) of this section) for that regulated NSR pollutant, and if such emissions differ from the preconstruction projection as documented and

maintained pursuant to paragraph (r)(6)(i)(c) of this section. Such report shall be submitted to the Administrator within 60 days after the end of such year. The report shall contain the following:

- i. The name, address and telephone number of the major stationary source;
 - ii. The annual emissions as calculated pursuant to paragraph (r)(6)(iii) of this section; and
 - iii. Any other information that the owner or operator wishes to include in the report (e.g., an explanation as to why the emissions differ from the preconstruction projection).
- d. A “reasonable possibility” under paragraph (r)(6) of this section occurs when the owner or operator calculates the project to result in either:
- i. A projected actual emissions increase of at least 50 percent of the amount that is a “significant emissions increase,” as defined under paragraph (b)(40) of this section (without reference to the amount that is a significant net emissions increase), for the regulated NSR pollutant; or
 - ii. A projected actual emissions increase that, added to the amount of emissions excluded under paragraph (b)(41)(ii)(c) of this section, sums to at least 50 percent of the amount that is a “significant emissions increase,” as defined under paragraph (b)(40) of this section (without reference to the amount that is a significant net emissions increase), for the regulated NSR pollutant. For a project for which a reasonable possibility occurs only within the meaning of paragraph (r)(6)(vi)(b) of this section, and not also within the meaning of paragraph (r)(6)(vi)(a) of this section, then provisions (r)(6)(ii) through (v) do not apply to the project.
- e. The owner or operator of the source shall make the information required to be documented and maintained pursuant to paragraph (r)(6) of this section available for review upon a request for inspection by the Administrator or the general public pursuant to the requirements contained in §70.4(b)(3)(viii) of this chapter.

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13. The permittee must limit organic HAP emissions at SN-71, 72, and 80 to the level specified in paragraph (b)(1), (2), or (3) of this section. [40 CFR Part §63.3320(b)(i-iii)]
- a. **New Sources**
 - i. No more than 2 percent of the organic HAP applied for each month (98 percent reduction) [40 CFR §63.3320(b)(1)]

- ii. No more than 1.6 percent of the mass of coating materials applied for each month [40 CFR §63.3320(b)(2)]
 - iii. No more than 8 percent of the coating solids applied for each month [40 CFR §63.3320(b)(3)]
- b. Existing Sources**
 - i. No more than 5 percent of the organic HAP applied for each month (95 percent reduction) [40 CFR §63.3320(b)(1)]
 - ii. No more than 4 percent of the mass of coating materials applied for each month [40 CFR §63.3320(b)(2)]
 - iii. No more than 20 percent of the mass of coating solids applied for each month [40 CFR §63.3320(b)(3)]
- 14. A new affected source subject to the provisions of this subpart, your compliance date is immediately upon start-up of the new affected source or by December 4, 2002, whichever is later. You must complete any performance test required in §63.3360 within the time limits specified in §63.7(a)(2). [40 CFR Part §63.3330(a)]
- 15. An existing affected source subject to the provisions of this subpart, you must comply by the compliance date. The compliance date for existing affected sources in this subpart is December 5, 2005. You must complete any performance test required in §63.3360 within the time limits specified in §63.7(a)(2). [40 CFR Part §63.3330(b)]
- 16. **Organic HAP content.** If you determine compliance with the emission standards in §63.3320 by means other than determining the overall organic HAP control efficiency of a control device, you must determine the organic HAP mass fraction of each coating material “as-purchased” by following one of the procedures in paragraphs (c)(1) through (3) of this section, and determine the organic HAP mass fraction of each coating material “as-applied” by following the procedures in paragraph (c)(4) of this section. If the organic HAP content values are not determined using the procedures in paragraphs (c)(1) through (3) of this section, the owner or operator must submit an alternative test method for determining their values for approval by the Administrator in accordance with §63.7(f). The recovery efficiency of the test method must be determined for all of the target organic HAP and a correction factor, if necessary, must be determined and applied.
 - a. **Method 311.** You may test the coating material in accordance with Method 311 of appendix A of this part. The Method 311 determination may be performed by the manufacturer of the coating material and the results provided to the owner or operator. The organic HAP content must be calculated according to the criteria and procedures in paragraphs (c)(1)(i) through (iii) of this section. [40 CFR §63.3360(c)(1)]

- i. Include each organic HAP determined to be present at greater than or equal to 0.1 mass percent for Occupational Safety and Health Administration (OSHA)-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and greater than or equal to 1.0 mass percent for other organic HAP compounds. [40 CFR §63.3360(c)(1)(i)]
 - ii. Express the mass fraction of each organic HAP you include according to paragraph (c)(1)(i) of this section as a value truncated to four places after the decimal point (for example, 0.3791). [40 CFR §63.3360(c)(1)(ii)]
 - iii. Calculate the total mass fraction of organic HAP in the tested material by summing the counted individual organic HAP mass fractions and truncating the result to three places after the decimal point (for example, 0.763). [40 CFR §63.3360(c)(1)(iii)]
 - b. **Method 24.** For coatings, determine the volatile organic content as mass fraction of non-aqueous volatile matter and use it as a substitute for organic HAP using Method 24 of 40 CFR part 60, appendix A. The Method 24 determination may be performed by the manufacturer of the coating and the results provided to you. [40 CFR §63.3360(c)(2)]
 - c. **Formulation data.** You may use formulation data to determine the organic HAP mass fraction of a coating material. Formulation data may be provided to the owner or operator by the manufacturer of the material. In the event of an inconsistency between Method 311 (appendix A of 40 CFR part 63) test data and a facility's formulation data, and the Method 311 test value is higher, the Method 311 data will govern. Formulation data may be used provided that the information represents all organic HAP present at a level equal to or greater than 0.1 percent for OSHA-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and equal to or greater than 1.0 percent for other organic HAP compounds in any raw material used. [40 CFR §63.3360(c)(3)]
 - d. **As-applied organic HAP mass fraction.** If the as-purchased coating material is applied to the web without any solvent or other material added, then the as-applied organic HAP mass fraction is equal to the as-purchased organic HAP mass fraction. Otherwise, the as-applied organic HAP mass fraction must be calculated using Equation 1a of §63.3370. [40 CFR §63.3360(c)(4)]
17. **Volatile organic and coating solids content.** If you determine compliance with the emission standards in §63.3320 by means other than determining the overall organic HAP control efficiency of a control device and you choose to use the volatile organic content as a surrogate for the organic HAP content of coatings, you must determine the as-purchased volatile organic content and coating solids content of each coating material applied by following the procedures in paragraph (d)(1) or (2) of this section, and the as-

applied volatile organic content and coating solids content of each coating material by following the procedures in paragraph (d)(3) of this section.

- a. **Method 24.** You may determine the volatile organic and coating solids mass fraction of each coating applied using Method 24 (40 CFR part 60, appendix A.) The Method 24 determination may be performed by the manufacturer of the material and the results provided to you. If these values cannot be determined using Method 24, you must submit an alternative technique for determining their values for approval by the Administrator. [40 CFR §63.3360(d)(1)]
 - b. **Formulation data.** You may determine the volatile organic content and coating solids content of a coating material based on formulation data and may rely on volatile organic content data provided by the manufacturer of the material. In the event of any inconsistency between the formulation data and the results of Method 24 of 40 CFR part 60, appendix A, and the Method 24 results are higher, the results of Method 24 will govern. [40 CFR §63.3360(d)(2)]
 - c. **As-applied volatile organic content and coating solids content.** If the as-purchased coating material is applied to the web without any solvent or other material added, then the as-applied volatile organic content is equal to the as-purchased volatile content and the as-applied coating solids content is equal to the as-purchased coating solids content. Otherwise, the as-applied volatile organic content must be calculated using Equation 1b of §63.3370 and the as-applied coating solids content must be calculated using Equation 2 of §63.3370. [40 CFR §63.3360(d)(3)]
18. **Volatile matter retained in the coated web or otherwise not emitted to the atmosphere.** The permittee may choose to take into account the mass of volatile matter retained in the coated web after curing or drying or otherwise not emitted to the atmosphere when determining compliance with the emission standards in §63.3320. If you choose this option, you must develop a testing protocol to determine the mass of volatile matter retained in the coated web or otherwise not emitted to the atmosphere and submit this protocol to the Administrator for approval. You must submit this protocol with your site-specific test plan under §63.7(f). If you intend to take into account the mass of volatile matter retained in the coated web after curing or drying or otherwise not emitted to the atmosphere and demonstrate compliance according to §63.3370(c)(3), (c)(4), (c)(5), or (d), then the test protocol you submit must determine the mass of organic HAP retained in the coated web or otherwise not emitted to the atmosphere. Otherwise, compliance must be shown using the volatile organic matter content as a surrogate for the HAP content of the coatings. [40 CFR Part §63.3360(g)]
19. The permittee must demonstrate compliance with this subpart by following the procedures in §63.3370.
- a. **As-purchased “compliant” coating materials**

- i. If you comply by using coating materials that individually meet the emission standards in §63.3320(b)(2) or (3), you must demonstrate that each coating material applied during the month at an existing affected source contains no more than 0.04 mass fraction organic HAP or 0.2 kg organic HAP per kg coating solids, and that each coating material applied during the month at a new affected source contains no more than 0.016 mass fraction organic HAP or 0.08 kg organic HAP per kg coating solids on an as-purchased basis as determined in accordance with §63.3360(c). [40 CFR Part §63.3370(b)(1)]
 - ii. You are in compliance with emission standards in §63.3320(b)(2) and (3) if each coating material applied at an existing affected source is applied as-purchased and contains no more than 0.04 kg organic HAP per kg coating material or 0.2 kg organic HAP per kg coating solids, and each coating material applied at a new affected source is applied as-purchased and contains no more than 0.016 kg organic HAP per kg coating material or 0.08 kg organic HAP per kg coating solids. [40 CFR Part §63.3370(b)(2)]
- b. Use of “as-applied” compliant coating materials**
- i. Each coating material as-applied meets the mass fraction of coating material standard (§63.3320(b)(2)). You must demonstrate that each coating material applied at an existing affected source during the month contains no more than 0.04 kg organic HAP per kg coating material applied, and each coating material applied at a new affected source contains no more than 0.016 kg organic HAP per kg coating material applied as determined in accordance with paragraphs (c)(1)(i) and (ii) of this section. You must calculate the as-applied organic HAP content of as-purchased coating materials which are reduced, thinned, or diluted prior to application. [40 CFR Part §63.3370(c)(1)(i) and (ii)]
 - 1. Determine the organic HAP content or volatile organic content of each coating material applied on an as-purchased basis in accordance with §63.3360(c).
 - 2. Calculate the as-applied organic HAP content of each coating material using Equation 1a or 1b of this section
 - ii. Each coating material as-applied meets the mass fraction of coating solids standard (§63.3320(b)(3)). You must demonstrate that each coating material applied at an existing affected source contains no more than 0.20 kg of organic HAP per kg of coating solids applied and each coating material applied at a new affected source contains no more than 0.08 kg of

organic HAP per kg of coating solids applied. You must demonstrate compliance in accordance with paragraphs (c)(2)(i) and (ii) of this section. [40 CFR Part §63.3370(c)(2)(i) and (ii)]

1. Determine the as-applied coating solids content of each coating material following the procedure in §63.3360(d). You must calculate the as-applied coating solids content of coating materials which are reduced, thinned, or diluted prior to application, using Equation 2 of this section
 2. Calculate the as-applied organic HAP to coating solids ratio using Equation 3 of this section.
- iii. Monthly average organic HAP content of all coating materials as-applied is less than the mass percent limit (§63.3320(b)(2)). Demonstrate that the monthly average as-applied organic HAP content of all coating materials applied at an existing affected source is less than 0.04 kg organic HAP per kg of coating material applied, and all coating materials applied at a new affected source are less than 0.016 kg organic HAP per kg of coating material applied, as determined by Equation 4 of this section. [40 CFR Part §63.3370(c)(3)]
- iv. Monthly average organic HAP content of all coating materials as-applied is less than the mass percent limit (§63.3320(b)(2)). Demonstrate that the monthly average as-applied organic HAP content of all coating materials applied at an existing affected source is less than 0.04 kg organic HAP per kg of coating material applied, and all coating materials applied at a new affected source are less than 0.016 kg organic HAP per kg of coating material applied, as determined by Equation 4 of this section. [40 CFR Part §63.3370(c)(4)]
- v. The affected source is in compliance with emission standards in §63.3320(b)(2) or (3) if: [40 CFR Part §63.3370(c)(5)(i) and (ii)]
1. The organic HAP content of each coating material as-applied at an existing affected source is no more than 0.04 kg organic HAP per kg coating material or 0.2 kg organic HAP per kg coating solids, and the organic HAP content of each coating material as-applied at a new affected source contains no more than 0.016 kg organic HAP per kg coating material or 0.08 kg organic HAP per kg coating solids; or
 2. The monthly average organic HAP content of all as-applied coating materials at an existing affected source are no more than 0.04 kg organic HAP per kg coating material or 0.2 kg organic

HAP per kg coating solids, and the monthly average organic HAP content of all as-applied coating materials at a new affected source is no more than 0.016 kg organic HAP per kg coating material or 0.08 kg organic HAP per kg coating solids.

- c. **Tracking total monthly organic HAP applied.** Demonstrate that the total monthly organic HAP applied as determined by Equation 6 of this section is less than the calculated equivalent allowable organic HAP as determined by Equation 13a or b in paragraph (l) of this section. [40 CFR Part §63.3370(d)]
- 20. The permittee must submit an initial notification as required by §63.9(b). [40 CFR Part §63.3400(b)(1-4)]
 - a. Initial notification for existing affected sources must be submitted no later than 1 year before the compliance date specified in §63.3330(a).
 - b. Initial notification for new and reconstructed affected sources must be submitted as required by §63.9(b).
 - c. For the purpose of this subpart, a title V or part 70 permit application may be used in lieu of the initial notification required under §63.9(b), provided the same information is contained in the permit application as required by §63.9(b) and the State to which the permit application has been submitted has an approved operating permit program under part 70 of this chapter and has received delegation of authority from the EPA to implement and enforce this subpart.
 - d. If you are using a permit application in lieu of an initial notification in accordance with paragraph (b)(3) of this section, the permit application must be submitted by the same due date specified for the initial notification.
- 21. The permittee must submit a semiannual compliance report according to paragraphs (c)(1) and (2) of this section.
 - a. Compliance report dates. [40 CFR Part §63.3400(c)(1)(i-v)]
 - i. The first compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.3330 and ending on June 30 or December 31, whichever date is the first date following the end of the calendar half immediately following the compliance date that is specified for your affected source in §63.3330.
 - ii. The first compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the calendar half immediately following the compliance date that is specified for your affected source in §63.3330.

- iii. Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.
 - iv. Each subsequent compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.
 - v. For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 40 CFR part 71, and the permitting authority has established dates for submitting semiannual reports pursuant to §70.6(a)(3)(iii)(A) or §71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (c)(1)(i) through (iv) of this section.
- b. The compliance report must contain the information in paragraphs (c)(2)(i) through (vi) of this section: [40 CFR Part §63.3400(c)(2)(i-v)]
- i. Company name and address.
 - ii. Statement by a responsible official with that official's name, title, and signature certifying the accuracy of the content of the report.
 - iii. Date of report and beginning and ending dates of the reporting period.
 - iv. If there are no deviations from any emission limitations (emission limit or operating limit) that apply to you, a statement that there were no deviations from the emission limitations during the reporting period, and that no CMS was inoperative, inactive, malfunctioning, out-of-control, repaired, or adjusted.
 - v. For each deviation from an emission limitation (emission limit or operating limit) that applies to you and that occurs at an affected source where you are not using a CEMS to comply with the emission limitations in this subpart, the compliance report must contain the information in paragraphs (c)(2)(i) through (iii) of this section, and:
 - 1. The total operating time of each affected source during the reporting period.
 - 2. Information on the number, duration, and cause of deviations (including unknown cause), if applicable, and the corrective action taken.

3. Information on the number, duration, and cause for CPMS downtime incidents, if applicable, other than downtime associated with zero and span and other calibration checks.
22. The permittee must submit a Notification of Compliance Status as specified in §63.9(h). [40 CFR Part §63.3400(e)]
23. Each owner or operator of an affected source subject to this subpart must maintain the records specified in paragraphs (a)(1) and (2) of this section on a monthly basis in accordance with the requirements of §63.10(b)(1).. Records specified in §63.10(b)(2) of all measurements needed to demonstrate compliance with this standard, including: [40 CFR Part §63.3401(a)(1)(i-vi)]
 - a. Organic HAP content data for the purpose of demonstrating compliance in accordance with the requirements of §63.3360(c);
 - b. Volatile matter and coating solids content data for the purpose of demonstrating compliance in accordance with the requirements of §63.3360(d);
 - c. Material usage, organic HAP usage, volatile matter usage, and coating solids usage and compliance demonstrations using these data in accordance with the requirements of §63.3370(b), (c), and (d).

Title VI Provisions

24. The permittee must comply with the standards for labeling of products using ozone-depleting substances. [40 CFR Part 82, Subpart E]
 - a. All containers containing a class I or class II substance stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced to interstate commerce pursuant to §82.106.
 - b. The placement of the required warning statement must comply with the requirements pursuant to §82.108.
 - c. The form of the label bearing the required warning must comply with the requirements pursuant to §82.110.
 - d. No person may modify, remove, or interfere with the required warning statement except as described in §82.112.
25. The permittee must comply with the standards for recycling and emissions reduction, except as provided for MVACs in Subpart B. [40 CFR Part 82, Subpart F]

- a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to §82.156.
 - b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to §82.158.
 - c. Persons performing maintenance, service repair, or disposal of appliances must be certified by an approved technician certification program pursuant to §82.161.
 - d. Persons disposing of small appliances, MVACs, and MVAC like appliances must comply with record keeping requirements pursuant to §82.166. (“MVAC like appliance” as defined at §82.152)
 - e. Persons owning commercial or industrial process refrigeration equipment must comply with leak repair requirements pursuant to §82.156.
 - f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.
26. If the permittee manufactures, transforms, destroys, imports, or exports a class I or class II substance, the permittee is subject to all requirements as specified in 40 CFR Part 82, Subpart A, Production and Consumption Controls.
27. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners.
28. The term “motor vehicle” as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term “MVAC” as used in Subpart B does not include the air tight sealed refrigeration system used as refrigerated cargo, or the system used on passenger buses using HCFC 22 refrigerant.
29. The permittee can switch from any ozone depleting substance to any alternative listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR Part 82, Subpart G.

SECTION VII: INSIGNIFICANT ACTIVITIES

The following sources are insignificant activities. Any activity that has a state or federal applicable requirement shall be considered a significant activity even if this activity meets the criteria of §26.304 of Regulation 26 or listed in the table below. Insignificant activity determinations rely upon the information submitted by the permittee in an application dated 5/15/2008.

Description	Category
9A Cyclone	A-13
Trim Paper Cyclone	A-13
Perini Towel Rewinder and Spectrum Towel Printer Baghouse	A-13
Spectrum Towel Printer, utilizing 0.21 wt% VOC, no HAP inks	A-13
Filling Starch Silos	A-13
Diesel Fuel Tank	A-3
Turpentine Tank	A-3
No. 8 Extruder Burner, 1.55 and 0.85 MMBTU/hr	A-1
No. 9 Extruder Burners, 1.0 MMBTU/hr (total)	A-1
Gasoline Tank	A-13
No. 6 Fuel Oil Tank 1	A-13
No. 6 Fuel Oil Tank 2	A-13

SECTION VIII: GENERAL PROVISIONS

1. Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 et seq.) as the sole origin of and authority for the terms or conditions are not required under the Clean Air Act or any of its applicable requirements, and are not federally enforceable under the Clean Air Act. Arkansas Pollution Control & Ecology Commission Regulation 18 was adopted pursuant to the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 et seq.). Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 et seq.) as the origin of and authority for the terms or conditions are enforceable under this Arkansas statute. [40 CFR 70.6(b)(2)]
2. This permit shall be valid for a period of five (5) years beginning on the date this permit becomes effective and ending five (5) years later. [40 CFR 70.6(a)(2) and Regulation 26 §26.701(B)]
3. The permittee must submit a complete application for permit renewal at least six (6) months before permit expiration. Permit expiration terminates the permittee's right to operate unless the permittee submitted a complete renewal application at least six (6) months before permit expiration. If the permittee submits a complete application, the existing permit will remain in effect until the Department takes final action on the renewal application. The Department will not necessarily notify the permittee when the permit renewal application is due. [Regulation 26 §26.406]
4. Where an applicable requirement of the Clean Air Act, as amended, 42 U.S.C. 7401, et seq. (Act) is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, the permit incorporates both provisions into the permit, and the Director or the Administrator can enforce both provisions. [40 CFR 70.6(a)(1)(ii) and Regulation 26 §26.701(A)(2)]
5. The permittee must maintain the following records of monitoring information as required by this permit.
 - a. The date, place as defined in this permit, and time of sampling or measurements;
 - b. The date(s) analyses performed;
 - c. The company or entity performing the analyses;
 - d. The analytical techniques or methods used;
 - e. The results of such analyses; and
 - f. The operating conditions existing at the time of sampling or measurement.

[40 CFR 70.6(a)(3)(ii)(A) and Regulation 26 §26.701(C)(2)]

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6. The permittee must retain the records of all required monitoring data and support information for at least five (5) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. [40 CFR 70.6(a)(3)(ii)(B) and Regulation 26 §26.701(C)(2)(b)]
7. The permittee must submit reports of all required monitoring every six (6) months. If permit establishes no other reporting period, the reporting period shall end on the last day of the anniversary month of the initial Title V permit. The report is due within thirty (30) days of the end of the reporting period. Although the reports are due every six months, each report shall contain a full year of data. The report must clearly identify all instances of deviations from permit requirements. A responsible official as defined in Regulation No. 26, §26.2 must certify all required reports. The permittee will send the reports to the address below:

Arkansas Department of Environmental Quality
Air Division
ATTN: Compliance Inspector Supervisor
5301 Northshore Drive
North Little Rock, AR 72118-5317

[40 CFR 70.6(a)(3)(iii)(A) and Regulation 26 §26.701(C)(3)(a)]

8. The permittee shall report to the Department all deviations from permit requirements, including those attributable to upset conditions as defined in the permit.
 - a. For all upset conditions (as defined in Regulation 19, § 19.601), the permittee will make an initial report to the Department by the next business day after the discovery of the occurrence. The initial report may be made by telephone and shall include:
 - i. The facility name and location;
 - ii. The process unit or emission source deviating from the permit limit;
 - iii. The permit limit, including the identification of pollutants, from which deviation occurs;
 - iv. The date and time the deviation started;
 - v. The duration of the deviation;
 - vi. The average emissions during the deviation;
 - vii. The probable cause of such deviations;
 - viii. Any corrective actions or preventive measures taken or being taken to prevent such deviations in the future; and
 - ix. The name of the person submitting the report.

The permittee shall make a full report in writing to the Department within five (5) business days of discovery of the occurrence. The report must include, in addition to the information required by the initial report, a schedule of actions taken or planned to eliminate future occurrences and/or to minimize the amount the permit's limits were exceeded and to reduce the length of time the limits were exceeded. The permittee may submit a full report in writing (by facsimile, overnight courier, or other means) by the next business day after discovery of the occurrence, and the report will serve as both the initial report and full report.

- b. For all deviations, the permittee shall report such events in semi-annual reporting and annual certifications required in this permit. This includes all upset conditions reported in 8a above. The semi-annual report must include all the information as required by the initial and full reports required in 8a.

[Regulation 19 §19.601 and §19.602, Regulation 26 §26.701(C)(3)(b), and 40 CFR 70.6(a)(3)(iii)(B)]

- 9. If any provision of the permit or the application thereof to any person or circumstance is held invalid, such invalidity will not affect other provisions or applications hereof which can be given effect without the invalid provision or application, and to this end, provisions of this Regulation are declared to be separable and severable. [40 CFR 70.6(a)(5), Regulation 26 §26.701(E), and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
- 10. The permittee must comply with all conditions of this Part 70 permit. Any permit noncompliance with applicable requirements as defined in Regulation 26 constitutes a violation of the Clean Air Act, as amended, 42 U.S.C. §7401, et seq. and is grounds for enforcement action; for permit termination, revocation and reissuance, for permit modification; or for denial of a permit renewal application. [40 CFR 70.6(a)(6)(i) and Regulation 26 §26.701(F)(1)]
- 11. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the conditions of this permit. [40 CFR 70.6(a)(6)(ii) and Regulation 26 §26.701(F)(2)]
- 12. The Department may modify, revoke, reopen and reissue the permit or terminate the permit for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. [40 CFR 70.6(a)(6)(iii) and Regulation 26 §26.701(F)(3)]
- 13. This permit does not convey any property rights of any sort, or any exclusive privilege. [40 CFR 70.6(a)(6)(iv) and Regulation 26 §26.701(F)(4)]

14. The permittee must furnish to the Director, within the time specified by the Director, any information that the Director may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee must also furnish to the Director copies of records required by the permit. For information the permittee claims confidentiality, the Department may require the permittee to furnish such records directly to the Director along with a claim of confidentiality. [40 CFR 70.6(a)(6)(v) and Regulation 26 §26.701(F)(5)]
15. The permittee must pay all permit fees in accordance with the procedures established in Regulation 9. [40 CFR 70.6(a)(7) and Regulation 26 §26.701(G)]
16. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes provided for elsewhere in this permit. [40 CFR 70.6(a)(8) and Regulation 26 §26.701(H)]
17. If the permit allows different operating scenarios, the permittee shall, contemporaneously with making a change from one operating scenario to another, record in a log at the permitted facility a record of the operational scenario. [40 CFR 70.6(a)(9)(i) and Regulation 26 §26.701(I)(1)]
18. The Administrator and citizens may enforce under the Act all terms and conditions in this permit, including any provisions designed to limit a source's potential to emit, unless the Department specifically designates terms and conditions of the permit as being federally unenforceable under the Act or under any of its applicable requirements. [40 CFR 70.6(b) and Regulation 26 §26.702(A) and (B)]
19. Any document (including reports) required by this permit must contain a certification by a responsible official as defined in Regulation 26, §26.2. [40 CFR 70.6(c)(1) and Regulation 26 §26.703(A)]
20. The permittee must allow an authorized representative of the Department, upon presentation of credentials, to perform the following: [40 CFR 70.6(c)(2) and Regulation 26 §26.703(B)]
 - a. Enter upon the permittee's premises where the permitted source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
 - b. Have access to and copy, at reasonable times, any records required under the conditions of this permit;
 - c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and

- d. As authorized by the Act, sample or monitor at reasonable times substances or parameters for assuring compliance with this permit or applicable requirements.
21. The permittee shall submit a compliance certification with the terms and conditions contained in the permit, including emission limitations, standards, or work practices. The permittee must submit the compliance certification annually within 30 days following the last day of the anniversary month of the initial Title V permit. The permittee must also submit the compliance certification to the Administrator as well as to the Department. All compliance certifications required by this permit must include the following: [40 CFR 70.6(c)(5) and Regulation 26 §26.703(E)(3)]
- a. The identification of each term or condition of the permit that is the basis of the certification;
 - b. The compliance status;
 - c. Whether compliance was continuous or intermittent;
 - d. The method(s) used for determining the compliance status of the source, currently and over the reporting period established by the monitoring requirements of this permit; and
 - e. Such other facts as the Department may require elsewhere in this permit or by §114(a)(3) and §504(b) of the Act.
22. Nothing in this permit will alter or affect the following: [Regulation 26 §26.704(C)]
- a. The provisions of Section 303 of the Act (emergency orders), including the authority of the Administrator under that section;
 - b. The liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance;
 - c. The applicable requirements of the acid rain program, consistent with §408(a) of the Act; or
 - d. The ability of EPA to obtain information from a source pursuant to §114 of the Act.
23. This permit authorizes only those pollutant emitting activities addressed in this permit. [A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
24. The permittee may request in writing and at least 15 days in advance of the deadline, an extension to any testing, compliance or other dates in this permit. No such extensions are authorized until the permittee receives written Department approval. The Department may grant such a request, at its discretion in the following circumstances:
- a. Such an extension does not violate a federal requirement;
 - b. The permittee demonstrates the need for the extension; and
 - c. The permittee documents that all reasonable measures have been taken to meet the current deadline and documents reasons it cannot be met.

[Regulation 18 §18.314(A), Regulation 19 §19.416(A), Regulation 26 §26.1013(A), A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 52, Subpart E]

25. The permittee may request in writing and at least 30 days in advance, temporary emissions and/or testing that would otherwise exceed an emission rate, throughput requirement, or other limit in this permit. No such activities are authorized until the permittee receives written Department approval. Any such emissions shall be included in the facility's total emissions and reported as such. The Department may grant such a request, at its discretion under the following conditions:
- a. Such a request does not violate a federal requirement;
 - b. Such a request is temporary in nature;
 - c. Such a request will not result in a condition of air pollution;
 - d. The request contains such information necessary for the Department to evaluate the request, including but not limited to, quantification of such emissions and the date/time such emission will occur;
 - e. Such a request will result in increased emissions less than five tons of any individual criteria pollutant, one ton of any single HAP and 2.5 tons of total HAPs; and
 - f. The permittee maintains records of the dates and results of such temporary emissions/testing.

[Regulation 18 §18.314(B), Regulation 19 §19.416(B), Regulation 26 §26.1013(B), A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 52, Subpart E]

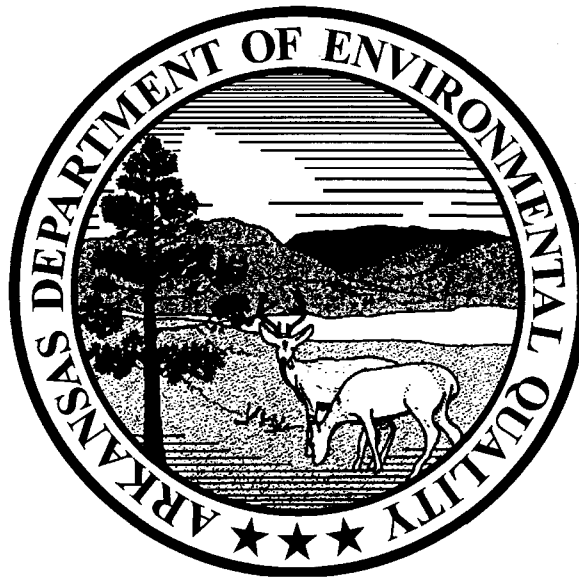
26. The permittee may request in writing and at least 30 days in advance, an alternative to the specified monitoring in this permit. No such alternatives are authorized until the permittee receives written Department approval. The Department may grant such a request, at its discretion under the following conditions:
- a. The request does not violate a federal requirement;
 - b. The request provides an equivalent or greater degree of actual monitoring to the current requirements; and
 - c. Any such request, if approved, is incorporated in the next permit modification application by the permittee.

[Regulation 18 §18.314(C), Regulation 19 §19.416(C), Regulation 26 §26.1013(C), A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 52, Subpart E]

Georgia-Pacific LLC - Crossett Paper Operations
Permit #: 0597-AOP-R14
AFIN: 02-00013

APPENDIX A - CONTINUOUS EMISSION MONITORING SYSTEMS

Arkansas Department of Environmental Quality



CONTINUOUS EMISSION MONITORING SYSTEMS CONDITIONS

Revised August 2004

PREAMBLE

These conditions are intended to outline the requirements for facilities required to operate Continuous Emission Monitoring Systems/Continuous Opacity Monitoring Systems (CEMS/COMS). Generally there are three types of sources required to operate CEMS/COMS:

1. CEMS/COMS required by 40 CFR Part 60 or 63,
2. CEMS required by 40 CFR Part 75,
3. CEMS/COMS required by ADEQ permit for reasons other than Part 60, 63 or 75.

These CEMS/COMS conditions are not intended to supercede Part 60, 63 or 75 requirements.

- Only CEMS/COMS in the third category (those required by ADEQ permit for reasons other than Part 60, 63, or 75) shall comply with SECTION II, MONITORING REQUIREMENTS and SECTION IV, QUALITY ASSURANCE/QUALITY CONTROL.
- All CEMS/COMS shall comply with Section III, NOTIFICATION AND RECORDKEEPING.

SECTION I

DEFINITIONS

Continuous Emission Monitoring System (CEMS) - The total equipment required for the determination of a gas concentration and/or emission rate so as to include sampling, analysis and recording of emission data.

Continuous Opacity Monitoring System (COMS) - The total equipment required for the determination of opacity as to include sampling, analysis and recording of emission data.

Calibration Drift (CD) - The difference in the CEMS output reading from the established reference value after a stated period of operation during which no unscheduled maintenance, repair, or adjustments took place.

Back-up CEMS (Secondary CEMS) - A CEMS with the ability to sample, analyze and record stack pollutant to determine gas concentration and/or emission rate. This CEMS is to serve as a back-up to the primary CEMS to minimize monitor downtime.

Excess Emissions - Any period in which the emissions exceed the permit limits.

Monitor Downtime - Any period during which the CEMS/COMS is unable to sample, analyze and record a minimum of four evenly spaced data points over an hour, except during one daily zero-span check during which two data points per hour are sufficient.

Out-of-Control Period - Begins with the time corresponding to the completion of the fifth, consecutive, daily CD check with a CD in excess of two times the allowable limit, or the time corresponding to the completion of the daily CD check preceding the daily CD check that results in a CD in excess of four times the allowable limit and the time corresponding to the completion of the sampling for the RATA, RAA, or CGA which exceeds the limits outlined in Section IV. Out-of-Control Period ends with the time corresponding to the completion of the CD check following corrective action with the results being within the allowable CD limit or the completion of the sampling of the subsequent successful RATA, RAA, or CGA.

Primary CEMS - The main reporting CEMS with the ability to sample, analyze, and record stack pollutant to determine gas concentration and/or emission rate.

Relative Accuracy (RA) - The absolute mean difference between the gas concentration or emission rate determined by the CEMS and the value determined by the reference method plus the 2.5 percent error confidence coefficient of a series of tests divided by the mean of the reference method tests of the applicable emission limit.

Span Value – The upper limit of a gas concentration measurement range.

SECTION II

MONITORING REQUIREMENTS

- A. For new sources, the installation date for the CEMS/COMS shall be no later than thirty (30) days from the date of start-up of the source.
- B. For existing sources, the installation date for the CEMS/COMS shall be no later than sixty (60) days from the issuance of the permit unless the permit requires a specific date.
- C. Within sixty (60) days of installation of a CEMS/COMS, a performance specification test (PST) must be completed. PST's are defined in 40 CFR, Part 60, Appendix B, PS 1-9. The Department may accept alternate PST's for pollutants not covered by Appendix B on a case-by-case basis. Alternate PST's shall be approved, in writing, by the ADEQ CEM Coordinator prior to testing.
- D. Each CEMS/COMS shall have, as a minimum, a daily zero-span check. The zero-span shall be adjusted whenever the 24-hour zero or 24-hour span drift exceeds two times the limits in the applicable performance specification in 40 CFR, Part 60, Appendix B. Before any adjustments are made to either the zero or span drifts measured at the 24-hour interval the excess zero and span drifts measured must be quantified and recorded.
- E. All CEMS/COMS shall be in continuous operation and shall meet minimum frequency of operation requirements of 95% up-time for each quarter for each pollutant measured. Percent of monitor down-time is calculated by dividing the total minutes the monitor is not in operation by the total time in the calendar quarter and multiplying by one hundred. Failure to maintain operation time shall constitute a violation of the CEMS conditions.
- F. Percent of excess emissions are calculated by dividing the total minutes of excess emissions by the total time the source operated and multiplying by one hundred. Failure to maintain compliance may constitute a violation of the CEMS conditions.
- G. All CEMS measuring emissions shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive fifteen minute period unless more cycles are required by the permit. For each CEMS, one-hour averages shall be computed from four or more data points equally spaced over each one hour period unless more data points are required by the permit.
- H. All COMS shall 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.
- I. When the pollutant from a single affected facility is released through more than one point, a CEMS/COMS shall be installed on each point unless installation of fewer systems is approved, in writing, by the ADEQ CEM Coordinator. When more than one CEM/COM is used to monitor emissions from one affected facility the owner or operator shall report the results as required from each CEMS/COMS.

SECTION III

NOTIFICATION AND RECORD KEEPING

- A. When requested to do so by an owner or operator, the ADEQ CEM Coordinator will review plans for installation or modification for the purpose of providing technical advice to the owner or operator.
- B. Each facility which operates a CEMS/COMS shall notify the ADEQ CEM Coordinator of the date for which the demonstration of the CEMS/COMS performance will commence (i.e. PST, RATA, RAA, CGA). Notification shall be received in writing no less than 15 days prior to testing. Performance test results shall be submitted to the Department within thirty days after completion of testing.
- C. Each facility which operates a CEMS/COMS shall maintain records of the occurrence and duration of start up/shut down, cleaning/soot blowing, process problems, fuel problems, or other malfunction in the operation of the affected facility which causes excess emissions. This includes any malfunction of the air pollution control equipment or any period during which a continuous monitoring device/system is inoperative.
- D. Except for Part 75 CEMs, each facility required to install a CEMS/COMS shall submit an excess emission and monitoring system performance report to the Department (Attention: Air Division, CEM Coordinator) at least quarterly, unless more frequent submittals are warranted to assess the compliance status of the facility. Quarterly reports shall be postmarked no later than the 30th day of the month following the end of each calendar quarter. Part 75 CEMs shall submit this information semi-annually and as part of Title V six (6) month reporting requirement if the facility is a Title V facility.
- E. All excess emissions shall be reported in terms of the applicable standard. Each report shall be submitted on ADEQ Quarterly Excess Emission Report Forms. Alternate forms may be used with prior written approval from the Department.
- F. Each facility which operates a CEMS/COMS must maintain on site a file of CEMS/COMS data including all raw data, corrected and adjusted, repair logs, calibration checks, adjustments, and test audits. This file must be retained for a period of at least five years, and is required to be maintained in such a condition that it can easily be audited by an inspector.
- G. Except for Part 75 CEMs, quarterly reports shall be used by the Department to determine compliance with the permit. For Part 75 CEMs, the semi-annual report shall be used.

SECTION IV

QUALITY ASSURANCE/QUALITY CONTROL

- A. For each CEMS/COMS a Quality Assurance/Quality Control (QA/QC) plan shall be submitted to the Department (Attn.: Air Division, CEM Coordinator). CEMS quality assurance procedures are defined in 40 CFR, Part 60, Appendix F. This plan shall be submitted within 180 days of the CEMS/COMS installation. A QA/QC plan shall consist of procedure and practices which assures acceptable level of monitor data accuracy, precision, representativeness, and availability.
- B. The submitted QA/QC plan for each CEMS/COMS shall not be considered as accepted until the facility receives a written notification of acceptance from the Department.
- C. Facilities responsible for one, or more, CEMS/COMS used for compliance monitoring shall meet these minimum requirements and are encouraged to develop and implement a more extensive QA/QC program, or to continue such programs where they already exist. Each QA/QC program must include written procedures which should describe in detail, complete, step-by-step procedures and operations for each of the following activities:
 - 1. Calibration of CEMS/COMS
 - a. Daily calibrations (including the approximate time(s) that the daily zero and span drifts will be checked and the time required to perform these checks and return to stable operation)
 - 2. Calibration drift determination and adjustment of CEMS/COMS
 - a. Out-of-control period determination
 - b. Steps of corrective action
 - 3. Preventive maintenance of CEMS/COMS
 - a. CEMS/COMS information
 - 1) Manufacture
 - 2) Model number
 - 3) Serial number
 - b. Scheduled activities (check list)
 - c. Spare part inventory
 - 4. Data recording, calculations, and reporting
 - 5. Accuracy audit procedures including sampling and analysis methods
 - 6. Program of corrective action for malfunctioning CEMS/COMS
- D. A Relative Accuracy Test Audit (RATA), shall be conducted at least once every four calendar quarters. A Relative Accuracy Audit (RAA), or a Cylinder Gas Audit (CGA), may be conducted in the other three quarters but in no more than three quarters in succession. The RATA should be conducted in accordance with the applicable test procedure in 40 CFR Part 60 Appendix A and calculated in accordance with the applicable performance specification in 40 CFR Part 60 Appendix B. CGA's and RAA's should be conducted and the data calculated in accordance with the procedures outlined on 40 CFR Part 60 Appendix F.

If alternative testing procedures or methods of calculation are to be used in the RATA, RAA or CGA audits prior authorization must be obtained from the ADEQ CEM Coordinator.

E. Criteria for excessive audit inaccuracy.

RATA

All Pollutants except Carbon Monoxide	> 20% Relative Accuracy
Carbon Monoxide	> 10% Relative Accuracy
All Pollutants except Carbon Monoxide	> 10% of the Applicable Standard
Carbon Monoxide	> 5% of the Applicable Standard
Diluent (O ₂ & CO ₂)	> 1.0 % O ₂ or CO ₂
Flow	> 20% Relative Accuracy

CGA

Pollutant	> 15% of average audit value or 5 ppm difference
Diluent (O ₂ & CO ₂)	> 15% of average audit value or 5 ppm difference

RAA

Pollutant	> 15% of the three run average or > 7.5 % of the applicable standard
Diluent (O ₂ & CO ₂)	> 15% of the three run average or > 7.5 % of the applicable standard

- F. If either the zero or span drift results exceed two times the applicable drift specification in 40 CFR, Part 60, Appendix B for five consecutive, daily periods, the CEMS is out-of-control. If either the zero or span drift results exceed four times the applicable drift specification in Appendix B during a calibration drift check, the CEMS is out-of-control. If the CEMS exceeds the audit inaccuracies listed above, the CEMS is out-of-control. If a CEMS is out-of-control, the data from that out-of-control period is not counted towards meeting the minimum data availability as required and described in the applicable subpart. The end of the out-of-control period is the time corresponding to the completion of the successful daily zero or span drift or completion of the successful CGA, RAA or RATA.
- G. A back-up monitor may be placed on an emission source to minimize monitor downtime. This back-up CEMS is subject to the same QA/QC procedure and practices as the primary CEMS. The back-up CEMS shall be certified by a PST. Daily zero-span checks must be performed and recorded in accordance with standard practices. When the primary CEMS goes down, the back-up CEMS may then be engaged to sample, analyze and record the emission source pollutant until repairs are made and the primary unit is placed back in service. Records must be maintained on site when the back-up CEMS is placed in service, these records shall include at a minimum the reason the primary CEMS is out of service, the date and time the primary CEMS was out of service and the date and time the primary CEMS was placed back in service.

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APPENDIX B - NSPS D

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Electronic Code of Federal Regulations

e-CFR

TM

e-CFR Data is current as of May 17, 2012

Title 40: Protection of Environment

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

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Subpart D—Standards of Performance for Fossil-Fuel-Fired Steam Generators

Source: 72 FR 32717, June 13, 2007, unless otherwise noted.

§ 60.40 Applicability and designation of affected facility.

(a) The affected facilities to which the provisions of this subpart apply are:

(1) Each fossil-fuel-fired steam generating unit of more than 73 megawatts (MW) heat input rate (250 million British thermal units per hour (MMBtu/hr)).

(2) Each fossil-fuel and wood-residue-fired steam generating unit capable of firing fossil fuel at a heat input rate of more than 73 MW (250 MMBtu/hr).

(b) Any change to an existing fossil-fuel-fired steam generating unit to accommodate the use of combustible materials, other than fossil fuels as defined in this subpart, shall not bring that unit under the applicability of this subpart.

(c) Except as provided in paragraph (d) of this section, any facility under paragraph (a) of this section that commenced construction or modification after August 17, 1971, is subject to the requirements of this subpart.

(d) The requirements of §§60.44 (a)(4), (a)(5), (b) and (d), and 60.45(f)(4)(vi) are applicable to lignite-fired steam generating units that commenced construction or modification after December 22, 1976.

(e) Any facility subject to either subpart Da or KKKK of this part is not subject to this subpart.

[72 FR 32717, June 13, 2007, as amended at 77 FR 9447, Feb. 16, 2012]

§ 60.41 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act, and in subpart A of this part.

Boiler operating day means a 24-hour period between 12 midnight and the following midnight during which any fuel is combusted at any time in the steam-generating unit. It is not necessary for fuel to be combusted the entire 24-hour period.

Coal means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by ASTM D388 (incorporated by reference, see §60.17).

Coal refuse means waste-products of coal mining, cleaning, and coal preparation operations (e.g. culm,

gob, etc.) containing coal, matrix material, clay, and other organic and inorganic material.

Fossil fuel means natural gas, petroleum, coal, and any form of solid, liquid, or gaseous fuel derived from such materials for the purpose of creating useful heat.

Fossil fuel and wood residue-fired steam generating unit means a furnace or boiler used in the process of burning fossil fuel and wood residue for the purpose of producing steam by heat transfer.

Fossil-fuel-fired steam generating unit means a furnace or boiler used in the process of burning fossil fuel for the purpose of producing steam by heat transfer.

Natural gas means a fluid mixture of hydrocarbons (e.g., methane, ethane, or propane), composed of at least 70 percent methane by volume or that has a gross calorific value between 35 and 41 megajoules (MJ) per dry standard cubic meter (950 and 1,100 Btu per dry standard cubic foot), that maintains a gaseous state under ISO conditions. In addition, *natural gas* contains 20.0 grains or less of total sulfur per 100 standard cubic feet. Finally, natural gas does not include the following gaseous fuels: landfill gas, digester gas, refinery gas, sour gas, blast furnace gas, coal-derived gas, producer gas, coke oven gas, or any gaseous fuel produced in a process which might result in highly variable sulfur content or heating value.

Wood residue means bark, sawdust, slabs, chips, shavings, mill trim, and other wood products derived from wood processing and forest management operations.

[72 FR 32717, June 13, 2007, as amended at 77 FR 9447, Feb. 16, 2012]

§ 60.42 Standard for particulate matter (PM).

(a) Except as provided under paragraphs (b), (c), (d), and (e) of this section, on and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases that:

(1) Contain PM in excess of 43 nanograms per joule (ng/J) heat input (0.10 lb/MMBtu) derived from fossil fuel or fossil fuel and wood residue.

(2) Exhibit greater than 20 percent opacity except for one six-minute period per hour of not more than 27 percent opacity.

(b)(1) On or after December 28, 1979, no owner or operator shall cause to be discharged into the atmosphere from the Southwestern Public Service Company's Harrington Station #1, in Amarillo, TX, any gases which exhibit greater than 35 percent opacity, except that a maximum of 42 percent opacity shall be permitted for not more than 6 minutes in any hour.

(2) Interstate Power Company shall not cause to be discharged into the atmosphere from its Lansing Station Unit No. 4 in Lansing, IA, any gases which exhibit greater than 32 percent opacity, except that a maximum of 39 percent opacity shall be permitted for not more than six minutes in any hour.

(c) As an alternate to meeting the requirements of paragraph (a) of this section, an owner or operator that elects to install, calibrate, maintain, and operate a continuous emissions monitoring systems (CEMS) for measuring PM emissions can petition the Administrator (in writing) to comply with §60.42Da (a) of subpart Da of this part. If the Administrator grants the petition, the source will from then on (unless the unit is modified or reconstructed in the future) have to comply with the requirements in §60.42Da(a) of subpart Da of this part.

(d) An owner or operator of an affected facility that combusts only natural gas is exempt from the PM and opacity standards specified in paragraph (a) of this section.

(e) An owner or operator of an affected facility that combusts only gaseous or liquid fossil fuel (excluding residual oil) with potential SO₂ emissions rates of 26 ng/J (0.060 lb/MMBtu) or less and that does not use post-combustion technology to reduce emissions of SO₂ or PM is exempt from the PM standards specified in paragraph (a) of this section.

[60 FR 65415, Dec. 19, 1995, as amended at 76 FR 3522, Jan. 20, 2011; 74 FR 5077, Jan. 28, 2009; 77 FR 9447, Feb. 16, 2012]

§ 60.43 Standard for sulfur dioxide (SO₂).

(a) Except as provided under paragraph (d) of this section, on and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases that contain SO₂ in excess of:

(1) 340 ng/J heat input (0.80 lb/MMBtu) derived from liquid fossil fuel or liquid fossil fuel and wood residue.

(2) 520 ng/J heat input (1.2 lb/MMBtu) derived from solid fossil fuel or solid fossil fuel and wood residue, except as provided in paragraph (e) of this section.

(b) Except as provided under paragraph (d) of this section, when different fossil fuels are burned simultaneously in any combination, the applicable standard (in ng/J) shall be determined by proration using the following formula:

$$PS_{SO_2} = \frac{y(340) + z(520)}{(y + z)}$$

Where:

PS_{SO2} = Prorated standard for S_{O2} when burning different fuels simultaneously, in ng/J heat input derived from all fossil fuels or from all fossil fuels and wood residue fired;

y = Percentage of total heat input derived from liquid fossil fuel; and

z = Percentage of total heat input derived from solid fossil fuel.

(c) Compliance shall be based on the total heat input from all fossil fuels burned, including gaseous fuels.

(d) As an alternate to meeting the requirements of paragraphs (a) and (b) of this section, an owner or operator can petition the Administrator (in writing) to comply with §60.43Da(i)(3) of subpart Da of this part or comply with §60.42b(k)(4) of subpart Db of this part, as applicable to the affected source. If the Administrator grants the petition, the source will from then on (unless the unit is modified or reconstructed in the future) have to comply with the requirements in §60.43Da(i)(3) of subpart Da of this part or §60.42b(k)(4) of subpart Db of this part, as applicable to the affected source.

(e) Units 1 and 2 (as defined in appendix G of this part) at the Newton Power Station owned or operated by the Central Illinois Public Service Company will be in compliance with paragraph (a)(2) of this section if Unit 1 and Unit 2 individually comply with paragraph (a)(2) of this section or if the combined emission rate from Units 1 and 2 does not exceed 470 ng/J (1.1 lb/MMBtu) combined heat input to Units 1 and 2.

[60 FR 65415, Dec. 19, 1995, as amended at 74 FR 5077, Jan. 28, 2009]

§ 60.44 Standard for nitrogen oxides (NOX).

(a) Except as provided under paragraph (e) of this section, on and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases that contain NO_x, expressed as NO₂ in excess of:

(1) 86 ng/J heat input (0.20 lb/MMBtu) derived from gaseous fossil fuel.

(2) 129 ng/J heat input (0.30 lb/MMBtu) derived from liquid fossil fuel, liquid fossil fuel and wood residue,

or gaseous fossil fuel and wood residue.

(3) 300 ng/J heat input (0.70 lb/MMBtu) derived from solid fossil fuel or solid fossil fuel and wood residue (except lignite or a solid fossil fuel containing 25 percent, by weight, or more of coal refuse).

(4) 260 ng/J heat input (0.60 lb MMBtu) derived from lignite or lignite and wood residue (except as provided under paragraph (a)(5) of this section).

(5) 340 ng/J heat input (0.80 lb MMBtu) derived from lignite which is mined in North Dakota, South Dakota, or Montana and which is burned in a cyclone-fired unit.

(b) Except as provided under paragraphs (c), (d), and (e) of this section, when different fossil fuels are burned simultaneously in any combination, the applicable standard (in ng/J) is determined by proration using the following formula:

$$PS_{NO_x} = \frac{w(260) + x(86) + y(130) + z(300)}{(w + x + y + z)}$$

Where:

PS_{NO_x} = Prorated standard for NO_x when burning different fuels simultaneously, in ng/J heat input derived from all fossil fuels fired or from all fossil fuels and wood residue fired;

w = Percentage of total heat input derived from lignite;

x = Percentage of total heat input derived from gaseous fossil fuel;

y = Percentage of total heat input derived from liquid fossil fuel; and

z = Percentage of total heat input derived from solid fossil fuel (except lignite).

(c) When a fossil fuel containing at least 25 percent, by weight, of coal refuse is burned in combination with gaseous, liquid, or other solid fossil fuel or wood residue, the standard for NO_x does not apply.

(d) Except as provided under paragraph (e) of this section, cyclone-fired units which burn fuels containing at least 25 percent of lignite that is mined in North Dakota, South Dakota, or Montana remain subject to paragraph (a)(5) of this section regardless of the types of fuel combusted in combination with that lignite.

(e) As an alternate to meeting the requirements of paragraphs (a), (b), and (d) of this section, an owner or operator can petition the Administrator (in writing) to comply with §60.44Da(e)(3) of subpart Da of this part. If the Administrator grants the petition, the source will from then on (unless the unit is modified or reconstructed in the future) have to comply with the requirements in §60.44Da(e)(3) of subpart Da of this part.

§ 60.45 Emissions and fuel monitoring.

(a) Each owner or operator of an affected facility subject to the applicable emissions standard shall install, calibrate, maintain, and operate continuous opacity monitoring system (COMS) for measuring opacity and a continuous emissions monitoring system (CEMS) for measuring SO_2 emissions, NO_x emissions, and either oxygen (O_2) or carbon dioxide (CO_2) except as provided in paragraph (b) of this section.

(b) Certain of the CEMS and COMS requirements under paragraph (a) of this section do not apply to owners or operators under the following conditions:

(1) For a fossil-fuel-fired steam generator that combusts only gaseous or liquid fossil fuel (excluding residual oil) with potential SO_2 emissions rates of 26 ng/J (0.060 lb/MMBtu) or less and that does not use

post-combustion technology to reduce emissions of SO₂ or PM, COMS for measuring the opacity of emissions and CEMS for measuring SO₂ emissions are not required if the owner or operator monitors SO₂ emissions by fuel sampling and analysis or fuel receipts.

(2) For a fossil-fuel-fired steam generator that does not use a flue gas desulfurization device, a CEMS for measuring SO₂ emissions is not required if the owner or operator monitors SO₂ emissions by fuel sampling and analysis.

(3) Notwithstanding §60.13(b), installation of a CEMS for NO_x may be delayed until after the initial performance tests under §60.8 have been conducted. If the owner or operator demonstrates during the performance test that emissions of NO_x are less than 70 percent of the applicable standards in §60.44, a CEMS for measuring NO_x emissions is not required. If the initial performance test results show that NO_x emissions are greater than 70 percent of the applicable standard, the owner or operator shall install a CEMS for NO_x within one year after the date of the initial performance tests under §60.8 and comply with all other applicable monitoring requirements under this part.

(4) If an owner or operator is not required to and elects not to install any CEMS for either SO₂ or NO_x, a CEMS for measuring either O₂ or CO₂ is not required.

(5) For affected facilities using a PM CEMS, a bag leak detection system to monitor the performance of a fabric filter (baghouse) according to the most current requirements in §60.48Da of this part, or an ESP predictive model to monitor the performance of the ESP developed in accordance and operated according to the most current requirements in section §60.48Da of this part a COMS is not required.

(6) A COMS for measuring the opacity of emissions is not required for an affected facility that does not use post-combustion technology (except a wet scrubber) for reducing PM, SO₂, or carbon monoxide (CO) emissions, burns only gaseous fuels or fuel oils that contain less than or equal to 0.30 weight percent sulfur, and is operated such that emissions of CO to the atmosphere from the affected source are maintained at levels less than or equal to 0.15 lb/MMBtu on a boiler operating day average basis. Owners and operators of affected sources electing to comply with this paragraph must demonstrate compliance according to the procedures specified in paragraphs (b)(6)(i) through (iv) of this section.

(i) You must monitor CO emissions using a CEMS according to the procedures specified in paragraphs (b)(6)(i)(A) through (D) of this section.

(A) The CO CEMS must be installed, certified, maintained, and operated according to the provisions in §60.58b(i)(3) of subpart Eb of this part.

(B) Each 1-hour CO emissions average is calculated using the data points generated by the CO CEMS expressed in parts per million by volume corrected to 3 percent oxygen (dry basis).

(C) At a minimum, valid 1-hour CO emissions averages must be obtained for at least 90 percent of the operating hours on a 30-day rolling average basis. The 1-hour averages are calculated using the data points required in §60.13(h)(2).

(D) Quarterly accuracy determinations and daily calibration drift tests for the CO CEMS must be performed in accordance with procedure 1 in appendix F of this part.

(ii) You must calculate the 1-hour average CO emissions levels for each boiler operating day by multiplying the average hourly CO output concentration measured by the CO CEMS times the corresponding average hourly flue gas flow rate and divided by the corresponding average hourly heat input to the affected source. The 24-hour average CO emission level is determined by calculating the arithmetic average of the hourly CO emission levels computed for each boiler operating day.

(iii) You must evaluate the preceding 24-hour average CO emission level each boiler operating day excluding periods of affected source startup, shutdown, or malfunction. If the 24-hour average CO emission level is greater than 0.15 lb/MMBtu, you must initiate investigation of the relevant equipment and control systems within 24 hours of the first discovery of the high emission incident and, take the appropriate corrective action as soon as practicable to adjust control settings or repair equipment to reduce the 24-hour average CO emission level to 0.15 lb/MMBtu or less.

(iv) You must record the CO measurements and calculations performed according to paragraph (b)(6) of this section and any corrective actions taken. The record of corrective action taken must include the date and time during which the 24-hour average CO emission level was greater than 0.15 lb/MMBtu, and the date, time, and description of the corrective action.

(7) An owner or operator of an affected facility subject to an opacity standard under §60.42 that elects to not use a COMS because the affected facility burns only fuels as specified under paragraph (b)(1) of this section, monitors PM emissions as specified under paragraph (b)(5) of this section, or monitors CO emissions as specified under paragraph (b)(6) of this section, shall conduct a performance test using Method 9 of appendix A-4 of this part and the procedures in §60.11 to demonstrate compliance with the applicable limit in §60.42 by April 29, 2011 or within 45 days after stopping use of an existing COMS, whichever is later, and shall comply with either paragraph (b)(7)(i), (b)(7)(ii), or (b)(7)(iii) of this section. The observation period for Method 9 of appendix A-4 of this part performance tests may be reduced from 3 hours to 60 minutes if all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent during the initial 60 minutes of observation. The permitting authority may exempt owners or operators of affected facilities burning only natural gas from the opacity monitoring requirements.

(i) Except as provided in paragraph (b)(7)(ii) or (b)(7)(iii) of this section, the owner or operator shall conduct subsequent Method 9 of appendix A-4 of this part performance tests using the procedures in paragraph (b)(7) of this section according to the applicable schedule in paragraphs (b)(7)(i)(A) through (b)(7)(i)(D) of this section, as determined by the most recent Method 9 of appendix A-4 of this part performance test results.

(A) If no visible emissions are observed, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 12 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later;

(B) If visible emissions are observed but the maximum 6-minute average opacity is less than or equal to 5 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 6 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later;

(C) If the maximum 6-minute average opacity is greater than 5 percent but less than or equal to 10 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 3 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later; or

(D) If the maximum 6-minute average opacity is greater than 10 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 45 calendar days from the date that the most recent performance test was conducted.

(ii) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A-4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A-4 of this part performance test, elect to perform subsequent monitoring using Method 22 of appendix A-7 of this part according to the procedures specified in paragraphs (b)(7)(ii)(A) and (B) of this section.

(A) The owner or operator shall conduct 10 minute observations (during normal operation) each operating day the affected facility fires fuel for which an opacity standard is applicable using Method 22 of appendix A-7 of this part and demonstrate that the sum of the occurrences of any visible emissions is not in excess of 5 percent of the observation period (i.e., 30 seconds per 10 minute period). If the sum of the occurrence of any visible emissions is greater than 30 seconds during the initial 10 minute observation, immediately conduct a 30 minute observation. If the sum of the occurrence of visible emissions is greater than 5 percent of the observation period (i.e., 90 seconds per 30 minute period), the owner or operator shall either document and adjust the operation of the facility and demonstrate within 24 hours that the sum of the occurrence of visible emissions is equal to or less than 5 percent during a 30 minute observation (i.e., 90 seconds) or conduct a new Method 9 of appendix A-4 of this part performance test using the procedures in paragraph (b)(7) of this section within 45 calendar days according to the requirements in §60.46(b)(3).

(B) If no visible emissions are observed for 10 operating days during which an opacity standard is applicable, observations can be reduced to once every 7 operating days during which an opacity standard is applicable. If any visible emissions are observed, daily observations shall be resumed.

(iii) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A-4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A-4 performance tests, elect to perform subsequent monitoring using a digital opacity compliance system according to a site-specific monitoring plan approved by the Administrator. The observations shall be similar, but not necessarily identical, to the requirements in paragraph (b)(7)(ii) of this section. For reference purposes in preparing the monitoring plan, see OAQPS "Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems." This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Policy Group (D243-02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Preliminary Methods.

(8) A COMS for measuring the opacity of emissions is not required for an affected facility at which the owner or operator installs, calibrates, operates, and maintains a particulate matter continuous parametric monitoring system (PM CPMS) according to the requirements specified in subpart UUUUU of part 63.

(c) For performance evaluations under §60.13(c) and calibration checks under §60.13(d), the following procedures shall be used:

(1) Methods 6, 7, and 3B of appendix A of this part, as applicable, shall be used for the performance evaluations of SO₂ and NO_x continuous monitoring systems. Acceptable alternative methods for Methods 6, 7, and 3B of appendix A of this part are given in §60.46(d).

(2) Sulfur dioxide or nitric oxide, as applicable, shall be used for preparing calibration gas mixtures under Performance Specification 2 of appendix B to this part.

(3) For affected facilities burning fossil fuel(s), the span value for a continuous monitoring system measuring the opacity of emissions shall be 80, 90, or 100 percent. For a continuous monitoring system measuring sulfur oxides or NO_x the span value shall be determined using one of the following procedures:

(i) Except as provided under paragraph (c)(3)(ii) of this section, SO₂ and NO_x span values shall be determined as follows:

Fossil fuel	n parts per million	
	Span value for SO ₂	Span value for NO _x
Gas	(¹)	500.
Liquid	1,000	500.
Solid	1,500	1,000.
Combinations	1,000y + 1,500z	500 (x + y) + 1,000z.

¹Not applicable.

Where:

x = Fraction of total heat input derived from gaseous fossil fuel;

y = Fraction of total heat input derived from liquid fossil fuel; and

z = Fraction of total heat input derived from solid fossil fuel.

(ii) As an alternative to meeting the requirements of paragraph (c)(3)(i) of this section, the owner or operator of an affected facility may elect to use the SO₂ and NO_x span values determined according to sections 2.1.1 and 2.1.2 in appendix A to part 75 of this chapter.

(4) All span values computed under paragraph (c)(3)(i) of this section for burning combinations of fossil

fuels shall be rounded to the nearest 500 ppm. Span values that are computed under paragraph (c)(3)(ii) of this section shall be rounded off according to the applicable procedures in section 2 of appendix A to part 75 of this chapter.

(5) For a fossil-fuel-fired steam generator that simultaneously burns fossil fuel and nonfossil fuel, the span value of all CEMS shall be subject to the Administrator's approval.

(d) [Reserved]

(e) For any CEMS installed under paragraph (a) of this section, the following conversion procedures shall be used to convert the continuous monitoring data into units of the applicable standards (ng/J, lb/MMBtu):

(1) When a CEMS for measuring O_2 is selected, the measurement of the pollutant concentration and O_2 concentration shall each be on a consistent basis (wet or dry). Alternative procedures approved by the Administrator shall be used when measurements are on a wet basis. When measurements are on a dry basis, the following conversion procedure shall be used:

$$E = CF \left(\frac{20.9}{(20.9 - \%O_2)} \right)$$

Where E, C, F, and $\%O_2$ are determined under paragraph (f) of this section.

(2) When a CEMS for measuring CO_2 is selected, the measurement of the pollutant concentration and CO_2 concentration shall each be on a consistent basis (wet or dry) and the following conversion procedure shall be used:

$$E = CF_c \left(\frac{100}{\%CO_2} \right)$$

Where E, C, F_c and $\%CO_2$ are determined under paragraph (f) of this section.

(f) The values used in the equations under paragraphs (e)(1) and (2) of this section are derived as follows:

(1) E = pollutant emissions, ng/J (lb/MMBtu).

(2) C = pollutant concentration, ng/dscm (lb/dscf), determined by multiplying the average concentration (ppm) for each one-hour period by 4.15×10^4 M ng/dscm per ppm (2.59×10^{-9} M lb/dscf per ppm) where M = pollutant molecular weight, g/g-mole (lb/lb-mole). M = 64.07 for SO_2 and 46.01 for NO_x .

(3) $\%O_2$, $\%CO_2$ = O_2 or CO_2 volume (expressed as percent), determined with equipment specified under paragraph (a) of this section.

(4) F, F_c = a factor representing a ratio of the volume of dry flue gases generated to the calorific value of the fuel combusted (F), and a factor representing a ratio of the volume of CO_2 generated to the calorific value of the fuel combusted (F_c), respectively. Values of F and F_c are given as follows:

(i) For anthracite coal as classified according to ASTM D388 (incorporated by reference, see §60.17), $F = 2,723 \times 10^{-17}$ dscm/J (10,140 dscf/MMBtu) and $F_c = 0.532 \times 10^{-17}$ scm CO_2 /J (1,980 scf CO_2 /MMBtu).

(ii) For subbituminous and bituminous coal as classified according to ASTM D388 (incorporated by reference, see §60.17), $F = 2.637 \times 10^{-7}$ dscm/J (9,820 dscf/MMBtu) and $F_c = 0.486 \times 10^{-7}$ scm CO_2 /J (1,810 scf CO_2 /MMBtu).

(iii) For liquid fossil fuels including crude, residual, and distillate oils, $F = 2.476 \times 10^{-7} \text{ dscm/J}$ (9,220 dscf/MMBtu) and $F_c = 0.384 \times 10^{-7} \text{ scm CO}_2/\text{J}$ (1,430 scf CO₂/MMBtu).

(iv) For gaseous fossil fuels, $F = 2.347 \times 10^{-7} \text{ dscm/J}$ (8,740 dscf/MMBtu). For natural gas, propane, and butane fuels, $F_c = 0.279 \times 10^{-7} \text{ scm CO}_2/\text{J}$ (1,040 scf CO₂/MMBtu) for natural gas, $0.322 \times 10^{-7} \text{ scm CO}_2/\text{J}$ (1,200 scf CO₂/MMBtu) for propane, and $0.338 \times 10^{-7} \text{ scm CO}_2/\text{J}$ (1,260 scf CO₂/MMBtu) for butane.

(v) For bark $F = 2.589 \times 10^{-7} \text{ dscm/J}$ (9,640 dscf/MMBtu) and $F_c = 0.500 \times 10^{-7} \text{ scm CO}_2/\text{J}$ (1,840 scf CO₂/MMBtu). For wood residue other than bark $F = 2.492 \times 10^{-7} \text{ dscm/J}$ (9,280 dscf/MMBtu) and $F_c = 0.494 \times 10^{-7} \text{ scm CO}_2/\text{J}$ (1,860 scf CO₂/MMBtu).

(vi) For lignite coal as classified according to ASTM D388 (incorporated by reference, see §60.17), $F = 2.659 \times 10^{-7} \text{ dscm/J}$ (9,900 dscf/MMBtu) and $F_c = 0.516 \times 10^{-7} \text{ scm CO}_2/\text{J}$ (1,920 scf CO₂/MMBtu).

(5) The owner or operator may use the following equation to determine an F factor (dscm/J or dscf/MMBtu) on a dry basis (if it is desired to calculate F on a wet basis, consult the Administrator) or F_c factor (scm CO₂/J, or scf CO₂/MMBtu) on either basis in lieu of the F or F_c factors specified in paragraph (f)(4) of this section:

$$F = 10^{-4} \frac{[227.2 (\%H) + 95.5 (\%C) + 35.6 (\%S) + 8.7 (\%N) - 28.7 (\%O)]}{\text{GCV}}$$

$$F_c = \frac{2.0 \times 10^{-3} (\%C)}{\text{GCV (SI units)}}$$

$$F = 10^{-4} \frac{[3.64 (\%H) + 1.53 (\%C) + 0.57 (\%S) + 0.14 (\%N) - 0.46 (\%O)]}{\text{GCV (English units)}}$$

$$F_c = \frac{20.0 (\%C)}{\text{GCV (SI units)}}$$

$$F_c = \frac{321 \times 10^3 (\%C)}{\text{GCV (English units)}}$$

(i) %H, %C, %S, %N, and %O are content by weight of hydrogen, carbon, sulfur, nitrogen, and O₂ (expressed as percent), respectively, as determined on the same basis as GCV by ultimate analysis of the fuel fired, using ASTM D3178 or D3176 (solid fuels), or computed from results using ASTM D1137, D1945, or D1946 (gaseous fuels) as applicable. (These five methods are incorporated by reference, see §60.17.)

(ii) GVC is the gross calorific value (kJ/kg, Btu/lb) of the fuel combusted determined by the ASTM test methods D2015 or D5865 for solid fuels and D1826 for gaseous fuels as applicable. (These three methods are incorporated by reference, see §60.17.)

(iii) For affected facilities which fire both fossil fuels and nonfossil fuels, the F or F_c value shall be subject to the Administrator's approval.

(6) For affected facilities firing combinations of fossil fuels or fossil fuels and wood residue, the F or F_c factors determined by paragraphs (f)(4) or (f)(5) of this section shall be prorated in accordance with the applicable formula as follows:

$$F = \sum_{i=1}^n X_i F_i \quad \text{or} \quad F_c = \sum_{i=1}^n X_i (F_c)_i$$

Where:

X_i = Fraction of total heat input derived from each type of fuel (e.g. natural gas, bituminous coal, wood residue, etc.);

F_i or $(F_c)_i$ = Applicable F or F_c factor for each fuel type determined in accordance with paragraphs (f)(4) and (f)(5) of this section; and

n = Number of fuels being burned in combination.

(g) Excess emission and monitoring system performance reports shall be submitted to the Administrator semiannually for each six-month period in the calendar year. All semiannual reports shall be postmarked by the 30th day following the end of each six-month period. Each excess emission and MSP report shall include the information required in §60.7(c). Periods of excess emissions and monitoring systems (MS) downtime that shall be reported are defined as follows:

(1) *opacity*. Excess emissions are defined as any six-minute period during which the average opacity of emissions exceeds 20 percent opacity, except that one six-minute average per hour of up to 27 percent opacity need not be reported.

(i) For sources subject to the opacity standard of §60.42(b)(1), excess emissions are defined as any six-minute period during which the average opacity of emissions exceeds 35 percent opacity, except that one six-minute average per hour of up to 42 percent opacity need not be reported.

(ii) For sources subject to the opacity standard of §60.42(b)(2), excess emissions are defined as any six-minute period during which the average opacity of emissions exceeds 32 percent opacity, except that one six-minute average per hour of up to 39 percent opacity need not be reported.

(2) *sulfur dioxide*. Excess emissions for affected facilities are defined as:

(i) For affected facilities electing not to comply with §60.43(d), any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) of SO_2 as measured by a CEMS exceed the applicable standard in §60.43; or

(ii) For affected facilities electing to comply with §60.43(d), any 30 operating day period during which the average emissions (arithmetic average of all one-hour periods during the 30 operating days) of SO_2 as measured by a CEMS exceed the applicable standard in §60.43. Facilities complying with the 30-day SO_2 standard shall use the most current associated SO_2 compliance and monitoring requirements in §§60.48Da and 60.49Da of subpart Da of this part or §§60.45b and 60.47b of subpart Db of this part, as applicable.

(3) *Nitrogen oxides*. Excess emissions for affected facilities using a CEMS for measuring NO_x are defined as:

(i) For affected facilities electing not to comply with §60.44(e), any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) exceed the applicable standards in §60.44; or

(ii) For affected facilities electing to comply with §60.44(e), any 30 operating day period during which the average emissions (arithmetic average of all one-hour periods during the 30 operating days) of NO_x as measured by a CEMS exceed the applicable standard in §60.44. Facilities complying with the 30-day NO_x standard shall use the most current associated NO_x compliance and monitoring requirements in §§60.48Da and 60.49Da of subpart Da of this part.

(4) *particulate matter*. Excess emissions for affected facilities using a CEMS for measuring PM are defined as any boiler operating day period during which the average emissions (arithmetic average of all

operating one-hour periods) exceed the applicable standards in §60.42. Affected facilities using PM CEMS must follow the most current applicable compliance and monitoring provisions in §§60.48Da and 60.49Da of subpart Da of this part.

(h) The owner or operator of an affected facility subject to the opacity limits in §60.42 that elects to monitor emissions according to the requirements in §60.45(b)(7) shall maintain records according to the requirements specified in paragraphs (h)(1) through (3) of this section, as applicable to the visible emissions monitoring method used.

(1) For each performance test conducted using Method 9 of appendix A–4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (h)(1)(i) through (iii) of this section.

(i) Dates and time intervals of all opacity observation periods;

(ii) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and

(iii) Copies of all visible emission observer opacity field data sheets;

(2) For each performance test conducted using Method 22 of appendix A–4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (h)(2)(i) through (iv) of this section.

(i) Dates and time intervals of all visible emissions observation periods;

(ii) Name and affiliation for each visible emission observer participating in the performance test;

(iii) Copies of all visible emission observer opacity field data sheets; and

(iv) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the owner or operator to demonstrate compliance with the applicable monitoring requirements.

(3) For each digital opacity compliance system, the owner or operator shall maintain records and submit reports according to the requirements specified in the site-specific monitoring plan approved by the Administrator.

[60 FR 65415, Dec. 19, 1995, as amended at 74 FR 5077, Jan. 28, 2009; 76 FR 3522, Jan. 20, 2011; 77 FR 9447, Feb. 16, 2012]

§ 60.46 Test methods and procedures.

(a) In conducting the performance tests required in §60.8, and subsequent performance tests as requested by the EPA Administrator, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b). Acceptable alternative methods and procedures are given in paragraph (d) of this section.

(b) The owner or operator shall determine compliance with the PM, SO₂, and NO_x standards in §§60.42, 60.43, and 60.44 as follows:

(1) The emission rate (E) of PM, SO₂, or NO_x shall be computed for each run using the following equation:

$$E = CF_d \left(\frac{20.9}{(20.9 - \%O_2)} \right)$$

Where:

E = Emission rate of pollutant, ng/J (1b/million Btu);

C = Concentration of pollutant, ng/dscm (1b/dscf);

%O₂ = O₂ concentration, percent dry basis; and

F_d = Factor as determined from Method 19 of appendix A of this part.

(2) Method 5 of appendix A of this part shall be used to determine the PM concentration (C) at affected facilities without wet flue-gas-desulfurization (FGD) systems and Method 5B of appendix A of this part shall be used to determine the PM concentration (C) after FGD systems.

(i) The sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm (30 dscf). The probe and filter holder heating systems in the sampling train shall be set to provide an average gas temperature of 160±14 °C (320±25 °F).

(ii) The emission rate correction factor, integrated or grab sampling and analysis procedure of Method 3B of appendix A of this part shall be used to determine the O₂ concentration (%O₂). The O₂ sample shall be obtained simultaneously with, and at the same traverse points as, the particulate sample. If the grab sampling procedure is used, the O₂ concentration for the run shall be the arithmetic mean of the sample O₂ concentrations at all traverse points.

(iii) If the particulate run has more than 12 traverse points, the O₂ traverse points may be reduced to 12 provided that Method 1 of appendix A of this part is used to locate the 12 O₂ traverse points.

(3) Method 9 of appendix A of this part and the procedures in §60.11 shall be used to determine opacity.

(4) Method 6 of appendix A of this part shall be used to determine the SO₂ concentration.

(i) The sampling site shall be the same as that selected for the particulate sample. The sampling location in the duct shall be at the centroid of the cross section or at a point no closer to the walls than 1 m (3.28 ft). The sampling time and sample volume for each sample run shall be at least 20 minutes and 0.020 dscm (0.71 dscf). Two samples shall be taken during a 1-hour period, with each sample taken within a 30-minute interval.

(ii) The emission rate correction factor, integrated sampling and analysis procedure of Method 3B of appendix A of this part shall be used to determine the O₂ concentration (%O₂). The O₂ sample shall be taken simultaneously with, and at the same point as, the SO₂ sample. The SO₂ emission rate shall be computed for each pair of SO₂ and O₂ samples. The SO₂ emission rate (E) for each run shall be the arithmetic mean of the results of the two pairs of samples.

(5) Method 7 of appendix A of this part shall be used to determine the NO_x concentration.

(i) The sampling site and location shall be the same as for the SO₂ sample. Each run shall consist of four grab samples, with each sample taken at about 15-minute intervals.

(ii) For each NO_x sample, the emission rate correction factor, grab sampling and analysis procedure of Method 3B of appendix A of this part shall be used to determine the O₂ concentration (%O₂). The sample shall be taken simultaneously with, and at the same point as, the NO_x sample.

(iii) The NO_x emission rate shall be computed for each pair of NO_x and O₂ samples. The NO_x emission rate (E) for each run shall be the arithmetic mean of the results of the four pairs of samples.

(c) When combinations of fossil fuels or fossil fuel and wood residue are fired, the owner or operator (in order to compute the prorated standard as shown in §§60.43(b) and 60.44(b)) shall determine the percentage (w, x, y, or z) of the total heat input derived from each type of fuel as follows:

(1) The heat input rate of each fuel shall be determined by multiplying the gross calorific value of each fuel fired by the rate of each fuel burned.

(2) ASTM Methods D2015, or D5865 (solid fuels), D240 (liquid fuels), or D1826 (gaseous fuels) (all of these methods are incorporated by reference, see §60.17) shall be used to determine the gross calorific values of the fuels. The method used to determine the calorific value of wood residue must be approved by the Administrator.

(3) Suitable methods shall be used to determine the rate of each fuel burned during each test period, and a material balance over the steam generating system shall be used to confirm the rate.

(d) The owner or operator may use the following as alternatives to the reference methods and procedures in this section or in other sections as specified:

(1) The emission rate (E) of PM, SO₂ and NO_x may be determined by using the F_c factor, provided that the following procedure is used:

(i) The emission rate (E) shall be computed using the following equation:

$$E = CF_c \left(\frac{100}{\%CO_2} \right)$$

Where:

E = Emission rate of pollutant, ng/J (lb/MMBtu);

C = Concentration of pollutant, ng/dscm (lb/dscf);

%CO₂ = CO₂ concentration, percent dry basis; and

F_c = Factor as determined in appropriate sections of Method 19 of appendix A of this part.

(ii) If and only if the average F_c factor in Method 19 of appendix A of this part is used to calculate E and either E is from 0.97 to 1.00 of the emission standard or the relative accuracy of a continuous emission monitoring system is from 17 to 20 percent, then three runs of Method 3B of appendix A of this part shall be used to determine the O₂ and CO₂ concentration according to the procedures in paragraph (b)(2)(ii), (4)(ii), or (5)(ii) of this section. Then if F_o (average of three runs), as calculated from the equation in Method 3B of appendix A of this part, is more than ±3 percent than the average F_o value, as determined from the average values of F_d and F_c in Method 19 of appendix A of this part, *i.e.*, F_{oa} = 0.209 (F_{da}/F_{ca}), then the following procedure shall be followed:

(A) When F_o is less than 0.97 F_{oa}, then E shall be increased by that proportion under 0.97 F_{oa}, *e.g.*, if F_o is 0.95 F_{oa}, E shall be increased by 2 percent. This recalculated value shall be used to determine compliance with the emission standard.

(B) When F_o is less than 0.97 F_{oa} and when the average difference (d) between the continuous monitor minus the reference methods is negative, then E shall be increased by that proportion under 0.97 F_{oa}, *e.g.*, if F_o is 0.95 F_{oa}, E shall be increased by 2 percent. This recalculated value shall be used to determine compliance with the relative accuracy specification.

(C) When F_o is greater than 1.03 F_{oa} and when the average difference d is positive, then E shall be decreased by that proportion over 1.03 F_{oa}, *e.g.*, if F_o is 1.05 F_{oa}, E shall be decreased by 2 percent. This recalculated value shall be used to determine compliance with the relative accuracy specification.

(2) For Method 5 or 5B of appendix A–3 of this part, Method 17 of appendix A–6 of this part may be used at facilities with or without wet FGD systems if the stack gas temperature at the sampling location does not exceed an average temperature of 160 °C (320 °F). The procedures of sections 8.1 and 11.1 of

Method 5B of appendix A–3 of this part may be used with Method 17 of appendix A–6 of this part only if it is used after wet FGD systems. Method 17 of appendix A–6 of this part shall not be used after wet FGD systems if the effluent gas is saturated or laden with water droplets.

(3) Particulate matter and SO₂ may be determined simultaneously with the Method 5 of appendix A of this part train provided that the following changes are made:

(i) The filter and impinger apparatus in sections 2.1.5 and 2.1.6 of Method 8 of appendix A of this part is used in place of the condenser (section 2.1.7) of Method 5 of appendix A of this part.

(ii) All applicable procedures in Method 8 of appendix A of this part for the determination of SO₂ (including moisture) are used:

(4) For Method 6 of appendix A of this part, Method 6C of appendix A of this part may be used. Method 6A of appendix A of this part may also be used whenever Methods 6 and 3B of appendix A of this part data are specified to determine the SO₂ emission rate, under the conditions in paragraph (d)(1) of this section.

(5) For Method 7 of appendix A of this part, Method 7A, 7C, 7D, or 7E of appendix A of this part may be used. If Method 7C, 7D, or 7E of appendix A of this part is used, the sampling time for each run shall be at least 1 hour and the integrated sampling approach shall be used to determine the O₂ concentration (% O₂) for the emission rate correction factor.

(6) For Method 3 of appendix A of this part, Method 3A or 3B of appendix A of this part may be used.

(7) For Method 3B of appendix A of this part, Method 3A of appendix A of this part may be used.

[60 FR 65415, Dec. 19, 1995, as amended at 74 FR 5078, Jan. 28, 2009]

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APPENDIX C - NSPS BB

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Title 40: Protection of Environment

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

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Subpart BB—Standards of Performance for Kraft Pulp Mills

§ 60.280 Applicability and designation of affected facility.

(a) The provisions of this subpart are applicable to the following affected facilities in kraft pulp mills: Digester system, brown stock washer system, multiple-effect evaporator system, recovery furnace, smelt dissolving tank, lime kiln, and condensate stripper system. In pulp mills where kraft pulping is combined with neutral sulfite semichemical pulping, the provisions of this subpart are applicable when any portion of the material charged to an affected facility is produced by the kraft pulping operation.

(b) Except as noted in §60.283(a)(1)(iv), any facility under paragraph (a) of this section that commences construction or modification after September 24, 1976, is subject to the requirements of this subpart.

[51 FR 18544, May 20, 1986]

§ 60.281 Definitions.

As used in this subpart, all terms not defined herein shall have the same meaning given them in the Act and in subpart A.

(a) *Kraft pulp mill* means any stationary source which produces pulp from wood by cooking (digesting) wood chips in a water solution of sodium hydroxide and sodium sulfide (white liquor) at high temperature and pressure. Regeneration of the cooking chemicals through a recovery process is also considered part of the kraft pulp mill.

(b) *Neutral sulfite semichemical pulping operation* means any operation in which pulp is produced from wood by cooking (digesting) wood chips in a solution of sodium sulfite and sodium bicarbonate, followed by mechanical defibrating (grinding).

(c) *Total reduced sulfur (TRS)* means the sum of the sulfur compounds hydrogen sulfide, methyl mercaptan, dimethyl sulfide, and dimethyl disulfide, that are released during the kraft pulping operation and measured by Method 16.

(d) *Digester system* means each continuous digester or each batch digester used for the cooking of wood in white liquor, and associated flash tank(s), blow tank(s), chip steamer(s), and condenser(s).

(e) *Brown stock washer system* means brown stock washers and associated knotters, vacuum pumps, and filtrate tanks used to wash the pulp following the digester system. Diffusion washers are excluded from this definition.

(f) *Multiple-effect evaporator system* means the multiple-effect evaporators and associated condenser(s) and hotwell(s) used to concentrate the spent cooking liquid that is separated from the pulp (black liquor).

(g) *Black liquor oxidation system* means the vessels used to oxidize, with air or oxygen, the black liquor, and associated storage tank(s).

(h) *Recovery furnace* means either a straight kraft recovery furnace or a cross recovery furnace, and includes the direct-contact evaporator for a direct-contact furnace.

(i) *Straight kraft recovery furnace* means a furnace used to recover chemicals consisting primarily of sodium and sulfur compounds by burning black liquor which on a quarterly basis contains 7 weight percent or less of the total pulp solids from the neutral sulfite semichemical process or has green liquor sulfidity of 28 percent or less.

(j) *Cross recovery furnace* means a furnace used to recover chemicals consisting primarily of sodium and sulfur compounds by burning black liquor which on a quarterly basis contains more than 7 weight percent of the total pulp solids from the neutral sulfite semichemical process and has a green liquor sulfidity of more than 28 percent.

(k) *Black liquor solids* means the dry weight of the solids which enter the recovery furnace in the black liquor.

(l) *Green liquor sulfidity* means the sulfidity of the liquor which leaves the smelt dissolving tank.

(m) *Smelt dissolving tank* means a vessel used for dissolving the smelt collected from the recovery furnace.

(n) *Lime kiln* means a unit used to calcine lime mud, which consists primarily of calcium carbonate, into quicklime, which is calcium oxide.

(o) *Condensate stripper system* means a column, and associated condensers, used to strip, with air or steam, TRS compounds from condensate streams from various processes within a kraft pulp mill.

[43 FR 7572, Feb. 23, 1978, as amended at 51 FR 18544, May 20, 1986; 65 FR 61758, Oct. 17, 2000]

§ 60.282 Standard for particulate matter.

(a) On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere:

(1) From any recovery furnace any gases which:

(i) Contain particulate matter in excess of 0.10 g/dscm (0.044 gr/dscf) corrected to 8 percent oxygen.

(ii) Exhibit 35 percent opacity or greater.

(2) From any smelt dissolving tank any gases which contain particulate matter in excess of 0.1 g/kg black liquor solids (dry weight)[0.2 lb/ton black liquor solids (dry weight)].

(3) From any lime kiln any gases which contain particulate matter in excess of:

(i) 0.15 g/dscm (0.066 gr/dscf) corrected to 10 percent oxygen, when gaseous fossil fuel is burned.

(ii) 0.30 g/dscm (0.13 gr/dscf) corrected to 10 percent oxygen, when liquid fossil fuel is burned.

[43 FR 7572, Feb. 23, 1978, as amended at 65 FR 61758, Oct. 17, 2000]

§ 60.283 Standard for total reduced sulfur (TRS).

(a) On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere:

(1) From any digester system, brown stock washer system, multiple-effect evaporator system, or condensate stripper system any gases which contain TRS in excess of 5 ppm by volume on a dry basis, corrected to 10 percent oxygen, unless the following conditions are met:

(i) The gases are combusted in a lime kiln subject to the provisions of paragraph (a)(5) of this section; or

(ii) The gases are combusted in a recovery furnace subject to the provisions of paragraphs (a)(2) or (a)(3) of this section; or

(iii) The gases are combusted with other waste gases in an incinerator or other device, or combusted in a lime kiln or recovery furnace not subject to the provisions of this subpart, and are subjected to a minimum temperature of 650 °C (1200 °F) for at least 0.5 second; or

(iv) It has been demonstrated to the Administrator's satisfaction by the owner or operator that incinerating the exhaust gases from a new, modified, or reconstructed brown stock washer system is technologically or economically unfeasible. Any exempt system will become subject to the provisions of this subpart if the facility is changed so that the gases can be incinerated.

(v) The gases from the digester system, brown stock washer system, or condensate stripper system are controlled by a means other than combustion. In this case, this system shall not discharge any gases to the atmosphere which contain TRS in excess of 5 ppm by volume on a dry basis, uncorrected for oxygen content.

(vi) The uncontrolled exhaust gases from a new, modified, or reconstructed digester system contain TRS less than 0.005 g/kg air dried pulp (ADP) (0.01 lb/ton ADP).

(2) From any straight kraft recovery furnace any gases which contain TRS in excess of 5 ppm by volume on a dry basis, corrected to 8 percent oxygen.

(3) From any cross recovery furnace any gases which contain TRS in excess of 25 ppm by volume on a dry basis, corrected to 8 percent oxygen.

(4) From any smelt dissolving tank any gases which contain TRS in excess of 0.016 g/kg black liquor solids as H_2S (0.033 lb/ton black liquor solids as H_2S).

(5) From any lime kiln any gases which contain TRS in excess of 8 ppm by volume on a dry basis, corrected to 10 percent oxygen.

[43 FR 7572, Feb. 23, 1978, as amended at 50 FR 6317, Feb. 14, 1985; 51 FR 18544, May 20, 1986; 65 FR 61758, Oct. 17, 2000]

§ 60.284 Monitoring of emissions and operations.

(a) Any owner or operator subject to the provisions of this subpart shall install, calibrate, maintain, and operate the following continuous monitoring systems:

(1) A continuous monitoring system to monitor and record the opacity of the gases discharged into the atmosphere from any recovery furnace. The span of this system shall be set at 70 percent opacity.

(2) Continuous monitoring systems 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, recovery furnace, digester system, brown stock washer system, multiple-effect evaporator system, or condensate stripper system, except where the provisions of §60.283(a)(1) (iii) or (iv) apply. These systems shall be located downstream of the control device(s) and the spans of these continuous monitoring system(s) shall be set:

(i) At a TRS concentration of 30 ppm for the TRS continuous monitoring system, except that for any cross recovery furnace the span shall be set at 50 ppm.

(ii) At 25 percent oxygen for the continuous oxygen monitoring system.

(b) Any owner or operator subject to the provisions of this subpart shall install, calibrate, maintain, and

operate the following continuous monitoring devices:

(1) For any incinerator, 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 §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.

(2) For any lime kiln or smelt dissolving tank using a scrubber emission control device:

(i) 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 ±500 pascals (ca. ±2 inches water gage pressure).

(ii) 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.

(c) Any owner or operator subject to the provisions of this subpart shall, except where the provisions of §60.283(a)(1)(iii) or (iv) apply, perform the following:

(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 1-hour average total reduced sulfur concentrations provided by each continuous monitoring system installed under paragraph (a)(2) of this section.

(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 and lime kiln. These 12-hour averages shall correspond to the 12-hour average TRS concentrations under paragraph (c)(1) of this section and shall be determined as an arithmetic mean of the appropriate 12 contiguous 1-hour average oxygen concentrations provided by each continuous monitoring system installed under paragraph (a)(2) of this section.

(3) Using the following equation, correct all 12-hour average TRS concentrations to 10 volume percent oxygen, except that all 12-hour average TRS concentrations from a recovery furnace shall be corrected to 8 volume percent oxygen instead of 10 percent, and all 12-hour average TRS concentrations from a facility to which the provisions of §60.283(a)(1)(v) apply shall not be corrected for oxygen content:

$$C_{\text{corr}} = C_{\text{meas}} \times (21 - X / 21 - Y)$$

where:

C_{corr} = the concentration corrected for oxygen.

C_{meas} = the concentration uncorrected for oxygen.

X = the volumetric oxygen concentration in percentage to be corrected to (8 percent for recovery furnaces and 10 percent for lime kilns, incinerators, or other devices).

Y = the measured 12-hour average volumetric oxygen concentration.

(4) Record once per shift measurements obtained from the continuous monitoring devices installed under paragraph (b)(2) of this section.

(d) For the purpose of reports required under §60.7(c), any owner or operator subject to the provisions of this subpart shall report semiannually periods of excess emissions as follows:

(1) For emissions from any recovery furnace periods of excess emissions are:

(i) All 12-hour averages of TRS concentrations above 5 ppm by volume for straight kraft recovery furnaces and above 25 ppm by volume for cross recovery furnaces.

(ii) All 6-minute average opacities that exceed 35 percent.

(2) For emissions from any lime kiln, periods of excess emissions are all 12-hour average TRS concentration above 8 ppm by volume.

(3) For emissions from any digester system, brown stock washer system, multiple-effect evaporator system, or condensate stripper system periods of excess emissions are:

(i) All 12-hour average TRS concentrations above 5 ppm by volume unless the provisions of §60.283(a)(1)(i), (ii), or (iv) apply; or

(ii) All periods in excess of 5 minutes and their duration during which the combustion temperature at the point of incineration is less than 650 °C (1200 °F), where the provisions of §60.283(a)(1)(iii) apply.

(e) The Administrator will not consider periods of excess emissions reported under paragraph (d) of this section to be indicative of a violation of §60.11(d) provided that:

(1) The percent of the total number of possible contiguous periods of excess emissions in a quarter (excluding periods of startup, shutdown, or malfunction and periods when the facility is not operating) during which excess emissions occur does not exceed:

(i) One percent for TRS emissions from recovery furnaces.

(ii) Six percent for average opacities from recovery furnaces.

(2) The Administrator determines that the affected facility, including air pollution control equipment, is maintained and operated in a manner which is consistent with good air pollution control practice for minimizing emissions during periods of excess emissions.

(f) The procedures under §60.13 shall be followed for installation, evaluation, and operation of the continuous monitoring systems required under this section. All continuous monitoring systems shall be operated in accordance with the applicable procedures under Performance Specifications 1, 3, and 5 of appendix B of this part.

[43 FR 7572, Feb. 23, 1978, as amended at 51 FR 18545, May 20, 1986; 65 FR 61759, Oct. 17, 2000; 71 FR 55127, Sept. 21, 2006]

§ 60.285 Test methods and procedures.

(a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures in this section, except as provided in §60.8(b). Acceptable alternative methods and procedures are given in paragraph (f) of this section.

(b) The owner or operator shall determine compliance with the particulate matter standards in §60.282(a)(1) and (3) as follows:

(1) Method 5 shall be used to determine the particulate matter concentration. The sampling time and sample volume for each run shall be at least 60 minutes and 0.90 dscm (31.8 dscf). Water shall be used as the cleanup solvent instead of acetone in the sample recovery procedure. The particulate concentration shall be corrected to the appropriate oxygen concentration according to §60.284(c)(3).

(2) The emission rate correction factor, integrated sampling and analysis procedure of Method 3B shall be used to determine the oxygen concentration. The gas sample shall be taken at the same time and at the same traverse points as the particulate sample.

(3) Method 9 and the procedures in §60.11 shall be used to determine opacity.

(c) The owner or operator shall determine compliance with the particulate matter standard in §60.282(a)

(2) as follows:

(1) The emission rate (E) of particulate matter shall be computed for each run using the following equation:

$$E = c_s Q_{sd} / \text{BLS}$$

where:

E=emission rate of particulate matter, g/kg (lb/ton) of BLS.

c_s = Concentration of particulate matter, g/dscm (lb/dscf).

Q_{sd} =volumetric flow rate of effluent gas, dscm/hr (dscf/hr).

BLS=black liquor solids (dry weight) feed rate, kg/hr (ton/hr).

(2) Method 5 shall be used to determine the particulate matter concentration (c_s) and the volumetric flow rate (Q_{sd}) of the effluent gas. The sampling time and sample volume shall be at least 60 minutes and 0.90 dscm (31.8 dscf). Water shall be used instead of acetone in the sample recovery.

(3) Process data shall be used to determine the black liquor solids (BLS) feed rate on a dry weight basis.

(d) The owner or operator shall determine compliance with the TRS standards in §60.283, except §60.283(a)(1)(vi) and (4), as follows:

(1) Method 16 shall be used to determine the TRS concentration. The TRS concentration shall be corrected to the appropriate oxygen concentration using the procedure in §60.284(c)(3). The sampling time shall be at least 3 hours, but no longer than 6 hours.

(2) The emission rate correction factor, integrated sampling and analysis procedure of Method 3B shall be used to determine the oxygen concentration. The sample shall be taken over the same time period as the TRS samples.

(3) When determining whether a furnace is a straight kraft recovery furnace or a cross recovery furnace, TAPPI Method T.624 (incorporated by reference—see §60.17) shall be used to determine sodium sulfide, sodium hydroxide, and sodium carbonate. These determinations shall be made 3 times daily from the green liquor, and the daily average values shall be converted to sodium oxide (Na_2O) and substituted into the following equation to determine the green liquor sulfidity:

$$GLS = 100 \frac{C_{\text{Na}_2\text{S}}}{C_{\text{Na}_2\text{S}} + C_{\text{NaOH}} + C_{\text{Na}_2\text{CO}_3}}$$

Where:

GLS=green liquor sulfidity, percent.

$C_{\text{Na}_2\text{S}}$ =concentration of Na_2S as Na_2O , mg/liter (gr/gal).

C_{NaOH} =concentration of NaOH as Na_2O , mg/liter (gr/gal).

$C_{\text{Na}_2\text{CO}_3}$ =concentration of Na_2CO_3 as Na_2O , mg/liter (gr/gal).

(e) The owner or operator shall determine compliance with the TRS standards in §60.283(a)(1)(vi) and (4) as follows:

(1) The emission rate (E) of TRS shall be computed for each run using the following equation:

$$E = C_{\text{TRS}} F Q_{\text{sd}} / P$$

where:

E=emission rate of TRS, g/kg (lb/ton) of BLS or ADP.

C_{TRS} =average combined concentration of TRS, ppm.

F = conversion factor, 0.001417 g H₂S/m³ -ppm (8.846 × 10⁻⁸ lb H₂S/ft³ -ppm).

Q_{sd} =volumetric flow rate of stack gas, dscm/hr (dscf/hr).

P=black liquor solids feed or pulp production rate, kg/hr (ton/hr).

(2) Method 16 shall be used to determine the TRS concentration (C_{TRS}).

(3) Method 2 shall be used to determine the volumetric flow rate (Q_{sd}) of the effluent gas.

(4) Process data shall be used to determine the black liquor feed rate or the pulp production rate (P).

(f) The owner or operator may use the following as alternatives to the reference methods and procedures specified in this section:

(1) For Method 5, Method 17 may be used if a constant value of 0.009 g/dscm (0.004 gr/dscf) is added to the results of Method 17 and the stack temperature is no greater than 204 °C (400 °F).

(2) In place of Method 16, Method 16A or 16B may be used.

[54 FR 6673, Feb. 14, 1989; 54 FR 21344, May 17, 1989, as amended at 55 FR 5212, Feb. 14, 1990; 65 FR 61759, Oct. 17, 2000]

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PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

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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

Source: 52 FR 11429, Apr. 8, 1987, unless otherwise noted.

§ 60.110b Applicability and designation of affected facility.

(a) Except as provided in paragraph (b) of this section, the affected facility to which this subpart applies is each storage vessel with a capacity greater than or equal to 75 cubic meters (m^3) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984.

(b) This subpart does not apply to storage vessels with a capacity greater than or equal to 151 m^3 storing a liquid with a maximum true vapor pressure less than 3.5 kilopascals (kPa) or with a capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure less than 15.0 kPa.

(c) [Reserved]

(d) This subpart does not apply to the following:

(1) Vessels at coke oven by-product plants.

(2) Pressure vessels designed to operate in excess of 204.9 kPa and without emissions to the atmosphere.

(3) Vessels permanently attached to mobile vehicles such as trucks, railcars, barges, or ships.

(4) Vessels with a design capacity less than or equal to 1,589.874 m^3 used for petroleum or condensate stored, processed, or treated prior to custody transfer.

(5) Vessels located at bulk gasoline plants.

(6) Storage vessels located at gasoline service stations.

(7) Vessels used to store beverage alcohol.

(8) Vessels subject to subpart GGGG of 40 CFR part 63.

(e) *Alternative means of compliance* —(1) *Option to comply with part 65.* Owners or operators may

choose to comply with 40 CFR part 65, subpart C, to satisfy the requirements of §§60.112b through 60.117b for storage vessels that are subject to this subpart that meet the specifications in paragraphs (e)(1)(i) and (ii) of this section. When choosing to comply with 40 CFR part 65, subpart C, the monitoring requirements of §60.116b(c), (e), (f)(1), and (g) still apply. Other provisions applying to owners or operators who choose to comply with 40 CFR part 65 are provided in 40 CFR 65.1.

(i) A storage vessel with a design capacity greater than or equal to 151 m³ containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kPa; or

(ii) A storage vessel with a design capacity greater than 75 m³ but less than 151 m³ containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 27.6 kPa.

(2) *Part 60, subpart A.* Owners or operators who choose to comply with 40 CFR part 65, subpart C, must also comply with §§60.1, 60.2, 60.5, 60.6, 60.7(a)(1) and (4), 60.14, 60.15, and 60.16 for those storage vessels. All sections and paragraphs of subpart A of this part that are not mentioned in this paragraph (e)(2) do not apply to owners or operators of storage vessels complying with 40 CFR part 65, subpart C, except that provisions required to be met prior to implementing 40 CFR part 65 still apply. Owners and operators who choose to comply with 40 CFR part 65, subpart C, must comply with 40 CFR part 65, subpart A.

(3) *Internal floating roof report.* If an owner or operator installs an internal floating roof and, at initial startup, chooses to comply with 40 CFR part 65, subpart C, a report shall be furnished to the Administrator stating that the control equipment meets the specifications of 40 CFR 65.43. This report shall be an attachment to the notification required by 40 CFR 65.5(b).

(4) *External floating roof report.* If an owner or operator installs an external floating roof and, at initial startup, chooses to comply with 40 CFR part 65, subpart C, a report shall be furnished to the Administrator stating that the control equipment meets the specifications of 40 CFR 65.44. This report shall be an attachment to the notification required by 40 CFR 65.5(b).

[52 FR 11429, Apr. 8, 1987, as amended at 54 FR 32973, Aug. 11, 1989; 65 FR 78275, Dec. 14, 2000; 68 FR 59332, Oct. 15, 2003]

§ 60.111b Definitions.

Terms used in this subpart are defined in the Act, in subpart A of this part, or in this subpart as follows:

Bulk gasoline plant means any gasoline distribution facility that has a gasoline throughput less than or equal to 75,700 liters per day. Gasoline throughput shall be the maximum calculated design throughput as may be limited by compliance with an enforceable condition under Federal requirement or Federal, State or local law, and discoverable by the Administrator and any other person.

Condensate means hydrocarbon liquid separated from natural gas that condenses due to changes in the temperature or pressure, or both, and remains liquid at standard conditions.

Custody transfer means the transfer of produced petroleum and/or condensate, after processing and/or treatment in the producing operations, from storage vessels or automatic transfer facilities to pipelines or any other forms of transportation.

Fill means the introduction of VOL into a storage vessel but not necessarily to complete capacity.

Gasoline service station means any site where gasoline is dispensed to motor vehicle fuel tanks from stationary storage tanks.

Maximum true vapor pressure means the equilibrium partial pressure exerted by the volatile organic compounds (as defined in 40 CFR 51.100) in the stored VOL at the temperature equal to the highest calendar-month average of the VOL storage temperature for VOL's stored above or below the ambient temperature or at the local maximum monthly average temperature as reported by the National Weather Service for VOL's stored at the ambient temperature, as determined:

(1) In accordance with methods described in American Petroleum institute Bulletin 2517, Evaporation Loss From External Floating Roof Tanks, (incorporated by reference—see §60.17); or

- Petroleum* means the crude oil removed from the earth and the oils derived from tar sands, shale, and coal.

Petroleum liquids means petroleum, condensate, and any finished or intermediate products manufactured in a petroleum refinery.

Reid vapor pressure means the absolute vapor pressure of volatile crude oil and volatile nonviscous petroleum liquids except liquified petroleum gases, as determined by ASTM D323–82 or 94 (incorporated by reference—see §60.17).

Storage vessel means each tank, reservoir, or container used for the storage of volatile organic liquids but does not include:

- Volatile organic liquid (VOL)** means any organic liquid which can emit volatile organic compounds (as defined in 40 CFR 51.100) into the atmosphere.

Waste means any liquid resulting from industrial, commercial, mining or agricultural operations, or from community activities that is discarded or is being accumulated, stored, or physically, chemically, or biologically treated prior to being discarded or recycled.

[52 FR 11429, Apr. 8, 1987, as amended at 54 FR 32973, Aug. 11, 1989; 65 FR 61756, Oct. 17, 2000; 68 FR 59333, Oct. 15, 2003]

(a) The owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m³ containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kPa but less than 76.6 kPa or with a design capacity greater than or equal to 75 m³ but less than 151 m³ containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 27.6 kPa but less than 76.6 kPa, shall equip each storage vessel with one of the following:

- (1) A fixed roof in combination with an internal floating roof meeting the following specifications:
- (i) The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.
 - (ii) Each internal floating roof shall be equipped with one of the following closure devices between the

wall of the storage vessel and the edge of the internal floating roof:

(A) A foam- or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank.

(B) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous.

(C) A mechanical shoe seal. A mechanical shoe seal is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

(iii) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.

(iv) Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.

(v) Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.

(vi) Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.

(vii) Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening.

(viii) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.

(ix) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.

(2) An external floating roof. An external floating roof means a pontoon-type or double-deck type cover that rests on the liquid surface in a vessel with no fixed roof. Each external floating roof must meet the following specifications:

(i) Each external floating roof shall be equipped with a closure device between the wall of the storage vessel and the roof edge. The closure device is to consist of two seals, one above the other. The lower seal is referred to as the primary seal, and the upper seal is referred to as the secondary seal.

(A) The primary seal shall be either a mechanical shoe seal or a liquid-mounted seal. Except as provided in §60.113b(b)(4), the seal shall completely cover the annular space between the edge of the floating roof and tank wall.

(B) The secondary seal shall completely cover the annular space between the external floating roof and the wall of the storage vessel in a continuous fashion except as allowed in §60.113b(b)(4).

(ii) Except for automatic bleeder vents and rim space vents, each opening in a noncontact external floating roof shall provide a projection below the liquid surface. Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof is to be equipped with a gasketed cover, seal, or lid that is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. Automatic bleeder vents are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports. Rim vents are to be set to open when the roof is being floated off the roof legs supports or at the manufacturer's recommended setting. Automatic bleeder vents and rim space vents are to be gasketed. Each emergency roof drain is to be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.

(iii) The roof shall be floating on the liquid at all times (i.e., off the roof leg supports) except during initial fill until the roof is lifted off leg supports and when the tank is completely emptied and subsequently refilled. The process of filling, emptying, or refilling when the roof is resting on the leg supports shall be continuous and shall be accomplished as rapidly as possible.

(3) A closed vent system and control device meeting the following specifications:

(i) The closed vent system shall be designed to collect all VOC vapors and gases discharged from the storage vessel and operated with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined in part 60, subpart VV, §60.485 (b).

(ii) The control device shall be designed and operated to reduce inlet VOC emissions by 95 percent or greater. If a flare is used as the control device, it shall meet the specifications described in the general control device requirements (§60.18) of the General Provisions.

(4) A system equivalent to those described in paragraphs (a)(1), (a)(2), or (a)(3) of this section as provided in §60.114b of this subpart.

(b) The owner or operator of each storage vessel with a design capacity greater than or equal to 75 m³ which contains a VOL that, as stored, has a maximum true vapor pressure greater than or equal to 76.6 kPa shall equip each storage vessel with one of the following:

(1) A closed vent system and control device as specified in §60.112b(a)(3).

(2) A system equivalent to that described in paragraph (b)(1) as provided in §60.114b of this subpart.

(c) *Site-specific standard for Merck & Co., Inc.'s Stonewall Plant in Elkton, Virginia.* This paragraph applies only to the pharmaceutical manufacturing facility, commonly referred to as the Stonewall Plant, located at Route 340 South, in Elkton, Virginia ("site").

(1) For any storage vessel that otherwise would be subject to the control technology requirements of paragraphs (a) or (b) of this section, the site shall have the option of either complying directly with the requirements of this subpart, or reducing the site-wide total criteria pollutant emissions cap (total emissions cap) in accordance with the procedures set forth in a permit issued pursuant to 40 CFR 52.2454. If the site chooses the option of reducing the total emissions cap in accordance with the procedures set forth in such permit, the requirements of such permit shall apply in lieu of the otherwise applicable requirements of this subpart for such storage vessel.

(2) For any storage vessel at the site not subject to the requirements of 40 CFR 60.112b (a) or (b), the requirements of 40 CFR 60.116b (b) and (c) and the General Provisions (subpart A of this part) shall not apply.

[52 FR 11429, Apr. 8, 1987, as amended at 62 FR 52641, Oct. 8, 1997]

§ 60.113b Testing and procedures.

The owner or operator of each storage vessel as specified in §60.112b(a) shall meet the requirements of paragraph (a), (b), or (c) of this section. The applicable paragraph for a particular storage vessel depends on the control equipment installed to meet the requirements of §60.112b.

(a) After installing the control equipment required to meet §60.112b(a)(1) (permanently affixed roof and internal floating roof), each owner or operator shall:

(1) Visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling the storage vessel with VOL. If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, the owner or operator shall repair the items before filling the storage vessel.

(2) For Vessels equipped with a liquid-mounted or mechanical shoe primary seal, visually inspect the internal floating roof and the primary seal or the secondary seal (if one is in service) through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the VOL inside the storage vessel, or there is liquid accumulated on

the roof, or the seal is detached, or there are holes or tears in the seal fabric, the owner or operator shall repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during inspections required in this paragraph cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Administrator in the inspection report required in §60.115b(a)(3). Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

(3) For vessels equipped with a double-seal system as specified in §60.112b(a)(1)(ii)(B):

(i) Visually inspect the vessel as specified in paragraph (a)(4) of this section at least every 5 years; or

(ii) Visually inspect the vessel as specified in paragraph (a)(2) of this section.

(4) Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before refilling the storage vessel with VOL. In no event shall inspections conducted in accordance with this provision occur at intervals greater than 10 years in the case of vessels conducting the annual visual inspection as specified in paragraphs (a)(2) and (a)(3)(ii) of this section and at intervals no greater than 5 years in the case of vessels specified in paragraph (a)(3)(i) of this section.

(5) Notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by paragraphs (a)(1) and (a)(4) of this section to afford the Administrator the opportunity to have an observer present. If the inspection required by paragraph (a)(4) of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance or refilling the tank, the owner or operator shall notify the Administrator at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Administrator at least 7 days prior to the refilling.

(b) After installing the control equipment required to meet §60.112b(a)(2) (external floating roof), the owner or operator shall:

(1) Determine the gap areas and maximum gap widths, between the primary seal and the wall of the storage vessel and between the secondary seal and the wall of the storage vessel according to the following frequency.

(i) Measurements of gaps between the tank wall and the primary seal (seal gaps) shall be performed during the hydrostatic testing of the vessel or within 60 days of the initial fill with VOL and at least once every 5 years thereafter.

(ii) Measurements of gaps between the tank wall and the secondary seal shall be performed within 60 days of the initial fill with VOL and at least once per year thereafter.

(iii) If any source ceases to store VOL for a period of 1 year or more, subsequent introduction of VOL into the vessel shall be considered an initial fill for the purposes of paragraphs (b)(1)(i) and (b)(1)(ii) of this section.

(2) Determine gap widths and areas in the primary and secondary seals individually by the following procedures:

(i) Measure seal gaps, if any, at one or more floating roof levels when the roof is floating off the roof leg supports.

(ii) Measure seal gaps around the entire circumference of the tank in each place where a 0.32-cm diameter uniform probe passes freely (without forcing or binding against seal) between the seal and the wall of the storage vessel and measure the circumferential distance of each such location.

(iii) The total surface area of each gap described in paragraph (b)(2)(ii) of this section shall be determined by using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance.

(3) Add the gap surface area of each gap location for the primary seal and the secondary seal individually and divide the sum for each seal by the nominal diameter of the tank and compare each ratio to the respective standards in paragraph (b)(4) of this section.

(4) Make necessary repairs or empty the storage vessel within 45 days of identification in any inspection for seals not meeting the requirements listed in (b)(4) (i) and (ii) of this section:

(i) The accumulated area of gaps between the tank wall and the mechanical shoe or liquid-mounted primary seal shall not exceed 212 Cm² per meter of tank diameter, and the width of any portion of any gap shall not exceed 3.81 cm.

(A) One end of the mechanical shoe is to extend into the stored liquid, and the other end is to extend a minimum vertical distance of 61 cm above the stored liquid surface.

(B) There are to be no holes, tears, or other openings in the shoe, seal fabric, or seal envelope.

(ii) The secondary seal is to meet the following requirements:

(A) The secondary seal is to be installed above the primary seal so that it completely covers the space between the roof edge and the tank wall except as provided in paragraph (b)(2)(iii) of this section.

(B) The accumulated area of gaps between the tank wall and the secondary seal shall not exceed 21.2 cm² per meter of tank diameter, and the width of any portion of any gap shall not exceed 1.27 cm.

(C) There are to be no holes, tears, or other openings in the seal or seal fabric.

(iii) If a failure that is detected during inspections required in paragraph (b)(1) of §60.113b(b) cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Administrator in the inspection report required in §60.115b(b)(4). Such extension request must include a demonstration of unavailability of alternate storage capacity and a specification of a schedule that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

(5) Notify the Administrator 30 days in advance of any gap measurements required by paragraph (b)(1) of this section to afford the Administrator the opportunity to have an observer present.

(6) Visually inspect the external floating roof, the primary seal, secondary seal, and fittings each time the vessel is emptied and degassed.

(i) If the external floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before filling or refilling the storage vessel with VOL.

(ii) For all the inspections required by paragraph (b)(6) of this section, the owner or operator shall notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel to afford the Administrator the opportunity to inspect the storage vessel prior to refilling. If the inspection required by paragraph (b)(6) of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance of refilling the tank, the owner or operator shall notify the Administrator at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Administrator at least 7 days prior to the refilling.

(c) The owner or operator of each source that is equipped with a closed vent system and control device as required in §60.112b (a)(3) or (b)(2) (other than a flare) is exempt from §60.8 of the General Provisions and shall meet the following requirements.

(1) Submit for approval by the Administrator as an attachment to the notification required by §60.7(a)(1)

or, if the facility is exempt from §60.7(a)(1), as an attachment to the notification required by §60.7(a)(2), an operating plan containing the information listed below.

(i) Documentation demonstrating that the control device will achieve the required control efficiency during maximum loading conditions. This documentation is to include a description of the gas stream which enters the control device, including flow and VOC content under varying liquid level conditions (dynamic and static) and manufacturer's design specifications for the control device. If the control device or the closed vent capture system receives vapors, gases, or liquids other than fuels from sources that are not designated sources under this subpart, the efficiency demonstration is to include consideration of all vapors, gases, and liquids received by the closed vent capture system and control device. If an enclosed combustion device with a minimum residence time of 0.75 seconds and a minimum temperature of 816 °C is used to meet the 95 percent requirement, documentation that those conditions will exist is sufficient to meet the requirements of this paragraph.

(ii) A description of the parameter or parameters to be monitored to ensure that the control device will be operated in conformance with its design and an explanation of the criteria used for selection of that parameter (or parameters).

(2) Operate the closed vent system and control device and monitor the parameters of the closed vent system and control device in accordance with the operating plan submitted to the Administrator in accordance with paragraph (c)(1) of this section, unless the plan was modified by the Administrator during the review process. In this case, the modified plan applies.

(d) The owner or operator of each source that is equipped with a closed vent system and a flare to meet the requirements in §60.112b (a)(3) or (b)(2) shall meet the requirements as specified in the general control device requirements, §60.18 (e) and (f).

[52 FR 11429, Apr. 8, 1987, as amended at 54 FR 32973, Aug. 11, 1989]

§ 60.114b Alternative means of emission limitation.

(a) If, in the Administrator's judgment, an alternative means of emission limitation will achieve a reduction in emissions at least equivalent to the reduction in emissions achieved by any requirement in §60.112b, the Administrator will publish in the Federal Register a notice permitting the use of the alternative means for purposes of compliance with that requirement.

(b) Any notice under paragraph (a) of this section will be published only after notice and an opportunity for a hearing.

(c) Any person seeking permission under this section shall submit to the Administrator a written application including:

(1) An actual emissions test that uses a full-sized or scale-model storage vessel that accurately collects and measures all VOC emissions from a given control device and that accurately simulates wind and accounts for other emission variables such as temperature and barometric pressure.

(2) An engineering evaluation that the Administrator determines is an accurate method of determining equivalence.

(d) The Administrator may condition the permission on requirements that may be necessary to ensure operation and maintenance to achieve the same emissions reduction as specified in §60.112b.

§ 60.11 b Reporting and record keeping requirements.

The owner or operator of each storage vessel as specified in §60.112b(a) shall keep records and furnish reports as required by paragraphs (a), (b), or (c) of this section depending upon the control equipment installed to meet the requirements of §60.112b. The owner or operator shall keep copies of all reports and records required by this section, except for the record required by (c)(1), for at least 2 years. The record required by (c)(1) will be kept for the life of the control equipment.

(a) After installing control equipment in accordance with §60.112b(a)(1) (fixed roof and internal floating roof), the owner or operator shall meet the following requirements.

submitted within 6 months of the initial start-up date.

(2) Records shall be kept of all periods of operation during which the flare pilot flame is absent.

(3) Semiannual reports of all periods recorded under §60.115b(d)(2) in which the pilot flame was absent shall be furnished to the Administrator.

§ 60.116b Monitoring of operations.

(a) The owner or operator shall keep copies of all records required by this section, except for the record required by paragraph (b) of this section, for at least 2 years. The record required by paragraph (b) of this section will be kept for the life of the source.

(b) The owner or operator of each storage vessel as specified in §60.110b(a) shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel.

(c) Except as provided in paragraphs (f) and (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m³ storing a liquid with a maximum true vapor pressure greater than or equal to 3.5 kPa or with a design capacity greater than or equal to 75 m³ but less than 151 m³ storing a liquid with a maximum true vapor pressure greater than or equal to 15.0 kPa shall maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.

(d) Except as provided in paragraph (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m³ storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa or with a design capacity greater than or equal to 75 m³ but less than 151 m³ storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the Administrator within 30 days when the maximum true vapor pressure of the liquid exceeds the respective maximum true vapor pressure values for each volume range.

(e) Available data on the storage temperature may be used to determine the maximum true vapor pressure as determined below.

(1) For vessels operated above or below ambient temperatures, the maximum true vapor pressure is calculated based upon the highest expected calendar-month average of the storage temperature. For vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service.

(2) For crude oil or refined petroleum products the vapor pressure may be obtained by the following:

(i) Available data on the Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product may be used to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517 (incorporated by reference—see §60.17), unless the Administrator specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s).

(ii) The true vapor pressure of each type of crude oil with a Reid vapor pressure less than 13.8 kPa or with physical properties that preclude determination by the recommended method is to be determined from available data and recorded if the estimated maximum true vapor pressure is greater than 3.5 kPa.

(3) For other liquids, the vapor pressure:

(i) May be obtained from standard reference texts, or

(ii) Determined by ASTM D2879–83, 96, or 97 (incorporated by reference—see §60.17); or

(iii) Measured by an appropriate method approved by the Administrator; or

(iv) Calculated by an appropriate method approved by the Administrator.

(f) The owner or operator of each vessel storing a waste mixture of indeterminate or variable composition shall be subject to the following requirements.

(1) Prior to the initial filling of the vessel, the highest maximum true vapor pressure for the range of anticipated liquid compositions to be stored will be determined using the methods described in paragraph (e) of this section.

(2) For vessels in which the vapor pressure of the anticipated liquid composition is above the cutoff for monitoring but below the cutoff for controls as defined in §60.112b(a), an initial physical test of the vapor pressure is required; and a physical test at least once every 6 months thereafter is required as determined by the following methods:

(i) ASTM D2879–83, 96, or 97 (incorporated by reference—see §60.17); or

(ii) ASTM D323–82 or 94 (incorporated by reference—see §60.17); or

(iii) As measured by an appropriate method as approved by the Administrator.

(g) The owner or operator of each vessel equipped with a closed vent system and control device meeting the specification of §60.112b or with emissions reductions equipment as specified in 40 CFR 65.42(b)(4), (b)(5), (b)(6), or (c) is exempt from the requirements of paragraphs (c) and (d) of this section.

[52 FR 11429, Apr. 8, 1987, as amended at 65 FR 61756, Oct. 17, 2000; 65 FR 78276, Dec. 14, 2000; 68 FR 59333, Oct. 15, 2003]

§ 60.117b Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 111(c) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities which will not be delegated to States: §§60.111b(f)(4), 60.114b, 60.116b(e)(3)(iii), 60.116b(e)(3)(iv), and 60.116b(f)(2)(iii).

[52 FR 11429, Apr. 8, 1987, as amended at 52 FR 22780, June 16, 1987]

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APPENDIX E - NESHAP S

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Title 40: Protection of Environment

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

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Subpart S—National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry

Source: 63 FR 18617, Apr. 15, 1998, unless otherwise noted.

§ 63.440 Applicability.

(a) The provisions of this subpart apply to the owner or operator of processes that produce pulp, paper, or paperboard; that are located at a plant site that is a major source as defined in §63.2 of subpart A of this part; and that use the following processes and materials:

- (1) Kraft, soda, sulfite, or semi-chemical pulping processes using wood; or
- (2) Mechanical pulping processes using wood; or
- (3) Any process using secondary or non-wood fibers.

(b) The affected source to which the existing source provisions of this subpart apply is as follows:

- (1) For the processes specified in paragraph (a)(1) of this section, the affected source is the total of all HAP emission points in the pulping and bleaching systems; or
- (2) For the processes specified in paragraphs (a)(2) or (a)(3) of this section, the affected source is the total of all HAP emission points in the bleaching system.

(c) The new source provisions of this subpart apply to the total of all HAP emission points at new or existing sources as follows:

- (1) Each affected source defined in paragraph (b)(1) of this section that commences construction or reconstruction after December 17, 1993;
- (2) Each pulping system or bleaching system for the processes specified in paragraph (a)(1) of this section that commences construction or reconstruction after December 17, 1993;
- (3) Each additional pulping or bleaching line at the processes specified in paragraph (a)(1) of this section, that commences construction after December 17, 1993;
- (4) Each affected source defined in paragraph (b)(2) of this section that commences construction or reconstruction after March 8, 1996; or
- (5) Each additional bleaching line at the processes specified in paragraphs (a)(2) or (a)(3) of this section,

that commences construction after March 8, 1996.

(d) Each existing source shall achieve compliance no later than April 16, 2001, except as provided in paragraphs (d)(1) through (d)(3) of this section.

(1) Each kraft pulping system shall achieve compliance with the pulping system provisions of §63.443 for the equipment listed in §63.443(a)(1)(ii) through (a)(1)(v) as expeditiously as practicable, but in no event later than April 17, 2006 and the owners and operators shall establish dates, update dates, and report the dates for the milestones specified in §63.455(b).

(2) Each dissolving-grade bleaching system at either kraft or sulfite pulping mills shall achieve compliance with the bleach plant provisions of §63.445 of this subpart as expeditiously as practicable, but in no event later than 3 years after the promulgation of the revised effluent limitation guidelines and standards under 40 CFR 430.14 through 430.17 and 40 CFR 430.44 through 430.47.

(3) Each bleaching system complying with the Voluntary Advanced Technology Incentives Program for Effluent Limitation Guidelines in 40 CFR 430.24, shall comply with the requirements specified in either paragraph (d)(3)(i) or (d)(3)(ii) of this section for the effluent limitation guidelines and standards in 40 CFR 430.24.

(i) Comply with the bleach plant provisions of §63.445 of this subpart as expeditiously as practicable, but in no event later than April 16, 2001.

(ii) Comply with paragraphs (d)(3)(ii)(A), (d)(3)(ii)(B), and (d)(3)(ii)(C) of this section.

(A) The owner or operator of a bleaching system shall comply with the bleach plant provisions of §63.445 of this subpart as expeditiously as practicable, but in no event later than April 15, 2004.

(B) The owner or operator of a bleaching system shall comply with the requirements specified in either paragraph (d)(3)(ii)(B)(1) or (d)(3)(ii)(B)(2) of this section.

(1) Not increase the application rate of chlorine or hypochlorite in kilograms (kg) of bleaching agent per megagram of ODP, in the bleaching system above the average daily rates used over the three months prior to June 15, 1998 until the requirements of paragraph (d)(3)(ii)(A) of this section are met and record application rates as specified in §63.454(c).

(2) Comply with enforceable effluent limitations guidelines for 2,3,7,8-tetrachloro-dibenzo-p-dioxin and adsorbable organic halides at least as stringent as the baseline BAT levels set out in 40 CFR 430.24(a) (1) as expeditiously as possible, but in no event later than April 16, 2001.

(C) Owners and operators shall establish dates, update dates, and report the dates for the milestones specified in §63.455(b).

(e) Each new source, specified as the total of all HAP emission points for the sources specified in paragraph (c) of this section, shall achieve compliance upon start-up or June 15, 1998, whichever is later, as provided in §63.6(b) of subpart A of this part.

(f) Each owner or operator of an affected source with affected process equipment shared by more than one type of pulping process, shall comply with the applicable requirement in this subpart that achieves the maximum degree of reduction in HAP emissions.

(g) Each owner or operator of an affected source specified in paragraphs (a) through (c) of this section must comply with the requirements of subpart A—General Provisions of this part, as indicated in table 1 to this subpart.

[63 FR 18617, Apr. 15, 1998, as amended at 63 FR 71389, Dec. 28, 1998]

§ 63.441 Definitions.

All terms used in this subpart shall have the meaning given them in the CAA, in subpart A of this part, and in this section as follows:

Acid condensate storage tank means any storage tank containing cooking acid following the sulfur dioxide gas fortification process.

Black liquor means spent cooking liquor that has been separated from the pulp produced by the kraft, soda, or semi-chemical pulping process.

Bleaching means brightening of pulp by the addition of oxidizing chemicals or reducing chemicals.

Bleaching line means a group of bleaching stages arranged in series such that bleaching of the pulp progresses as the pulp moves from one stage to the next.

Bleaching stage means all process equipment associated with a discrete step of chemical application and removal in the bleaching process including chemical and steam mixers, bleaching towers, washers, seal (filtrate) tanks, vacuum pumps, and any other equipment serving the same function as those previously listed.

Bleaching system means all process equipment after high-density pulp storage prior to the first application of oxidizing chemicals or reducing chemicals following the pulping system, up to and including the final bleaching stage.

Boiler means any enclosed combustion device that extracts useful energy in the form of steam. A boiler is not considered a thermal oxidizer.

Chip steamer means a vessel used for the purpose of preheating or pretreating wood chips prior to the digester, using flash steam from the digester or live steam.

Closed-vent system means a system that is not open to the atmosphere and is composed of piping, ductwork, connections, and, if necessary, flow-inducing devices that transport gas or vapor from an emission point to a control device.

Combustion device means an individual unit of equipment, including but not limited to, a thermal oxidizer, lime kiln, recovery furnace, process heater, or boiler, used for the thermal oxidation of organic hazardous air pollutant vapors.

Decker system means all equipment used to thicken the pulp slurry or reduce its liquid content after the pulp washing system and prior to high-density pulp storage. The decker system includes decker vents, filtrate tanks, associated vacuum pumps, and any other equipment serving the same function as those previously listed.

Digester system means each continuous digester or each batch digester used for the chemical treatment of wood or non-wood fibers. The digester system equipment includes associated flash tank(s), blow tank(s), chip steamer(s) not using fresh steam, blow heat recovery accumulator(s), relief gas condenser(s), prehydrolysis unit(s) preceding the pulp washing system, and any other equipment serving the same function as those previously listed. The digester system includes any of the liquid streams or condensates associated with batch or continuous digester relief, blow, or flash steam processes.

Emission point means any part of a stationary source that emits hazardous air pollutants regulated under this subpart, including emissions from individual process vents, stacks, open pieces of process equipment, equipment leaks, wastewater and condensate collection and treatment system units, and those emissions that could reasonably be conveyed through a stack, chimney, or duct where such emissions first reach the environment.

Evaporator system means all equipment associated with increasing the solids content and/or concentrating spent cooking liquor from the pulp washing system including pre-evaporators, multi-effect evaporators, concentrators, and vacuum systems, as well as associated condensers, hotwells, and condensate streams, and any other equipment serving the same function as those previously listed.

Flow indicator means any device that indicates gas or liquid flow in an enclosed system.

HAP means a hazardous air pollutant as defined in §63.2 of subpart A of this part.

High volume, low concentration or HVLC collection system means the gas collection and transport

system used to convey gases from the HVLC system to a control device.

High volume, low concentration or HVLC system means the collection of equipment including the pulp washing, knoter, screen, decker, and oxygen delignification systems, weak liquor storage tanks, and any other equipment serving the same function as those previously listed.

Knotter system means equipment where knots, oversized material, or pieces of uncooked wood are removed from the pulp slurry after the digester system and prior to the pulp washing system. The knoter system equipment includes the knoter, knot drainer tanks, ancillary tanks, and any other equipment serving the same function as those previously listed.

Kraft pulping means a chemical pulping process that uses a mixture of sodium hydroxide and sodium sulfide as the cooking liquor.

Lime kiln means an enclosed combustion device used to calcine lime mud, which consists primarily of calcium carbonate, into calcium oxide.

Low volume, high concentration or LVHC collection system means the gas collection and transport system used to convey gases from the LVHC system to a control device.

Low volume, high concentration or LVHC system means the collection of equipment including the digester, turpentine recovery, evaporator, steam stripper systems, and any other equipment serving the same function as those previously listed.

Mechanical pulping means a pulping process that only uses mechanical and thermo-mechanical processes to reduce wood to a fibrous mass. The mechanical pulping processes include, but are not limited to, stone groundwood, pressurized groundwood, refiner mechanical, thermal refiner mechanical, thermo-mechanical, and tandem thermo-mechanical.

Non-wood pulping means the production of pulp from fiber sources other than trees. The non-wood fiber sources include, but are not limited to, bagasse, cereal straw, cotton, flax straw, hemp, jute, kenaf, and leaf fibers.

Oven-dried pulp or ODP means a pulp sample at zero percent moisture content by weight. Pulp samples for applicability or compliance determinations for both the pulping and bleaching systems shall be unbleached pulp. For purposes of complying with mass emission limits in this subpart, megagram of ODP shall be measured to represent the amount of pulp entering and processed by the equipment system under the specified mass limit. For equipment that does not process pulp, megagram of ODP shall be measured to represent the amount of pulp that was processed to produce the gas and liquid streams.

Oxygen delignification system means the equipment that uses oxygen to remove lignin from pulp after high-density stock storage and prior to the bleaching system. The oxygen delignification system equipment includes the blow tank, washers, filtrate tanks, any interstage pulp storage tanks, and any other equipment serving the same function as those previously listed.

Primary fuel means the fuel that provides the principal heat input to the combustion device. To be considered primary, the fuel must be able to sustain operation of the combustion device without the addition of other fuels.

Process wastewater treatment system means a collection of equipment, a process, or specific technique that removes or destroys the HAPs in a process wastewater stream. Examples include, but are not limited to, a steam stripping unit, wastewater thermal oxidizer, or biological treatment unit.

Pulp washing system means all equipment used to wash pulp and separate spent cooking chemicals following the digester system and prior to the bleaching system, oxygen delignification system, or paper machine system (at unbleached mills). The pulp washing system equipment includes vacuum drum washers, diffusion washers, rotary pressure washers, horizontal belt filters, intermediate stock chests, and their associated vacuum pumps, filtrate tanks, foam breakers or tanks, and any other equipment serving the same function as those previously listed. The pulp washing system does not include deckers, screens, knotters, stock chests, or pulp storage tanks following the last stage of pulp washing.

Pulping line means a group of equipment arranged in series such that the wood chips are digested and the resulting pulp progresses through a sequence of steps that may include knotting, refining, washing,

thickening, blending, storing, oxygen delignification, and any other equipment serving the same function as those previously listed.

Pulping process condensates means any HAP-containing liquid that results from contact of water with organic compounds in the pulping process. Examples of process condensates include digester system condensates, turpentine recovery system condensates, evaporator system condensates, LVHC system condensates, HVLC system condensates, and any other condensates from equipment serving the same function as those previously listed. Liquid streams that are intended for byproduct recovery are not considered process condensate streams.

Pulping system means all process equipment, beginning with the digester system, and up to and including the last piece of pulp conditioning equipment prior to the bleaching system, including treatment with ozone, oxygen, or peroxide before the first application of a chemical bleaching agent intended to brighten pulp. The pulping system includes pulping process condensates and can include multiple pulping lines.

Recovery furnace means an enclosed combustion device where concentrated spent liquor is burned to recover sodium and sulfur, produce steam, and dispose of unwanted dissolved wood components in the liquor.

Screen system means equipment in which oversized particles are removed from the pulp slurry prior to the bleaching or papermaking system washed stock storage.

Secondary fiber pulping means a pulping process that converts a fibrous material, that has previously undergone a manufacturing process, into pulp stock through the addition of water and mechanical energy. The mill then uses that pulp as the raw material in another manufactured product. These mills may also utilize chemical, heat, and mechanical processes to remove ink particles from the fiber stock.

Semi-chemical pulping means a pulping process that combines both chemical and mechanical pulping processes. The semi-chemical pulping process produces intermediate yields ranging from 55 to 90 percent.

Soda pulping means a chemical pulping process that uses sodium hydroxide as the active chemical in the cooking liquor.

Spent liquor means process liquid generated from the separation of cooking liquor from pulp by the pulp washing system containing dissolved organic wood materials and residual cooking compounds.

Steam stripper system means a column (including associated stripper feed tanks, condensers, or heat exchangers) used to remove compounds from wastewater or condensates using steam. The steam stripper system also contains all equipment associated with a methanol rectification process including rectifiers, condensers, decanters, storage tanks, and any other equipment serving the same function as those previously listed.

Strong liquor storage tanks means all storage tanks containing liquor that has been concentrated in preparation for combustion or oxidation in the recovery process.

Sulfite pulping means a chemical pulping process that uses a mixture of sulfurous acid and bisulfite ion as the cooking liquor.

Temperature monitoring device means a piece of equipment used to monitor temperature and having an accuracy of ± 1.0 percent of the temperature being monitored expressed in degrees Celsius or ± 0.5 degrees Celsius (($^{\circ}\text{deg};\text{C}$), whichever is greater).

Thermal oxidizer means an enclosed device that destroys organic compounds by thermal oxidation.

Turpentine recovery system means all equipment associated with recovering turpentine from digester system gases including condensers, decanters, storage tanks, and any other equipment serving the same function as those previously listed. The turpentine recovery system includes any liquid streams associated with the turpentine recovery process such as turpentine decanter underflow. Liquid streams that are intended for byproduct recovery are not considered turpentine recovery system condensate streams.

Weak liquor storage tank means any storage tank except washer filtrate tanks containing spent liquor recovered from the pulping process and prior to the evaporator system.

[63 FR 18617, Apr. 15, 1998, as amended at 64 FR 17563, Apr. 12, 1999]

§ 63.442 Reserved

§ 63.443 Standards for the pulping system at kraft, soda, and semi-chemical processes.

(a) The owner or operator of each pulping system using the kraft process subject to the requirements of this subpart shall control the total HAP emissions from the following equipment systems, as specified in paragraphs (c) and (d) of this section.

(1) At existing affected sources, the total HAP emissions from the following equipment systems shall be controlled:

(i) Each LVHC system;

(ii) Each knotter or screen system with total HAP mass emission rates greater than or equal to the rates specified in paragraphs (a)(1)(ii)(A) or (a)(1)(ii)(B) of this section or the combined rate specified in paragraph (a)(1)(ii)(C) of this section.

(A) Each knotter system with emissions of 0.05 kilograms or more of total HAP per megagram of ODP (0.1 pounds per ton).

(B) Each screen system with emissions of 0.10 kilograms or more of total HAP per megagram of ODP (0.2 pounds per ton).

(C) Each knotter and screen system with emissions of 0.15 kilograms or more of total HAP per megagram of ODP (0.3 pounds per ton).

(iii) Each pulp washing system;

(iv) Each decker system that:

(A) Uses any process water other than fresh water or paper machine white water; or

(B) Uses any process water with a total HAP concentration greater than 400 parts per million by weight; and

(v) Each oxygen delignification system.

(2) At new affected sources, the total HAP emissions from the equipment systems listed in paragraphs (a)(1)(i), (a)(1)(iii), and (a)(1)(v) of this section and the following equipment systems shall be controlled:

(i) Each knotter system;

(ii) Each screen system;

(iii) Each decker system; and

(iv) Each weak liquor storage tank.

(b) The owner or operator of each pulping system using a semi-chemical or soda process subject to the requirements of this subpart shall control the total HAP emissions from the following equipment systems as specified in paragraphs (c) and (d) of this section.

(1) At each existing affected source, the total HAP emissions from each LVHC system shall be controlled.

(2) At each new affected source, the total HAP emissions from each LVHC system and each pulp washing system shall be controlled.

(c) Equipment systems listed in paragraphs (a) and (b) of this section shall be enclosed and vented into a closed-vent system and routed to a control device that meets the requirements specified in paragraph (d) of this section. The enclosures and closed-vent system shall meet the requirements specified in §63.450.

(d) The control device used to reduce total HAP emissions from each equipment system listed in paragraphs (a) and (b) of this section shall:

(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 to 20 parts per million or less by volume, 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 871 °C (1600 °F) and a minimum residence time of 0.75 seconds; or

(4) Reduce total HAP emissions using one of the following:

(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 per hour) by introducing the HAP emission stream with the combustion air.

(e) Periods of excess emissions reported under §63.455 shall not be a violation of §63.443 (c) and (d) provided that the time of excess emissions (excluding periods of startup, shutdown, or malfunction) divided by the total process operating time in a semi-annual reporting period does not exceed the following levels:

(1) One percent for control devices used to reduce the total HAP emissions from the LVHC system; and

(2) Four percent for control devices used to reduce the total HAP emissions from the HVLC system; and

(3) Four percent for control devices used to reduce the total HAP emissions from both the LVHC and HVLC systems.

[63 FR 18617, Apr. 15, 1998, as amended at 64 FR 17563, Apr. 12, 1999; 66 FR 80762, Dec. 22, 2000]

§ 63.444 Standards for the pulpin system at sulfite processes.

(a) The owner or operator of each sulfite process subject to the requirements of this subpart shall control the total HAP emissions from the following equipment systems as specified in paragraphs (b) and (c) of this section.

(1) At existing sulfite affected sources, the total HAP emissions from the following equipment systems shall be controlled:

(i) Each digester system vent;

(ii) Each evaporator system vent; and

(iii) Each pulp washing system.

(2) At new affected sources, the total HAP emissions from the equipment systems listed in paragraph (a) (1) of this section and the following equipment shall be controlled:

(i) Each weak liquor storage tank;

(ii) Each strong liquor storage tank; and

(iii) Each acid condensate storage tank.

(b) Equipment listed in paragraph (a) of this section shall be enclosed and vented into a closed-vent system and routed to a control device that meets the requirements specified in paragraph (c) of this section. The enclosures and closed-vent system shall meet the requirements specified in §63.450. Emissions from equipment listed in paragraph (a) of this section that is not necessary to be reduced to meet paragraph (c) of this section is not required to be routed to a control device.

(c) The total HAP emissions from both the equipment systems listed in paragraph (a) of this section and the vents, wastewater, and condensate streams from the control device used to reduce HAP emissions, shall be controlled as follows.

(1) Each calcium-based or sodium-based sulfite pulping process shall:

(i) Emit no more than 0.44 kilograms of total HAP or methanol per megagram (0.89 pounds per ton) of ODP; or

(ii) Remove 92 percent or more by weight of the total HAP or methanol.

(2) Each magnesium-based or ammonium-based sulfite pulping process shall:

(i) Emit no more than 1.1 kilograms of total HAP or methanol per megagram (2.2 pounds per ton) of ODP; or

(ii) Remove 87 percent or more by weight of the total HAP or methanol.

§ 63.44 Standards for the bleaching system.

(a) Each bleaching system that does not use any chlorine or chlorinated compounds for bleaching is exempt from the requirements of this section. Owners or operators of the following bleaching systems shall meet all the provisions of this section:

(1) Bleaching systems that use chlorine;

(2) Bleaching systems bleaching pulp from kraft, sulfite, or soda pulping processes that use any chlorinated compounds; or

(3) Bleaching systems bleaching pulp from mechanical pulping processes using wood or from any process using secondary or non-wood fibers, that use chlorine dioxide.

(b) The equipment at each bleaching stage, of the bleaching systems listed in paragraph (a) of this section, 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 paragraph (c) of this section. The enclosures and closed-vent system shall meet the requirements specified in §63.450. If process modifications are used to achieve compliance with the emission limits specified in paragraphs (c)(2) or (c)(3), enclosures and closed-vent systems are not required, unless appropriate.

(c) The control device used to reduce chlorinated HAP emissions (not including chloroform) from the equipment specified in paragraph (b) of this section shall:

(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 parts per million or less by volume 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 (0.002 pounds per ton) of ODP.

(d) The owner or operator of each bleaching system subject to paragraph (a)(2) of this section shall comply with paragraph (d)(1) or (d)(2) of this section to reduce chloroform air emissions to the atmosphere, except the owner or operator of each bleaching system complying with extended compliance under §63.440(d)(3)(ii) shall comply with paragraph (d)(1) of this section.

(1) Comply with the following applicable effluent limitation guidelines and standards specified in 40 CFR part 430:

(i) Dissolving-grade kraft bleaching systems and lines, 40 CFR 430.14 through 430.17;

(ii) Paper-grade kraft and soda bleaching systems and lines, 40 CFR 430.24(a)(1) and (e), and 40 CFR 430.26 (a) and (c);

(iii) Dissolving-grade sulfite bleaching systems and lines, 40 CFR 430.44 through 430.47; or

(iv) Paper-grade sulfite bleaching systems and lines, 40 CFR 430.54(a) and (c), and 430.56(a) and (c).

(2) Use no hypochlorite or chlorine for bleaching in the bleaching system or line.

[63 FR 18617, Apr. 15, 1998, as amended at 64 FR 17563, Apr. 12, 1999]

§ 63.446 Standards for kraft pulping process condensates.

(a) The requirements of this section apply to owners or operators of kraft processes subject to the requirements of this subpart.

(b) The pulping process condensates from the following equipment systems shall be treated to meet the requirements specified in paragraphs (c), (d), and (e) of this section:

(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.

(c) One of the following combinations of HAP-containing pulping process condensates generated, produced, or associated with the equipment systems listed in paragraph (b) of this section shall be subject to the requirements of paragraphs (d) and (e) of this section:

(1) All pulping process condensates from the equipment systems specified in paragraphs (b)(1) through (b)(5) of this section.

(2) The combined pulping process condensates from the equipment systems specified in paragraphs (b)(4) and (b)(5) of this section, plus pulping process condensate stream(s) that in total contain at least 65 percent of the total HAP mass from the pulping process condensates from equipment systems listed in paragraphs (b)(1) through (b)(3) of this section.

(3) The pulping process condensates from equipment systems listed in paragraphs (b)(1) through (b)(5) of this section that in total contain a total HAP mass of 3.6 kilograms or more of total HAP per megagram (7.2 pounds per ton) of ODP for mills that do not perform bleaching or 5.5 kilograms or more of total HAP per megagram (11.1 pounds per ton) of ODP for mills that perform bleaching.

(d) The pulping process condensates from the equipment systems listed in paragraph (b) of this section

shall be conveyed in a closed collection system that is designed and operated to meet the requirements specified in paragraphs (d)(1) and (d)(2) of this section.

(1) Each closed collection system shall meet the individual drain system requirements specified in §§63.960, 63.961, and 63.962 of subpart RR of this part, except for closed vent systems and control devices shall be designed and operated in accordance with §§63.443(d) and 63.450, instead of in accordance with §63.693 as specified in §63.962 (a)(3)(ii), (b)(3)(ii)(A), and (b)(5)(iii); and

(2) If a condensate tank is used in the closed collection system, the tank shall meet the following requirements:

(i) The fixed roof and all openings (e.g., access hatches, sampling ports, gauge wells) shall be designed and operated with no detectable leaks as indicated by an instrument reading of less than 500 parts per million above background, and vented into a closed-vent system that meets the requirements in §63.450 and routed to a control device that meets the requirements in §63.443(d); and

(ii) Each opening shall be maintained in a closed, sealed position (e.g., covered by a lid that is gasketed and latched) at all times that the tank contains pulping process condensates or any HAP removed from a pulping process condensate stream except when it is necessary to use the opening for sampling, removal, or for equipment inspection, maintenance, or repair.

(e) Each pulping process condensate from the equipment systems listed in paragraph (b) of this section shall be treated according to one of the following options:

(1) Recycle the pulping process condensate to an equipment system specified in §63.443(a) meeting the requirements specified in §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 paragraph (e)(3), (4), or (5) of this section, and total HAP shall be measured as specified in §63.457(g); or

(3) Treat the pulping process condensates to reduce or destroy the total HAPs by at least 92 percent or more by weight; or

(4) At mills that do not perform bleaching, treat the pulping process condensates to remove 3.3 kilograms or more of total HAP per megagram (6.6 pounds per ton) of ODP, or achieve a total HAP concentration of 210 parts per million or less by weight at the outlet of the control device; or

(5) At mills that perform bleaching, treat the pulping process condensates to remove 5.1 kilograms or more of total HAP per megagram (10.2 pounds per ton) of ODP, or achieve a total HAP concentration of 330 parts per million or less by weight at the outlet of the control device.

(f) Each HAP removed from a pulping process condensate stream during treatment and handling under paragraphs (d) or (e) of this section, except for those treated according to paragraph (e)(2) of this section, shall be controlled as specified in §63.443(c) and (d).

(g) For each control device (e.g. steam stripper system or other equipment serving the same function) used to treat pulping process condensates to comply with the requirements specified in paragraphs (e) (3) through (e)(5) of this section, periods of excess emissions reported under §63.455 shall not be a violation of paragraphs (d), (e)(3) through (e)(5), and (f) of this section provided that the time of excess emissions (including periods of startup, shutdown, or malfunction) divided by the total process operating time in a semi-annual reporting period does not exceed 10 percent. The 10 percent excess emissions allowance does not apply to treatment of pulping process condensates according to paragraph (e)(2) of this section (e.g. the biological wastewater treatment system used to treat multiple (primarily non-condensate) wastewater streams to comply with the Clean Water Act).

(h) Each owner or operator of a new or existing affected source subject to the requirements of this section shall evaluate all new or modified pulping process condensates or changes in the annual bleached or non-bleached ODP used to comply with paragraph (i) of this section, to determine if they meet the applicable requirements of this section.

(i) For the purposes of meeting the requirements in paragraph (c)(2) or (3) or paragraph (e)(4) or (5) of this section at mills producing both bleached and unbleached pulp products, owners and operators may meet a prorated mass standard that is calculated by prorating the applicable mass standards (kilograms

of total HAP per megagram of ODP) for bleached and unbleached mills specified in paragraph (c)(2) or (3) or paragraph (e)(4) or (5) of this section by the ratio of annual megagrams of bleached and unbleached ODP.

[63 FR 18617, Apr. 15, 1998; 63 FR 42239, Aug. 7, 1998, as amended at 63 FR 49459, Sept. 16, 1998; 64 FR 17563, Apr. 12, 1999; 65 FR 80762, Dec. 22, 2000]

§ 63.447 Clean condensate alternative.

As an alternative to the requirements specified in §63.443(a)(1)(ii) through (a)(1)(v) for the control of HAP emissions from pulping systems using the kraft process, an owner or operator must demonstrate to the satisfaction of the Administrator, by meeting all the requirements below, that the total HAP emissions reductions achieved by this clean condensate alternative technology are equal to or greater than the total HAP emission reductions that would have been achieved by compliance with §63.443(a)(1)(ii) through (a)(1)(v).

(a) For the purposes of this section only the following additional definitions apply.

(1) *Clean condensate alternative affected source* means the total of all HAP emission points in the pulping, bleaching, causticizing, and papermaking systems (exclusive of HAP emissions attributable to additives to paper machines and HAP emission points in the LVHC system).

(2) *Causticizing system* means all equipment associated with converting sodium carbonate into active sodium hydroxide. The equipment includes smelt dissolving tanks, lime mud washers and storage tanks, white and mud liquor clarifiers and storage tanks, slakers, slaker grit washers, lime kilns, green liquor clarifiers and storage tanks, and dreg washers ending with the white liquor storage tanks prior to the digester system, and any other equipment serving the same function as those previously listed.

(3) *Papermaking system* means all equipment used to convert pulp into paper, paperboard, or market pulp, including the stock storage and preparation systems, the paper or paperboard machines, and the paper machine white water system, broke recovery systems, and the systems involved in calendering, drying, on-machine coating, slitting, winding, and cutting.

(b) Each owner or operator shall install and operate a clean condensate alternative technology with a continuous monitoring system to reduce total HAP emissions by treating and reducing HAP concentrations in the pulping process water used within the clean condensate alternative affected source.

(c) Each owner or operator shall calculate HAP emissions on a kilogram per megagram of ODP basis and measure HAP emissions according to the appropriate procedures contained in §63.457.

(d) Each owner or operator shall determine the baseline HAP emissions for each equipment system and the total of all equipment systems in the clean condensate alternative affected source based on the following:

(1) Process and air pollution control equipment installed and operating on December 17, 1993, and

(2) Compliance with the following requirements that affect the level of HAP emissions from the clean condensate alternative affected source:

(i) The pulping process condensates requirements in §63.446;

(ii) The applicable effluent limitation guidelines and standards in 40 CFR part 430, subparts A, B, D, and E; and

(iii) All other applicable requirements of local, State, or Federal agencies or statutes.

(e) Each owner or operator shall determine the following HAP emission reductions from the baseline HAP emissions determined in paragraph (d) of this section for each equipment system and the total of all equipment systems in the clean condensate alternative affected source:

(1) The HAP emission reduction occurring by complying with the requirements of §63.443(a)(1)(ii)

through (a)(1)(v); and

(2) The HAP emissions reduction occurring by complying with the clean condensate alternative technology.

(f) For the purposes of all requirements in this section, each owner or operator may use as an alternative, individual equipment systems (instead of total of all equipment systems) within the clean condensate alternative affected source to determine emissions and reductions to demonstrate equal or greater than the reductions that would have been achieved by compliance with §63.443(a)(1)(ii) through (a)(1)(v).

(g) The initial and updates to the control strategy report specified in §63.455(b) shall include to the extent possible the following information:

(1) A detailed description of:

(i) The equipment systems and emission points that comprise the clean condensate alternative affected source;

(ii) The air pollution control technologies that would be used to meet the requirements of §63.443(a)(1)(ii) through (a)(1)(v); and

(iii) The clean condensate alternative technology to be used.

(2) Estimates and basis for the estimates of total HAP emissions and emission reductions to fulfill the requirements of paragraphs (d), (e), and (f) of this section.

(h) Each owner or operator shall report to the Administrator by the applicable compliance date specified in §63.440(d) or (e) the rationale, calculations, test procedures, and data documentation used to demonstrate compliance with all the requirements of this section.

[63 FR 18617, Apr. 15, 1998; 63 FR 42239, Aug. 7, 1998, as amended at 64 FR 17563, Apr. 12, 1999]

§§ 63.44 -63.44 Reserved

§ 63.4 0 Standards for enclosures and closed-vent systems.

(a) Each enclosure and closed-vent system specified in §§63.443(c), 63.444(b), and 63.445(b) for capturing and transporting vent streams that contain HAP shall meet the requirements specified in paragraphs (b) through (d) of this section.

(b) Each enclosure shall maintain negative pressure at each enclosure or hood opening as demonstrated by the procedures specified in §63.457(e). Each enclosure or hood opening closed during the initial performance test specified in §63.457(a) shall be maintained in the same closed and sealed position as during the performance test at all times except when necessary to use the opening for sampling, inspection, maintenance, or repairs.

(c) Each component of the closed-vent system used to comply with §§63.443(c), 63.444(b), and 63.445(b) that is operated at positive pressure and located prior to a control device shall be designed for and operated with no detectable leaks as indicated by an instrument reading of less than 500 parts per million by volume above background, as measured by the procedures specified in §63.457(d).

(d) Each bypass line in the closed-vent system that could divert vent streams containing HAP to the atmosphere without meeting the emission limitations in §§63.443, 63.444, or 63.445 shall comply with either of the following requirements:

(1) On each bypass line, the owner or operator shall install, calibrate, maintain, and operate according to the manufacturer's specifications a flow indicator that is capable of taking periodic readings as frequently as specified in §63.454(e). The flow indicator shall be installed in the bypass line in such a way as to indicate flow in the bypass line; or

(2) For bypass line valves that are not computer controlled, the owner or operator shall maintain the

bypass line valve in the closed position with a car seal or a seal placed on the valve or closure mechanism in such a way that valve or closure mechanism cannot be opened without breaking the seal.

[63 FR 18617, Apr. 15, 1998, as amended at 64 FR 17563, Apr. 12, 1999; 68 FR 37348, June 23, 2003]

§§ 63.4 1-63.4 2 Reserved

§ 63.4 3 Monitorin re uirements.

(a) Each owner or operator subject to the standards specified in §§63.443(c) and (d), 63.444(b) and (c), 63.445(b) and (c), 63.446(c), (d), and (e), 63.447(b) or §63.450(d), shall install, calibrate, certify, operate, and maintain according to the manufacturer's specifications, a continuous monitoring system (CMS, as defined in §63.2 of this part) as specified in paragraphs (b) through (m) of this section, except as allowed in paragraph (m) of this section. The CMS shall include a continuous recorder.

(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 the requirements of §63.443(d)(1) through (d)(3). Owners and operators complying with the HAP concentration requirements in §63.443(d)(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.

(c) A CMS shall be operated to measure the following parameters for each gas scrubber used to comply with the bleaching system requirements of §63.445(c) or the sulfite pulping system requirements of §63.444(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.

(d) As an option to the requirements specified in paragraph (c) of this section, a CMS shall be operated to measure the chlorine outlet concentration of each gas scrubber used to comply with the bleaching system outlet concentration requirement specified in §63.445(c)(2).

(e) The owner or operator of a bleaching system complying with 40 CFR 430.24, shall monitor the chlorine and hypochlorite application rates, in kg of bleaching agent per megagram of ODP, of the bleaching system during the extended compliance period specified in §63.440(d)(3).

(f) A CMS shall be operated to measure the gas scrubber parameters specified in paragraphs (c)(1) through (c)(3) of this section or those site specific parameters determined according to the procedures specified in paragraph (n) of this section to comply with the sulfite pulping system requirements specified in §63.444(c).

(g) A CMS shall be operated to measure the following parameters for each steam stripper used to comply with the treatment requirements in §63.446(e) (3), (4), or (5):

(1) The process wastewater feed rate;

(2) The steam feed rate; and

(3) The process wastewater column feed temperature.

(h) As an option to the requirements specified in paragraph (g) of this section, a CMS shall be operated to measure the methanol outlet concentration to comply with the steam stripper outlet concentration requirement specified in §63.446 (e)(4) or (e)(5).

(i) A CMS shall be operated to measure the appropriate parameters determined according to the procedures specified in paragraph (n) of this section to comply with the condensate applicability requirements specified in §63.446(c).

(j) Each owner or operator using an open biological treatment system to comply with §63.446(e)(2) shall perform the daily monitoring procedures specified in either paragraph (j)(1) or (2) of this section and shall conduct a performance test each quarter using the procedures specified in paragraph (j)(3) of this section.

(1) Comply with the monitoring and sampling requirements specified in paragraphs (j)(1)(i) and (ii) of this section.

(i) On a daily basis, monitor the following parameters for each open biological treatment unit:

(A) Composite daily sample of outlet soluble BOD₅ concentration to monitor for maximum daily and maximum monthly average;

(B) Mixed liquor volatile suspended solids;

(C) Horsepower of aerator unit(s);

(D) Inlet liquid flow; and

(E) Liquid temperature.

(ii) If the Inlet and Outlet Concentration Measurement Procedure (Procedure 3) in appendix C of this part is used to determine the fraction of HAP compounds degraded in the biological treatment system as specified in §63.457(l), conduct the sampling and archival requirements specified in paragraphs (j)(1)(ii) (A) and (B) of this section.

(A) Obtain daily inlet and outlet liquid grab samples from each biological treatment unit to have HAP data available to perform quarterly performance tests specified in paragraph (j)(3) of this section and the compliance tests specified in paragraph (p) of this section.

(B) Store the samples as specified in §63.457(n) until after the results of the soluble BOD₅ test required in paragraph (j)(1)(i)(A) of this section are obtained. The storage requirement is needed since the soluble BOD₅ test requires 5 days or more to obtain results. If the results of the soluble BOD₅ test are outside of the range established during the initial performance test, then the archive sample shall be used to perform the mass removal or percent reduction determinations.

(2) As an alternative to the monitoring requirements of paragraph (j)(1) of this section, conduct daily monitoring of the site-specific parameters established according to the procedures specified in paragraph (n) of this section.

(3) Conduct a performance test as specified in §63.457(l) within 45 days after the beginning of each quarter and meet the applicable emission limit in §63.446(e)(2).

(i) The performance test conducted in the first quarter (annually) shall be performed for total HAP as specified in §63.457(g) and meet the percent reduction or mass removal emission limit specified in §63.446(e)(2).

(ii) The remaining quarterly performance tests shall be performed as specified in paragraph (j)(3)(i) of this section except owners or operators may use the applicable methanol procedure in §63.457(l)(1) or (2) and the value of *r* determined during the first quarter test instead of measuring the additional HAP to determine a new value of *r*.

(k) Each enclosure and closed-vent system used to comply with §63.450(a) shall comply with the requirements specified in paragraphs (k)(1) through (k)(6) of this section.

(1) For each enclosure opening, a visual inspection of the closure mechanism specified in §63.450(b) shall be performed at least once every 30 days to ensure the opening is maintained in the closed position and sealed.

(2) Each closed-vent system required by §63.450(a) shall be visually inspected every 30 days 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.

(3) For positive pressure closed-vent systems or portions of closed-vent systems, demonstrate no detectable leaks as specified in §63.450(c) measured initially and annually by the procedures in §63.457(d).

(4) Demonstrate initially and annually that each enclosure opening is maintained at negative pressure as specified in §63.457(e).

(5) The valve or closure mechanism specified in §63.450(d)(2) shall be inspected at least once every 30 days to ensure that the valve is maintained in the closed position and the emission point gas stream is not diverted through the bypass line.

(6) If an inspection required by paragraphs (k)(1) through (k)(5) of this section identifies visible defects in ductwork, piping, enclosures or connections to covers required by §63.450, or if an instrument reading of 500 parts per million by volume or greater above background is measured, or if enclosure openings are not maintained at negative pressure, then the following corrective actions shall be taken as soon as practicable.

(i) A first effort to repair or correct the closed-vent system shall be made as soon as practicable but no later than 5 calendar days after the problem is identified.

(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 owner or operator determines that the emissions resulting from immediate repair would be greater than the emissions likely to result from delay of repair. Repair of such equipment shall be completed by the end of the next process unit shutdown.

(l) Each pulping process condensate closed collection system used to comply with §63.446(d) shall comply with the requirements specified in paragraphs (l)(1) through (l)(3) of this section.

(1) Each pulping process condensate closed collection system shall be visually inspected every 30 days and shall comply with the inspection and monitoring requirements specified in §63.964 of subpart RR of this part, except:

(i) Owners or operators shall comply with the recordkeeping requirements of §63.454 instead of the requirements specified in §63.964(a)(1)(vi) and (b)(3) of subpart RR of this part.

(ii) Owners or operators shall comply with the inspection and monitoring requirements for closed-vent systems and control devices specified in paragraphs (a) and (k) of this section instead of the requirements specified in §63.964(a)(2) of subpart RR of this part.

(2) Each condensate tank used in the closed collection system shall be operated with no detectable leaks as specified in §63.446(d)(2)(i) measured initially and annually by the procedures specified in §63.457(d).

(3) If an inspection required by this section identifies visible defects in the closed collection system, or if an instrument reading of 500 parts per million or greater above background is measured, then corrective actions specified in §63.964(b) of subpart RR of this part shall be taken.

(m) Each owner or operator using a control device, technique or an alternative parameter other than those specified in paragraphs (b) through (l) of this section shall install a CMS and establish appropriate operating parameters to be monitored that demonstrate, to the Administrator's satisfaction, continuous compliance with the applicable control requirements.

(n) To establish or reestablish the value for each operating parameter required to be monitored under paragraphs (b) through (j), (l), and (m) of this section or to establish appropriate parameters for paragraphs (f), (i), (j)(2), and (m) of this section, each owner or operator shall use the following procedures:

(1) During the initial performance test required in §63.457(a) or any subsequent performance test, continuously record the operating parameter;

(2) Determinations shall be based on the control performance and parameter data monitored during the performance test, supplemented if necessary by engineering assessments and the manufacturer's

recommendations;

(3) The owner or operator shall provide for the Administrator's approval the rationale for selecting the monitoring parameters necessary to comply with paragraphs (f), (i), and (m) of this section; and

(4) Provide for the Administrator's approval the rationale for the selected operating parameter value, and monitoring frequency, and averaging time. Include all data and calculations used to develop the value and a description of why the value, monitoring frequency, and averaging time demonstrate continuous compliance with the applicable emission standard.

(o) Each owner or operator of a control device subject to the monitoring provisions of this section shall operate the control device in a manner consistent with the minimum or maximum (as appropriate) operating parameter value or procedure required to be monitored under paragraphs (a) through (n) of this section and established under this subpart. Except as provided in paragraph (p) of this section, §63.443(e), or §63.446(g), operation of the control device below minimum operating parameter values or above maximum operating parameter values established under this subpart or failure to perform procedures required by this subpart shall constitute a violation of the applicable emission standard of this subpart and be reported as a period of excess emissions.

(p) The procedures of this paragraph apply to each owner or operator of an open biological treatment system complying with paragraph (j) of this section whenever a monitoring parameter excursion occurs, and the owner or operator chooses to conduct a performance test to demonstrate compliance with the applicable emission limit. A monitoring parameter excursion occurs whenever the monitoring parameters specified in paragraphs (j)(1)(i)(A) through (C) of this section or any of the monitoring parameters specified in paragraph (j)(2) of this section are below minimum operating parameter values or above maximum operating parameter values established in paragraph (n) of this section.

(1) As soon as practical after the beginning of the monitoring parameter excursion, the following requirements shall be met:

(i) Before the steps in paragraph (p)(1)(ii) or (iii) of this section are performed, all sampling and measurements necessary to meet the requirements in paragraph (p)(2) of this section shall be conducted.

(ii) Steps shall be taken to repair or adjust the operation of the process to end the parameter excursion period.

(iii) Steps shall be taken to minimize total HAP emissions to the atmosphere during the parameter excursion period.

(2) A parameter excursion is not a violation of the applicable emission standard if the results of the performance test conducted using the procedures in this paragraph demonstrate compliance with the applicable emission limit in §63.446(e)(2).

(i) Conduct a performance test as specified in §63.457 using the monitoring data specified in paragraph (j)(1) or (2) of this section that coincides with the time of the parameter excursion. No maintenance or changes shall be made to the open biological treatment system after the beginning of a parameter excursion that would influence the results of the performance test.

(ii) If the results of the performance test specified in paragraph (p)(2)(i) of this section demonstrate compliance with the applicable emission limit in §63.446(e)(2), then the parameter excursion is not a violation of the applicable emission limit.

(iii) If the results of the performance test specified in paragraph (p)(2)(i) of this section do not demonstrate compliance with the applicable emission limit in §63.446(e)(2) because the total HAP mass entering the open biological treatment system is below the level needed to demonstrate compliance with the applicable emission limit in §63.446(e)(2), then the owner or operator shall perform the following comparisons:

(A) If the value of $f_{bio}(\text{MeOH})$ determined during the performance test specified in paragraph (p)(2)(i) of this section is within the range of values established during the initial and subsequent performance tests approved by the Administrator, then the parameter excursion is not a violation of the applicable standard.

(B) If the value of $f_{bio}(MeOH)$ determined during the performance test specified in paragraph (p)(2)(i) of this section is not within the range of values established during the initial and subsequent performance tests approved by the Administrator, then the parameter excursion is a violation of the applicable standard.

(iv) The results of the performance test specified in paragraph (p)(2)(i) of this section shall be recorded as specified in §63.454(f).

(3) If an owner or operator determines that performing the required procedures under paragraph (p)(2) of this section for a nonthoroughly mixed open biological system would expose a worker to dangerous, hazardous, or otherwise unsafe conditions, all of the following procedures shall be performed:

(i) Calculate the mass removal or percent reduction value using the procedures specified in §63.457(l) except the value for $f_{bio}(MeOH)$ shall be determined using the procedures in appendix E to this part.

(ii) Repeat the procedures in paragraph (p)(3)(i) of this section for every day until the unsafe conditions have passed.

(iii) A parameter excursion is a violation of the standard if the percent reduction or mass removal determined in paragraph (p)(3)(i) of this section is less than the percent reduction or mass removal standards specified in §63.446(e)(2), as appropriate, unless the value of $f_{bio}(MeOH)$ determined using the procedures in appendix E of this section, as specified in paragraph (p)(3)(i), is within the range of $f_{bio}(MeOH)$ values established during the initial and subsequent performance tests previously approved by the Administrator.

(iv) The determination that there is a condition that exposes a worker to dangerous, hazardous, or otherwise unsafe conditions shall be documented according to requirements in §63.454(e) and reporting in §63.455(f).

(v) The requirements of paragraphs (p)(1) and (2) of this section shall be performed and met as soon as practical but no later than 24 hours after the conditions have passed that exposed a worker to dangerous, hazardous, or otherwise unsafe conditions.

[63 FR 18617, Apr. 15, 1998, as amended at 64 FR 17563, Apr. 12, 1999; 65 FR 80762, Dec. 22, 2000]

§ 63.44 Record keeping requirements.

(a) The owner or operator of each affected source subject to the requirements of this subpart shall comply with the recordkeeping requirements of §63.10, as shown in table 1 of this subpart, and the requirements specified in paragraphs (b) through (f) of this section for the monitoring parameters specified in §63.453.

(b) For each applicable enclosure opening, closed-vent system, and closed collection system, the owner or operator 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:

(1) Date of inspection;

(2) The equipment type and identification;

(3) Results of negative pressure tests for enclosures;

(4) Results of leak detection tests;

(5) The nature of the defect or leak and the method of detection (i.e., visual inspection or instrument detection);

(6) The date the defect or leak was detected and the date of each attempt to repair the defect or leak;

(7) Repair methods applied in each attempt to repair the defect or leak;

- (8) The reason for the delay if the defect or leak is not repaired within 15 days after discovery;
 - (9) The expected date of successful repair of the defect or leak if the repair is not completed within 15 days;
 - (10) The date of successful repair of the defect or leak;
 - (11) The position and duration of opening of bypass line valves and the condition of any valve seals; and
 - (12) The duration of the use of bypass valves on computer controlled valves.
- (c) The owner or operator of a bleaching system complying with §63.440(d)(3)(ii)(B) shall record the daily average chlorine and hypochlorite application rates, in kg of bleaching agent per megagram of ODP, of the bleaching system until the requirements specified in §63.440(d)(3)(ii)(A) are met.
- (d) The owner or operator shall record the CMS parameters specified in §63.453 and meet the requirements specified in paragraph (a) of this section for any new affected process equipment or pulping process condensate stream that becomes subject to the standards in this subpart due to a process change or modification.
- (e) The owner or operator shall set the flow indicator on each bypass line specified in §63.450(d)(1) to provide a record of the presence of gas stream flow in the bypass line at least once every 15 minutes.
- (f) The owner or operator of an open biological treatment system complying with §63.453(p) shall prepare a written record specifying the results of the performance test specified in §63.453(p)(2).

[63 FR 18617, Apr. 15, 1998, as amended at 65 FR 80763, Dec. 22, 2000; 68 FR 37348, June 23, 2003]

§ 63.4 Reporting requirements.

- (a) Each owner or operator of a source subject to this subpart shall comply with the reporting requirements of subpart A of this part as specified in table 1 and all the following requirements in this section. The initial notification report specified under §63.9(b)(2) of subpart A of this part shall be submitted by April 15, 1999.
- (b) Each owner or operator of a kraft pulping system specified in §63.440(d)(1) or a bleaching system specified in §63.440(d)(3)(ii) shall submit, with the initial notification report specified under §63.9(b)(2) of subpart A of this part and paragraph (a) of this section and update every two years thereafter, a non-binding control strategy report containing, at a minimum, the information specified in paragraphs (b)(1) through (b)(3) of this section in addition to the information required in §63.9(b)(2) of subpart A of this part.
- (1) A description of the emission controls or process modifications selected for compliance with the control requirements in this standard.
 - (2) A compliance schedule, including the dates by which each step toward compliance will be reached for each emission point or sets of emission points. At a minimum, the list of dates shall include:
 - (i) The date by which the major study(s) for determining the compliance strategy will be completed;
 - (ii) The date by which contracts for emission controls or process modifications will be awarded, or the date by which orders will be issued for the purchase of major components to accomplish emission controls or process changes;
 - (iii) The date by which on-site construction, installation of emission control equipment, or a process change is to be initiated;
 - (iv) The date by which on-site construction, installation of emissions control equipment, or a process change is to be completed;
 - (v) The date by which final compliance is to be achieved;

(vi) For compliance with paragraph §63.440(d)(3)(ii), the tentative dates by which compliance with effluent limitation guidelines and standards intermediate pollutant load effluent reductions and as available, all the dates for the best available technology's milestones reported in the National Pollutant Discharge Elimination System authorized under section 402 of the Clean Water Act and for the best professional milestones in the Voluntary Advanced Technology Incentives Program under 40 CFR 430.24 (b)(2); and

(vii) The date by which the final compliance tests will be performed.

(3) Until compliance is achieved, revisions or updates shall be made to the control strategy report required by paragraph (b) of this section indicating the progress made towards completing the installation of the emission controls or process modifications during the 2-year period.

(c) The owner or operator of each bleaching system complying with §63.440(d)(3)(ii)(B) shall certify in the report specified under §63.10(e)(3) of subpart A of this part that the daily application rates of chlorine and hypochlorite for that bleaching system have not increased as specified in §63.440(d)(3)(ii)(B) until the requirements of §63.440(d)(3)(ii)(A) are met.

(d) The owner or operator shall meet the requirements specified in paragraph (a) of this section upon startup of any new affected process equipment or pulping process condensate stream that becomes subject to the standards of this subpart due to a process change or modification.

(e) If the owner or operator uses the results of the performance test required in §63.453(p)(2) to revise the approved values or ranges of the monitoring parameters specified in §63.453(j)(1) or (2), the owner or operator shall submit an initial notification of the subsequent performance test to the Administrator as soon as practicable, but no later than 15 days, before the performance test required in §63.453(p)(2) is scheduled to be conducted. The owner or operator shall notify the Administrator as soon as practicable, but no later than 24 hours, before the performance test is scheduled to be conducted to confirm the exact date and time of the performance test.

(f) To comply with the open biological treatment system monitoring provisions of §63.453(p)(3), the owner or operator shall notify the Administrator as soon as practicable of the onset of the dangerous, hazardous, or otherwise unsafe conditions that did not allow a compliance determination to be conducted using the sampling and test procedures in §63.457(l). The notification shall occur no later than 24 hours after the onset of the dangerous, hazardous, or otherwise unsafe conditions and shall include the specific reason(s) that the sampling and test procedures in §63.457(l) could not be performed.

[63 FR 18617, Apr. 15, 1998, as amended at 65 FR 80763, Dec. 22, 2000]

§ 63.4 6 Reserved

§ 63.4 7 Test methods and procedures.

(a) *Initial performance test* An initial performance test is required for all emission sources subject to the limitations in §§63.443, 63.444, 63.445, 63.446, and 63.447, except those controlled by a combustion device that is designed and operated as specified in §63.443(d)(3) or (d)(4).

(b) *Vent sampling port locations and gas stream properties* For purposes of selecting vent sampling port locations and determining vent gas stream properties, required in §§63.443, 63.444, 63.445, and 63.447, each owner or operator shall comply with the applicable procedures in paragraphs (b)(1) through (b)(6) of this section.

(1) Method 1 or 1A of part 60, appendix A, as appropriate, shall be used for selection of the sampling site as follows:

(i) To sample for vent gas concentrations and volumetric flow rates, the sampling site shall be located prior to dilution of the vent gas stream and prior to release to the atmosphere;

(ii) For determining compliance with percent reduction requirements, sampling sites shall be located prior to the inlet of the control device and at the outlet of the control device; measurements shall be performed simultaneously at the two sampling sites; and

(iii) For determining compliance with concentration limits or mass emission rate limits, the sampling site shall be located at the outlet of the control device.

(2) No traverse site selection method is needed for vents smaller than 0.10 meter (4.0 inches) in diameter.

(3) The vent gas volumetric flow rate shall be determined using Method 2, 2A, 2C, or 2D of part 60, appendix A, as appropriate.

(4) The moisture content of the vent gas shall be measured using Method 4 of part 60, appendix A.

(5) To determine vent gas concentrations, the owner or operator shall conduct a minimum of three test runs that are representative of normal conditions and average the resulting pollutant concentrations using the following procedures.

(i) Method 308 in Appendix A of this part shall be used to determine the methanol concentration.

(ii) Except for the modifications specified in paragraphs (b)(5)(ii)(A) through (b)(5)(ii)(K) of this section, Method 26A of part 60, appendix A shall be used to determine chlorine concentration in the vent stream.

(A) *Probe sampling line* A separate probe is not required. The sampling line shall be an appropriate length of 0.64 cm (0.25 in) OD Teflon® tubing. The sample inlet end of the sampling line shall be inserted into the stack in such a way as to not entrain liquid condensation from the vent gases. The other end shall be connected to the impingers. The length of the tubing may vary from one sampling site to another, but shall be as short as possible in each situation. If sampling is conducted in sunlight, opaque tubing shall be used. Alternatively, if transparent tubing is used, it shall be covered with opaque tape.

(B) *Impinger train* Three 30 milliliter (ml) capacity midjet impingers shall be connected in series to the sampling line. The impingers shall have regular tapered stems. Silica gel shall be placed in the third impinger as a desiccant. All impinger train connectors shall be glass and/or Teflon®.

(C) *Critical orifice* The critical orifice shall have a flow rate of 200 to 250 ml/min and shall be followed by a vacuum pump capable of providing a vacuum of 640 millimeters of mercury (mm Hg). A 45 millimeter diameter in-line Teflon 0.8 micrometer filter shall follow the impingers to protect the critical orifice and vacuum pump.

(D) The following are necessary for the analysis apparatus:

(1) Wash bottle filled with deionized water;

(2) 25 or 50 ml graduated burette and stand;

() Magnetic stirring apparatus and stir bar;

() Calibrated pH Meter;

() 150–250 ml beaker or flask; and

() A 5 ml pipette.

(E) The procedures listed in paragraphs (b)(5)(ii)(E)(1) through (b)(5)(ii)(E)() of this section shall be used to prepare the reagents.

(1) To prepare the 1 molarity (M) potassium dihydrogen phosphate solution, dissolve 13.61 grams (g) of potassium dihydrogen phosphate in water and dilute to 100 ml.

(2) To prepare the 1 M sodium hydroxide solution (NaOH), dissolve 4.0 g of sodium hydroxide in water and dilute to 100 ml.

() To prepare the buffered 2 percent potassium iodide solution, dissolve 20 g of potassium iodide in 900 ml water. Add 50 ml of the 1 M potassium dihydrogen phosphate solution and 30 ml of the 1 M

sodium hydroxide solution. While stirring solution, measure the pH of solution electrometrically and add the 1 M sodium hydroxide solution to bring pH to between 6.95 and 7.05.

() To prepare the 0.1 normality (N) sodium thiosulfate solution, dissolve 25 g of sodium thiosulfate, pentahydrate, in 800 ml of freshly boiled and cooled distilled water in a 1-liter volumetric flask. Dilute to volume. To prepare the 0.01 N sodium thiosulfate solution, add 10.0 ml standardized 0.1 N sodium thiosulfate solution to a 100 ml volumetric flask, and dilute to volume with water.

() To standardize the 0.1 N sodium thiosulfate solution, dissolve 3.249 g of anhydrous potassium bi-iodate, primary standard quality, or 3.567 g potassium iodate dried at 103 ± 2 degrees Centigrade for 1 hour, in distilled water and dilute to 1000 ml to yield a 0.1000 N solution. Store in a glass-stoppered bottle. To 80 ml distilled water, add, with constant stirring, 1 ml concentrated sulfuric acid, 10.00 ml 0.1000 N anhydrous potassium bi-iodate, and 1 g potassium iodide. Titrate immediately with 0.1 N sodium thiosulfate titrant until the yellow color of the liberated iodine is almost discharged. Add 1 ml starch indicator solution and continue titrating until the blue color disappears. The normality of the sodium thiosulfate solution is inversely proportional to the ml of sodium thiosulfate solution consumed:

$$\text{Normality of Sodium Thiosulfate} = \frac{1}{\text{ml Sodium Thiosulfate Consumed}}$$

() To prepare the starch indicator solution, add a small amount of cold water to 5 g starch and grind in a mortar to obtain a thin paste. Pour paste into 1 L of boiling distilled water, stir, and let settle overnight. Use clear supernate for starch indicator solution.

() To prepare the 10 percent sulfuric acid solution, add 10 ml of concentrated sulfuric acid to 80 ml water in a 100 ml volumetric flask. Dilute to volume.

(F) The procedures specified in paragraphs (b)(5)(ii)(F)(1) through (b)(5)(ii)(F)() of this section shall be used to perform the sampling.

(1) *Preparation of collection train* Measure 20 ml buffered potassium iodide solution into each of the first two impingers and connect probe, impingers, filter, critical orifice, and pump. The sampling line and the impingers shall be shielded from sunlight.

(2) *Leak and flow check procedure* Plug sampling line inlet tip and turn on pump. If a flow of bubbles is visible in either of the liquid impingers, tighten fittings and adjust connections and impingers. A leakage rate not in excess of 2 percent of the sampling rate is acceptable. Carefully remove the plug from the end of the probe. Check the flow rate at the probe inlet with a bubble tube flow meter. The flow should be comparable or slightly less than the flow rate of the critical orifice with the impingers off-line. Record the flow and turn off the pump.

() *Sample collection* Insert the sampling line into the stack and secure it with the tip slightly lower than the port height. Start the pump, recording the time. End the sampling after 60 minutes, or after yellow color is observed in the second in-line impinger. Record time and remove the tubing from the vent. Recheck flow rate at sampling line inlet and turn off pump. If the flow rate has changed significantly, redo sampling with fresh capture solution. A slight variation (less than 5 percent) in flow may be averaged. With the inlet end of the line elevated above the impingers, add about 5 ml water into the inlet tip to rinse the line into the first impinger.

() *Sample analysis* Fill the burette with 0.01 N sodium thiosulfate solution to the zero mark. Combine the contents of the impingers in the beaker or flask. Stir the solution and titrate with thiosulfate until the solution is colorless. Record the volume of the first endpoint (TN, ml). Add 5 ml of the 10 percent sulfuric acid solution, and continue the titration until the contents of the flask are again colorless. Record the total volume of titrant required to go through the first and to the second endpoint (TA, ml). If the volume of neutral titer is less than 0.5 ml, repeat the testing for a longer period of time. It is important that sufficient lighting be present to clearly see the endpoints, which are determined when the solution turns from pale yellow to colorless. A lighted stirring plate and a white background are useful for this purpose.

() *Interferences* Known interfering agents of this method are sulfur dioxide and hydrogen peroxide. Sulfur dioxide, which is used to reduce oxidant residuals in some bleaching systems, reduces formed iodine to iodide in the capture solution. It is therefore a negative interference for chlorine, and in some cases could result in erroneous negative chlorine concentrations. Any agent capable of reducing iodine to iodide could interfere in this manner. A chromium trioxide impregnated filter will capture sulfur dioxide

and pass chlorine and chlorine dioxide. Hydrogen peroxide, which is commonly used as a bleaching agent in modern bleaching systems, reacts with iodide to form iodine and thus can cause a positive interference in the chlorine measurement. Due to the chemistry involved, the precision of the chlorine analysis will decrease as the ratio of chlorine dioxide to chlorine increases. Slightly negative calculated concentrations of chlorine may occur when sampling a vent gas with high concentrations of chlorine dioxide and very low concentrations of chlorine.

(G) The following calculation shall be performed to determine the corrected sampling flow rate:

$$S_C = S_U \left(\frac{BP - PW}{760} \right) \left(\frac{293}{273 + t} \right)$$

Where:

S_C =Corrected (dry standard) sampling flow rate, liters per minute;

S_U =Uncorrected sampling flow rate, L/min;

BP=Barometric pressure at time of sampling;

PW=Saturated partial pressure of water vapor, mm Hg at temperature; and

t=Ambient temperature, °C.

(H) The following calculation shall be performed to determine the moles of chlorine in the sample:

$$Cl_2 \text{ Moles} = 1/8000 (5 T_N - T_A) \times N_{Thio}$$

Where:

T_N =Volume neutral titer, ml;

T_A =Volume acid titer (total), ml; and

N_{Thio} =Normality of sodium thiosulfate titrant.

(I) The following calculation shall be performed to determine the concentration of chlorine in the sample:

$$Cl_2 \text{ ppmv} = \frac{3005 (5 T_N - T_A) \times N_{Thio}}{S_C \times t_s}$$

Where:

S_C =Corrected (dry standard) sampling flow rate, liters per minute;

t_s =Time sampled, minutes;

T_N =Volume neutral titer, ml;

T_A =Volume acid titer (total), ml; and

N_{Thio} =Normality of sodium thiosulfate titrant.

(J) The following calculation shall be performed to determine the moles of chlorine dioxide in the sample:

$$\text{ClO}_2 \text{ Moles} = 1/4000(T_A - T_N) \times N_{\text{Thio}}$$

Where:

T_A =Volume acid titer (total), ml;

T_N =Volume neutral titer, ml; and

N_{Thio} =Normality of sodium thiosulfate titrant.

(K) The following calculation shall be performed to determine the concentration of chlorine dioxide in the sample:

$$\text{ClO}_2 \text{ ppmv} = \frac{6010(T_A - T_N) \times N_{\text{Thio}}}{S_C \times t_S}$$

Where:

S_C =Corrected (dry standard) sampling flow rate, liters per minute;

t_S =Time sampled, minutes;

T_A =Volume acid titer (total), ml;

T_N =Volume neutral titer, ml; and

N_{Thio} =Normality of sodium thiosulfate titrant.

(iii) Any other method that measures the total HAP or methanol concentration that has been demonstrated to the Administrator's satisfaction.

(6) The minimum sampling time for each of the three test runs shall be 1 hour in which either an integrated sample or four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at approximately equal intervals in time, such as 15 minute intervals during the test run.

(c) *Liquid sampling locations and properties* For purposes of selecting liquid sampling locations and for determining properties of liquid streams such as wastewaters, process waters, and condensates required in §§63.444, 63.446, and 63.447, the owner or operator shall comply with the following procedures:

(1) Samples shall be collected using the sampling procedures of the test method listed in paragraph (c) (3) of this section selected to determine liquid stream HAP concentrations;

(i) Where feasible, samples shall be taken from an enclosed pipe prior to the liquid stream being exposed to the atmosphere; and

(ii) When sampling from an enclosed pipe is not feasible, samples shall be collected in a manner to minimize exposure of the sample to the atmosphere and loss of HAP compounds prior to sampling.

(2) The volumetric flow rate of the entering and exiting liquid streams shall be determined using the inlet

and outlet flow meters or other methods demonstrated to the Administrator's satisfaction. The volumetric flow rate measurements to determine actual mass removal shall be taken at the same time as the concentration measurements.

(3) The owner or operator shall conduct a minimum of three test runs that are representative of normal conditions and average the resulting pollutant concentrations. The minimum sampling time for each test run shall be 1 hour and the grab or composite samples shall be taken at approximately equally spaced intervals over the 1-hour test run period. The owner or operator shall use one of the following procedures to determine total HAP or methanol concentration:

(i) Method 305 in Appendix A of this part, adjusted using the following equation:

$$\bar{C} = \sum_{i=1}^n C_i / fm_i$$

Where:

C=Pollutant concentration for the liquid stream, parts per million by weight.

C_i=Measured concentration of pollutant i in the liquid stream sample determined using Method 305, parts per million by weight.

fm_i=Pollutant-specific constant that adjusts concentration measured by Method 305 to actual liquid concentration; the fm for methanol is 0.85. Additional pollutant fm values can be found in table 34, subpart G of this part.

n=Number of individual pollutants, i, summed to calculate total HAP.

(ii) For determining methanol concentrations, NCASI Method DI/MEOH-94.02, Methanol in Process Liquids by GC/FID, August 1998, Methods Manual, NCASI, Research Triangle Park, NC. This test method is incorporated by reference in §63.14(f) of subpart A of this part.

(iii) Any other method that measures total HAP concentration that has been demonstrated to the Administrator's satisfaction.

(4) To determine soluble BOD₅ in the effluent stream from an open biological treatment unit used to comply with §§63.446(e)(2) and 63.453(j), the owner or operator shall use Method 405.1 of part 136 of this chapter with the following modifications:

(i) Filter the sample through the filter paper, into an Erlenmeyer flask by applying a vacuum to the flask sidearm. Minimize the time for which vacuum is applied to prevent stripping of volatile organics from the sample. Replace filter paper as often as needed in order to maintain filter times of less than approximately 30 seconds per filter paper. No rinsing of sample container or filter bowl into the Erlenmeyer flask is allowed.

(ii) Perform Method 405.1 on the filtrate obtained in paragraph (c)(4) of this section. Dilution water shall be seeded with 1 milliliter of final effluent per liter of dilution water. Dilution ratios may require adjustment to reflect the lower oxygen demand of the filtered sample in comparison to the total BOD₅. Three BOD bottles and different dilutions shall be used for each sample.

(5) If the test method used to determine HAP concentration indicates that a specific HAP is not detectable, the value determined as the minimum measurement level (MML) of the selected test method for the specific HAP shall be used in the compliance demonstration calculations. To determine the MML for a specific HAP using one of the test methods specified in paragraph (c)(3) of this section, one of the procedures specified in paragraphs (c)(5)(i) and (ii) of this section shall be performed. The MML for a particular HAP must be determined only if the HAP is not detected in the normal working range of the method.

(i) To determine the MML for a specific HAP, the following procedures shall be performed each time the method is set up. Set up is defined as the first time the analytical apparatus is placed in operation, after

any shut down of 6 months or more, or any time a major component of the analytical apparatus is replaced.

(A) Select a concentration value for the specific HAP in question to represent the MML. The value of the MML selected shall not be below the calibration standard of the selected test method.

(B) Measure the concentration of the specific HAP in a minimum of three replicate samples using the selected test method. All replicate samples shall be run through the entire analytical procedure. The samples must contain the specific HAP at the selected MML concentration and should be representative of the liquid streams to be analyzed in the compliance demonstration. Spiking of the liquid samples with a known concentration of the target HAP may be necessary to ensure that the HAP concentration in the three replicate samples is at the selected MML. The concentration of the HAP in the spiked sample must be within 50 percent of the proposed MML for the demonstration to be valid. As an alternative to spiking, a field sample above the MML may be diluted to produce a HAP concentration at the MML. To be a valid demonstration, the diluted sample must have a HAP concentration within 20 percent of the proposed MML, and the field sample must not be diluted by more than a factor of five.

(C) Calculate the relative standard deviation (RSD) and the upper confidence limit at the 95 percent confidence level using the measured HAP concentrations determined in paragraph (c)(5)(i)(B) of this section. If the upper confidence limit of the RSD is less than 30 percent, then the selected MML is acceptable. If the upper confidence limit of the RSD is greater than or equal to 30 percent, then the selected MML is too low, and the procedures specified in paragraphs (c)(5)(i)(A) through (C) of this section must be repeated.

(ii) Provide for the Administrator's approval the selected value of the MML for a specific HAP and the rationale for selecting the MML including all data and calculations used to determine the MML. The approved MML must be used in all applicable compliance demonstration calculations.

(6) When using the MML determined using the procedures in paragraph (c)(5)(ii) of this section or when using the MML determined using the procedures in paragraph (c)(5)(i), except during set up, the analytical laboratory conducting the analysis must perform and meet the following quality assurance procedures each time a set of samples is analyzed to determine compliance.

(i) Using the selected test method, analyze in triplicate the concentration of the specific HAP in a representative sample. The sample must contain the specific HAP at a concentration that is within a factor of two of the MML. If there are no samples in the set being analyzed that contain the specific HAP at an appropriate concentration, then a sample below the MML may be spiked to produce the appropriate concentration, or a sample at a higher level may be diluted. After spiking, the sample must contain the specific HAP within 50 percent of the MML. If dilution is used instead, the diluted sample must contain the specific HAP within 20 percent of the MML and must not be diluted by more than a factor of five.

(ii) Calculate the RSD using the measured HAP concentrations determined in paragraph (c)(6)(i) of this section. If the RSD is less than 20 percent, then the laboratory is performing acceptably.

(d) *Detectable leak procedures* To measure detectable leaks for closed-vent systems as specified in §63.450 or for pulping process wastewater collection systems as specified in §63.446(d)(2)(i), the owner or operator shall comply with the following:

(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 parts per million by volume of hydrocarbon in air); and

(ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 parts per million by volume methane or n-hexane.

(e) *Negative pressure procedures* To demonstrate negative pressure at process equipment enclosure openings as specified in §63.450(b), the owner or operator shall use one of the following procedures:

(1) An anemometer to demonstrate flow into the enclosure opening;

- (2) Measure the static pressure across the opening;
- (3) Smoke tubes to demonstrate flow into the enclosure opening; or
- (4) Any other industrial ventilation test method demonstrated to the Administrator's satisfaction.

(f) *HAP concentration measurements* For purposes of complying with the requirements in §§63.443, 63.444, and 63.447, the owner or operator shall measure the total HAP concentration as one of the following:

- (1) As the sum of all individual HAPs; or
- (2) As methanol.

(g) *Condensate HAP concentration measurement* For purposes of complying with the kraft pulping condensate requirements in §63.446, the owner or operator shall measure the total HAP concentration as methanol. For biological treatment systems complying with §63.446(e)(2), the owner or operator shall measure total HAP as acetaldehyde, methanol, methyl ethyl ketone, and propionaldehyde and follow the procedures in §63.457(l)(1) or (2).

(h) *Bleaching HAP concentration measurement* For purposes of complying with the bleaching system requirements in §63.445, the owner or operator shall measure the total HAP concentration as the sum of all individual chlorinated HAPs or as chlorine.

(i) *Vent gas stream calculations* To demonstrate compliance with the mass emission rate, mass emission rate per megagram of ODP, and percent reduction requirements for vent gas streams specified in §§63.443, 63.444, 63.445, and 63.447, the owner or operator shall use the following:

- (1) The total HAP mass emission rate shall be calculated using the following equation:

$$E = K_2 \left[\sum_{j=1}^n C_j M_j \right] Q_s$$

Where:

E=Mass emission rate of total HAP from the sampled vent, kilograms per hour.

K_2 =Constant, 2.494×10^{-6} (parts per million by volume)⁻¹(gram-mole per standard cubic meter) (kilogram/gram) (minutes/hour), where standard temperature for (gram-mole per standard cubic meter) is 20 °C.

C_j =Concentration on a dry basis of pollutant j in parts per million by volume as measured by the test methods specified in paragraph (b) of this section.

M_j =Molecular weight of pollutant j, gram/gram-mole.

Q_s =Vent gas stream flow rate (dry standard cubic meter per minute) at a temperature of 20 °C as indicated in paragraph (b) of this section.

n=Number of individual pollutants, i, summed to calculate total HAP.

- (2) The total HAP mass emission rate per megagram of ODP shall be calculated using the following equation:

$$F = \frac{E}{P}$$

Where:

F=Mass emission rate of total HAP from the sampled vent, in kilograms per megagram of ODP.

E=Mass emission rate of total HAP from the sampled vent, in kilograms per hour determined as specified in paragraph (i)(1) of this section.

P=The production rate of pulp during the sampling period, in megagrams of ODP per hour.

(3) The total HAP percent reduction shall be calculated using the following equation:

$$R = \frac{E_i - E_o}{E_i} (100)$$

Where:

R=Efficiency of control device, percent.

E_i=Inlet mass emission rate of total HAP from the sampled vent, in kilograms of pollutant per hour, determined as specified in paragraph (i)(1) of this section.

E_o=Outlet mass emission rate of total HAP from the sampled vent, in kilograms of pollutant per hour, determined as specified in paragraph (i)(1) of this section.

(j) *Liquid stream calculations* To demonstrate compliance with the mass flow rate, mass per megagram of ODP, and percent reduction requirements for liquid streams specified in §63.446, the owner or operator shall use the following:

(1) The mass flow rates of total HAP or methanol entering and exiting the treatment process shall be calculated using the following equations:

$$E_b = \frac{K}{n \times 10^6} \left(\sum_{i=1}^n V_{bi} C_{bi} \right)$$

$$E_a = \frac{K}{n \times 10^6} \left(\sum_{i=1}^n V_{ai} C_{ai} \right)$$

Where:

E_b=Mass flow rate of total HAP or methanol in the liquid stream entering the treatment process, kilograms per hour.

E_a=Mass flow rate of total HAP or methanol in the liquid exiting the treatment process, kilograms per hour.

K=Density of the liquid stream, kilograms per cubic meter.

V_{bi}=Volumetric flow rate of liquid stream entering the treatment process during each run i, cubic meters per hour, determined as specified in paragraph (c) of this section.

V_{ai}=Volumetric flow rate of liquid stream exiting the treatment process during each run i, cubic meters per hour, determined as specified in paragraph (c) of this section.

C_{bi} =Concentration of total HAP or methanol in the stream entering the treatment process during each run i , parts per million by weight, determined as specified in paragraph (c) of this section.

C_{ai} =Concentration of total HAP or methanol in the stream exiting the treatment process during each run i , parts per million by weight, determined as specified in paragraph (c) of this section.

n =Number of runs.

(2) The mass of total HAP or methanol per megagram ODP shall be calculated using the following equation:

$$F = \frac{E_a}{P}$$

Where:

F =Mass loading of total HAP or methanol in the sample, in kilograms per megagram of ODP.

E_a =Mass flow rate of total HAP or methanol in the wastewater stream in kilograms per hour as determined using the procedures in paragraph (j)(1) of this section.

P =The production rate of pulp during the sampling period in megagrams of ODP per hour.

(3) The percent reduction of total HAP across the applicable treatment process shall be calculated using the following equation:

$$R = \frac{E_b - E_a}{E_b} \times 100$$

Where:

R =Control efficiency of the treatment process, percent.

E_b =Mass flow rate of total HAP in the stream entering the treatment process, kilograms per hour, as determined in paragraph (j)(1) of this section.

E_a =Mass flow rate of total HAP in the stream exiting the treatment process, kilograms per hour, as determined in paragraph (j)(1) of this section.

(4) Compounds that meet the requirements specified in paragraphs (j)(4)(i) or (4)(ii) of this section are not required to be included in the mass flow rate, mass per megagram of ODP, or the mass percent reduction determinations.

(i) Compounds with concentrations at the point of determination that are below 1 part per million by weight; or

(ii) Compounds with concentrations at the point of determination that are below the lower detection limit where the lower detection limit is greater than 1 part per million by weight.

(k) *Oxygen concentration correction procedures* To demonstrate compliance with the total HAP concentration limit of 20 ppmv in §63.443(d)(2), the concentration measured using the methods specified in paragraph (b)(5) of this section shall be corrected to 10 percent oxygen using the following procedures:

(1) The emission rate correction factor and excess air integrated sampling and analysis procedures of

Methods 3A or 3B of part 60, appendix A shall be used to determine the oxygen concentration. The samples shall be taken at the same time that the HAP samples are taken.

(2) The concentration corrected to 10 percent oxygen shall be computed using the following equation:

$$C_c = C_m \left(\frac{10.9}{20.9 - \%O_{2d}} \right)$$

Where:

C_c = Concentration of total HAP corrected to 10 percent oxygen, dry basis, parts per million by volume.

C_m = Concentration of total HAP dry basis, parts per million by volume, as specified in paragraph (b) of this section.

$\%O_{2d}$ = Concentration of oxygen, dry basis, percent by volume.

(l) *Biological treatment system percent reduction and mass removal calculations* To demonstrate compliance with the condensate treatment standards specified in §63.446(e)(2) and the monitoring requirements specified in §63.453(j)(3) using a biological treatment system, the owner or operator shall use one of the procedures specified in paragraphs (1)(1) and (2) of this section. Owners or operators using a nonthoroughly mixed open biological treatment system shall also comply with paragraph (1)(3) of this section.

(1) *Percent reduction methanol procedure* For the purposes of complying with the condensate treatment requirements specified in §63.446(e)(2) and (3), the methanol percent reduction shall be calculated using the following equations:

$$R = \frac{f_{bio}(\text{MeOH})}{(1 + 1.087(r))} * 100$$

$$r = \frac{F_{(\text{nonmethanol})}}{F_{(\text{methanol})}}$$

Where:

R = Percent destruction.

$f_{bio}(\text{MeOH})$ = The fraction of methanol removed in the biological treatment system. The site-specific biorate constants shall be determined using the appropriate procedures specified in appendix C of this part.

r = Ratio of the sum of acetaldehyde, methyl ethyl ketone, and propionaldehyde mass to methanol mass.

$F(\text{nonmethanol})$ = The sum of acetaldehyde, methyl ethyl ketone, and propionaldehyde mass flow rates (kg/Mg ODP) entering the biological treatment system determined using the procedures in paragraph (j)(2) of this section.

$F(\text{methanol})$ = The mass flow rate (kg/Mg ODP) of methanol entering the system determined using the procedures in paragraph (j)(2) of this section.

(2) *Mass removal methanol procedure* For the purposes of complying with the condensate treatment requirements specified in §63.446(e)(2) and (4), or §63.446(e)(2) and (5), the methanol mass removal

shall be calculated using the following equation:

$$F = F_b * \left(f_{bio} (MeOH) / (1 + 1.087 (r)) \right)$$

Where:

F = Methanol mass removal (kg/Mg ODP).

F_b = Inlet mass flow rate of methanol (kg/Mg ODP) determined using the procedures in paragraph (j)(2) of this section.

$f_{bio}(MeOH)$ = The fraction of methanol removed in the biological treatment system. The site-specific biorate constants shall be determined using the appropriate procedures specified in appendix C of this part.

r = Ratio of the sum of acetaldehyde, methyl ethyl ketone, and propionaldehyde mass to methanol mass determined using the procedures in paragraph (1) of this section.

(3) The owner or operator of a nonthoroughly mixed open biological treatment system using the monitoring requirements specified in §63.453(p)(3) shall follow the procedures specified in section III.B.1 of appendix E of this part to determine the biorate constant, Ks, and characterize the open biological treatment system during the initial and any subsequent performance tests.

(m) *Condensate segregation procedures* The following procedures shall be used to demonstrate compliance with the condensate segregation requirements specified in §63.446(c).

(1) To demonstrate compliance with the percent mass requirements specified in §63.446(c)(2), the procedures specified in paragraphs (m)(1)(i) through (iii) of this section shall be performed.

(i) Determine the total HAP mass of all condensates from each equipment system listed in §63.446 (b) (1) through (b)(3) using the procedures specified in paragraphs (c) and (j) of this section.

(ii) Multiply the total HAP mass determined in paragraph (m)(1)(i) of this section by 0.65 to determine the target HAP mass for the high-HAP fraction condensate stream or streams.

(iii) Compliance with the segregation requirements specified in §63.446(c)(2) is demonstrated if the condensate stream or streams from each equipment system listed in §63.446(b)(1) through (3) being treated as specified in §63.446(e) contain at least as much total HAP mass as the target total HAP mass determined in paragraph (m)(1)(ii) of this section.

(2) To demonstrate compliance with the percent mass requirements specified in §63.446(c)(3), the procedures specified in paragraphs (m)(2)(i) through (ii) of this section shall be performed.

(i) Determine the total HAP mass contained in the high-HAP fraction condensates from each equipment system listed in §63.446(b)(1) through (b)(3) and the total condensates streams from the equipment systems listed in §63.446(b)(4) and (b)(5), using the procedures specified in paragraphs (c) and (j) of this section.

(ii) Compliance with the segregation requirements specified in §63.446(c)(3) is demonstrated if the total HAP mass determined in paragraph (m)(2)(i) of this section is equal to or greater than the appropriate mass requirements specified in §63.446(c)(3).

(n) *Open biological treatment system monitoring sampling storage* The inlet and outlet grab samples required to be collected in §63.453(j)(1)(ii) shall be stored at 4 °C (40 °F) to minimize the biodegradation of the organic compounds in the samples.

[63 FR 18617, Apr. 15, 1998, as amended at 64 FR 17564, Apr. 12, 1999; 65 FR 80763, Dec. 22, 2000; 66 FR 24269, May 14, 2001]

§ 63.4 Implementation and enforcement.

(a) This subpart can be implemented and enforced by the U.S. EPA, or a delegated authority such as the applicable State, local, or Tribal agency. If the U.S. EPA Administrator has delegated authority to a State, local, or Tribal agency, then that agency, in addition to the U.S. EPA, has the authority to implement and enforce this subpart. Contact the applicable U.S. EPA Regional Office to find out if this subpart is delegated to a State, local, or Tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or Tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator of U.S. EPA and cannot be transferred to the State, local, or Tribal agency.

(c) The authorities that cannot be delegated to State, local, or Tribal agencies are as specified in paragraphs (c)(1) through (4) of this section.

(1) Approval of alternatives to the requirements in §§63.440, 63.443 through 63.447 and 63.450. Where these standards reference another subpart, the cited provisions will be delegated according to the delegation provisions of the referenced subpart.

(2) Approval of alternatives to using §§63.457(b)(5)(iii), 63.457(c)(3)(ii) through (iii), and 63.257(c)(5)(ii), and any major alternatives to test methods under §63.7(e)(2)(ii) and (f), as defined in §63.90, and as required in this subpart.

(3) Approval of alternatives using §64.453(m) and any major alternatives to monitoring under §63.8(f), as defined in §63.90, and as required in this subpart.

(4) Approval of major alternatives to recordkeeping and reporting under §63.10(f), as defined in §63.90, and as required in this subpart.

[68 FR 37348, June 23, 2003]

§ 63.4 Alternative standards.

(a) *Flint River Mill* The owner or operator of the pulping system using the kraft process at the manufacturing facility, commonly called Weyerhaeuser Company Flint River Operations, at Old Stagecoach Road, Oglethorpe, Georgia, (hereafter the Site) shall comply with all provisions of this subpart, except as specified in paragraphs (a)(1) through (a)(5) of this section.

(1) The owner or operator of the pulping system is not required to control total HAP emissions from equipment systems specified in paragraphs (a)(1)(i) and (a)(1)(ii) if the owner or operator complies with paragraphs (a)(2) through (a)(5) of this section.

(i) The brownstock diffusion washer vent and first stage brownstock diffusion washer filtrate tank vent in the pulp washing system specified in §63.443(a)(1)(iii).

(ii) The oxygen delignification system specified in §63.443(a)(1)(v).

(2) The owner or operator of the pulping system shall control total HAP emissions from equipment systems listed in paragraphs (a)(2)(i) through (a)(2)(ix) of this section as specified in §63.443(c) and (d) of this subpart no later than April 16, 2002.

(i) The weak liquor storage tank;

(ii) The boilout tank;

(iii) The utility tank;

(iv) The fifty percent solids black liquor storage tank;

(v) The south sixty-seven percent solids black liquor storage tank;

- (vi) The north sixty-seven percent solids black liquor storage tank;
 - (vii) The precipitator make down tanks numbers one, two and three;
 - (viii) The salt cake mix tank; and
 - (ix) The NaSH storage tank.
- (3) The owner and operator of the pulping system shall operate the Isothermal Cooking system at the site while pulp is being produced in the continuous digester at any time after April 16, 2002.
- (i) The owner or operator shall monitor the following parameters to demonstrate that isothermal cooking is in operation:
 - (A) Continuous digester dilution factor; and
 - (B) The difference between the continuous digester vapor zone temperature and the continuous digester extraction header temperature.
 - (ii) The isothermal cooking system shall be in operation when the continuous digester dilution factor and the temperature difference between the continuous digester vapor zone temperature and the continuous digester extraction header temperature are maintained as set forth in Table 2:

Table 2 to Subpart S—Isothermal Cooking System Operational Values

Parameter	Instrument number	Limit	Units
Digester Dilution Factor	K1DILFAC	>0.0	None
Difference in Digester Vapor Zone Temperature and Digester Extraction Header Temperature	03TI0311	<10	Degrees F.
Extraction Header Temperature	03TI0329		

- (iii) The owner or operator shall certify annually the operational status of the isothermal cooking system.
- (4) [Reserved]

(5) **Definitions.** All descriptions and references to equipment and emission unit ID numbers refer to equipment at the Site. All terms used in this paragraph shall have the meaning given them in this part and this paragraph. For the purposes of this paragraph only the following additional definitions apply:

Boilout tank means the tank that provides tank storage capacity for recovery of black liquor spills and evaporator water washes for return to the evaporators (emission unit ID No. U606);

Brownstock diffusion washer means the equipment used to wash pulp from the surge chests to further reduce lignin carryover in the pulp;

Continuous digester means the digester system used to chemically and thermally remove the lignin binding the wood chips to produce individual pulp fibers (emission unit ID No. P300);

Fifty percent solids black liquor storage tank means the tank used to store intermediate black liquor prior to final evaporation in the 1A, 1B, and 1C Concentrators (emission unit ID No. U605);

First stage brownstock diffusion washer means the equipment that receives and stores filtrate from the first stage of washing for return to the pressure diffusion washer;

Isothermal cooking system means the 1995–1996 modernization of brownstock pulping process including conversion of the Kamyr continuous vapor phase digester to an extended delignification unit and changes in the knotting, screening, and oxygen stage systems;

NaSH storage tank means the tank used to store sodium hydrosulfite solution prior to use as make-up to the liquor system

North sixty-seven percent solids black liquor storage tank means one of two tanks used to store black liquor prior to burning in the Recovery Boiler for chemical recovery (emission unit ID No. U501);

Precipitator make down tank numbers one, two and three mean tanks used to mix collected particulate from electrostatic precipitator chamber number one with 67% black liquor for recycle to chemical recovery in the Recovery Boiler (emission unit ID Nos. U504, U505 and U506);

Salt cake mix tank means the tank used to mix collected particulate from economizer hoppers with black liquor for recycle to chemical recovery in the Recovery Boiler (emission unit ID No. U503);

South sixty-seven percent solids black liquor storage tank means one of two tanks used to store black liquor prior to burning in the Recovery Boiler for chemical recovery (emission unit ID No. U502);

tility tank means the tank used to store fifty percent liquor and, during black liquor tank inspections and repairs, to serve as a backup liquor storage tank (emission unit ID No. U611);

Weak gas system means high volume, low concentration or HVLC system as defined in §63.441; and

Weak liquor storage tank means the tank that provide surge capacity for weak black liquor from digesting prior to feed to multiple effect evaporators (emission unit ID No. U610).

(b) *Tomahawk Wisconsin Mill* —(1) *Applicability* (i) The provisions of this paragraph (b) apply to the owner or operator of the stand-alone semi-chemical pulp and paper mill located at N9090 County Road E in Tomahawk, Wisconsin, referred to as the Tomahawk Mill.

(ii) The owner or operator is not required to comply with the provisions of this paragraph (b) if the owner and operator chooses to comply with the otherwise applicable sections of this subpart and provides the EPA with notice.

(iii) If the owner or operator chooses to comply with the provisions of this paragraph (b) the owner or operator shall comply with all applicable provisions of this part, including this subpart, except the following:

(A) Section 63.443(b);

(B) Section 63.443(c); and

(C) Section 63.443(d).

(2) *Collection and routing of HAP emissions* (i) The owner or operator shall collect the total HAP emissions from each LVHC system.

(ii) Each LVHC system shall be enclosed and the HAP emissions shall be vented into a closed-vent system. The enclosures and closed-vent system shall meet requirements specified in paragraph (b)(6) of this section.

(iii) The HAP emissions shall be routed as follows:

(A) The HAP emissions collected in the closed-vent system from the digester system shall be routed through the primary indirect contact condenser, secondary indirect contact condenser, and evaporator indirect contact condenser; and

(B) The HAP emissions collected in the closed-vent system from the evaporator system and foul condensate standpipe shall be routed through the evaporator indirect contact condenser.

(3) *Collection and routing of pulping process condensates* (i) The owner or operator shall collect the pulping process condensates from the following equipment systems:

(A) Primary indirect contact condenser;

(B) Secondary indirect contact condenser; and

(C) Evaporator indirect contact condenser.

(ii) The collected pulping process condensates shall be conveyed in a closed collection system that is designed and operated to meet the requirements specified in paragraph (b)(7) of this section.

(iii) The collected pulping process condensates shall be routed in the closed collection system to the wastewater treatment plant anaerobic basins for biodegradation.

(iv) The pulping process condensates shall be discharged into the wastewater treatment plant anaerobic basins below the liquid surface of the wastewater treatment plant anaerobic basins.

(4) *HAP destruction efficiency requirements of the wastewater treatment plant* (i) The owner or operator shall achieve a destruction efficiency of at least one pound of HAPs per ton of ODP by biodegradation in the wastewater treatment plant.

(ii) The following calculation shall be performed to determine the HAP destruction efficiency by biodegradation in the wastewater treatment plant:

$$HAP_d = \frac{\left[(RME_{fr} \times RME_c) + (PPC_{fr} \times PPC_c) - (ABD_{fr} \times ABD_c) \right] \times 8.34}{ODP_r}$$

Where:

HAP_d = HAP destruction efficiency of wastewater treatment plant (pounds of HAPs per ton of ODP);

RME_{fr} = flow rate of raw mill effluent (millions of gallons per day);

RME_c = HAP concentration of raw mill effluent (milligrams per liter);

PPC_{fr} = flow rate of pulping process condensates (millions of gallons per day);

PPC_c = HAP concentration of pulping process condensates (milligrams per liter);

ABD_{fr} = flow rate of anaerobic basin discharge (millions of gallons per day);

ABD_c = HAP concentration of anaerobic basin discharge (milligrams per liter); and

ODP_r = rate of production of oven dried pulp (tons per day).

(5) *Monitoring requirements and parameter ranges* (i) The owner or operator shall install, calibrate, operate, and maintain according to the manufacturer's specifications a continuous monitoring system (CMS, as defined in §63.2), using a continuous recorder, to monitor the following parameters:

(A) Evaporator indirect contact condenser vent temperature;

(B) Pulping process condensates flow rate;

(C) Wastewater treatment plant effluent flow rate; and

(D) Production rate of ODP.

(ii) The owner or operator shall additionally monitor, on a daily basis, in each of the four anaerobic basins, the ratio of volatile acid to alkalinity (VA/A ratio). The owner or operator shall use the test methods identified for determining acidity and alkalinity as specified in 40 CFR 136.3, Table 1B.

(iii) The temperature of the evaporator indirect contact condenser vent shall be maintained at or below 140 °F on a continuous basis.

(iv) The VA/A ratio in each of the four anaerobic basins shall be maintained at or below 0.5 on a continuous basis.

(A) The owner or operator shall measure the methanol concentration of the outfall of any basin (using NCASI Method DI/MEOH 94.03) when the VA/A ratio of that basin exceeds the following:

(1) 0.38, or

(2) The highest VA/A ratio at which the outfall of any basin has previously measured non-detect for methanol (using NCASI Method DI/MEOH 94.03).

(B) If the outfall of that basin measures detect for methanol, the owner or operator shall verify compliance with the emission standard specified in paragraph (b)(4) of this section by conducting a performance test pursuant to the requirements specified in paragraph (b)(8) of this section.

(v) The owner or operator may seek to establish or reestablish the parameter ranges, and/or the parameters required to be monitored as provided in paragraphs (b)(5)(i) through (v) of this section, by following the provisions of §63.453(n)(1) through (4).

(6) *Standards and monitoring requirements for each enclosure and closed-vent system* (i) The owner or operator shall comply with the design and operational requirements specified in paragraphs (b)(6)(ii) through (iv) of this section, and the monitoring requirements of paragraphs (b)(6)(v) through (x) of this section for each enclosure and closed-vent system used for collecting and routing of HAP emissions as specified in paragraph (b)(2) of this section.

(ii) Each enclosure shall be maintained at negative pressure at each enclosure or hood opening as demonstrated by the procedures specified in §63.457(e). Each enclosure or hood opening closed during the initial performance test shall be maintained in the same closed and sealed position as during the performance test at all times except when necessary to use the opening for sampling, inspection, maintenance, or repairs.

(iii) Each component of the closed-vent system that is operated at positive pressure shall be designed for and operated with no detectable leaks as indicated by an instrument reading of less than 500 parts per million by volume above background, as measured by the procedures specified in §63.457(d).

(iv) Each bypass line in the closed-vent system that could divert vent streams containing HAPs to the atmosphere without meeting the routing requirements specified in paragraph (b)(2) of this section shall comply with either of the following requirements:

(A) On each bypass line, the owner or operator shall install, calibrate, maintain, and operate according to the manufacturer's specifications a flow indicator that provides a record of the presence of gas stream flow in the bypass line at least once every 15 minutes. The flow indicator shall be installed in the bypass line in such a way as to indicate flow in the bypass line; or

(B) For bypass line valves that are not computer controlled, the owner or operator shall maintain the bypass line valve in the closed position with a car seal or seal placed on the valve or closure mechanism in such a way that the valve or closure mechanism cannot be opened without breaking the seal.

(v) For each enclosure opening, the owner or operator shall perform, at least once every 30 days, a visual inspection of the closure mechanism specified in paragraph (b)(6)(ii) of this section to ensure the opening is maintained in the closed position and sealed.

(vi) For each closed-vent system required by paragraph (b)(2) of this section, the owner or operator shall perform a visual inspection every 30 days 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.

(vii) For positive pressure closed-vent systems, or portions of closed-vent systems, the owner or operator shall demonstrate no detectable leaks as specified in paragraph (b)(6)(iii) of this section, measured initially and annually by the procedures in §63.457(d).

(viii) For each enclosure that is maintained at negative pressure, the owner or operator shall demonstrate initially and annually that it is maintained at negative pressure as specified in §63.457(e).

(ix) For each valve or closure mechanism as specified in paragraph (b)(6)(iv)(B) of this section, the owner or operator shall perform an inspection at least once every 30 days to ensure that the valve is maintained in the closed position and the emissions point gas stream is not diverted through the bypass line.

(x) If an inspection required by paragraph (b)(6) of this section identifies visible defects in ductwork, piping, enclosures, or connections to covers required by paragraph (b)(6) of this section, or if an instrument reading of 500 parts per million by volume or greater above background is measured, or if the enclosure openings are not maintained at negative pressure, then the following corrective actions shall be taken as soon as follows:

(A) A first effort to repair or correct the closed-vent system shall be made as soon as practicable but no later than 5 calendar days after the problem is identified.

(B) The repair or corrective action shall be completed no later than 15 calendar days after the problem is identified.

(7) *Standards and monitoring requirements for the pulping process condensates closed collection system* (i) The owner or operator shall comply with the design and operational requirements specified in paragraphs (b)(7)(ii) through (iii) of this section, and monitoring requirements of paragraph (b)(7)(iv) for the equipment systems in paragraph (b)(3) of this section used to route the pulping process condensates in a closed collection system.

(ii) Each closed collection system shall meet the individual drain system requirements specified in §§63.960, 63.961, and 63.962, except that the closed vent systems shall be designed and operated in accordance with paragraph (b)(6) of this section, instead of in accordance with §63.693 as specified in §63.692(a)(3)(ii), (b)(3)(ii)(A), and (b)(3)(ii)(B)(5)(iii); and

(iii) If a condensate tank is used in the closed collection system, the tank shall meet the following requirements:

(A) The fixed roof and all openings (e.g., access hatches, sampling ports, gauge wells) shall be designed and operated with no detectable leaks as indicated by an instrument reading of less than 500 parts per million above background, and vented into a closed-vent system that meets the requirements of paragraph (b)(6) of this section and routed in accordance with paragraph (b)(2) of this section; and

(B) Each opening shall be maintained in a closed, sealed position (e.g., covered by a lid that is gasketed and latched) at all times that the tank contains pulping process condensates or any HAPs removed from a pulping process condensate stream except when it is necessary to use the opening for sampling, removal, or for equipment inspection, maintenance, or repair.

(iv) For each pulping process condensate closed collection system used to comply with paragraph (b)(3) of this section, the owner or operator shall perform a visual inspection every 30 days and shall comply with the inspection and monitoring requirements specified in §63.964 except for the closed-vent system and control device inspection and monitoring requirements specified in §63.964(a)(2).

(8) *Quarterly performance testing* (i) The owner or operator shall, within 45 days after the beginning of each quarter, conduct a performance test.

(ii) The owner or operator shall use NCASI Method DI/HAPS-99.01 to collect a grab sample and determine the HAP concentration of the Raw Mill Effluent, Pulping Process Condensates, and Anaerobic Basin Discharge for the quarterly performance test conducted during the first quarter each year.

(iii) For each of the remaining three quarters, the owner or operator may use NCASI Method DI/MEOH 94.03 as a surrogate to collect and determine the HAP concentration of the Raw Mill Effluent, Pulping Process Condensates, and Anaerobic Basin Discharge.

(iv) The sample used to determine the HAP or Methanol concentration in the Raw Mill Effluent, Pulping Process Condensates, or Anaerobic Basin Discharge shall be a composite of four grab samples taken evenly spaced over an eight hour time period.

(v) The Raw Mill Effluent grab samples shall be taken from the raw mill effluent composite sampler.

(vi) The Pulping Process Condensates grab samples shall be taken from a line tap on the closed condensate collection system prior to discharge into the wastewater treatment plant.

(vii) The Anaerobic Basic Discharge grab samples shall be taken subsequent to the confluence of the four anaerobic basin discharges.

(viii) The flow rate of the Raw Mill Effluent, Pulping Process Condensates, and Anaerobic Basin Discharge, and the production rate of ODP shall be averaged over eight hours.

(ix) The data collected as specified in paragraphs (b)(5) and (b)(8) of this section shall be used to determine the HAP destruction efficiency of the wastewater treatment plant as specified in paragraph (b)(4)(ii) of this section.

(x) The HAP destruction efficiency shall be at least as great as that specified by paragraph (b)(4)(i) of this section.

(9) *Recordkeeping requirements* (i) The owner or operator shall comply with the recordkeeping requirements as specified in Table 1 of subpart S of part 63 as it pertains to §63.10.

(ii) The owner or operator shall comply with the recordkeeping requirements as specified in §63.454(b).

(iii) The owner or operator shall comply with the recordkeeping requirements as specified in §63.453(d).

(10) *Reporting requirements* (i) Each owner or operator shall comply with the reporting requirements as specified in Table 1 of §63.10.

(ii) Each owner or operator shall comply with the reporting requirements as specified in §63.455(d).

(11) *Violations* (i) Failure to comply with any applicable provision of this part shall constitute a violation.

(ii) Periods of excess emissions shall not constitute a violation provided the time of excess emissions (excluding periods of startup, shutdown, or malfunction) divided by the total process operating time in a semi-annual reporting period does not exceed one percent. All periods of excess emission (including periods of startup, shutdown, and malfunction) shall be reported, and shall include:

(A) Failure to monitor a parameter, or maintain a parameter within minimum or maximum (as appropriate) ranges as specified in paragraph (b)(5), (b)(6), or (b)(7) of this section; and

(B) Failure to meet the HAP destruction efficiency standard specified in paragraph (b)(4) of this section.

(iii) Notwithstanding paragraph (b)(11)(ii) of this section, any excess emissions that present an imminent threat to public health or the environment, or may cause serious harm to public health or the environment, shall constitute a violation.

[66 FR 34124, June 27, 2001, as amended at 66 FR 52538, Oct. 16, 2001; 69 FR 19740, Apr. 13, 2004]

Table 1 to Subpart S of Part 63— General Provisions Applicability to Subpart S^a

Reference	Applies to Subpart S	Comment
63.1(a)(1)–(3)	Yes	
63.1(a)(4)	Yes	Subpart S (this table) specifies applicability of

		each paragraph in subpart A to subpart S.
63.1(a)(5)	No	Section reserved.
63.1(a)(6)–(8)	Yes	
63.1(a)(9)	No	Section reserved.
63.1(a)(10)	No	Subpart S and other cross-referenced subparts specify calendar or operating day.
63.1(a)(11)–(14)	Yes	
63.1(b)(1)	No	Subpart S specifies its own applicability.
63.1(b)(2)–(3)	Yes	
63.1(c)(1)–(2)	Yes	
63.1(c)(3)	No	Section reserved.
63.1(c)(4)–(5)	Yes	
63.1(d)	No	Section reserved.
63.1(e)	Yes	
63.2	Yes	
63.3	Yes	
63.4(a)(1)	Yes	
63.4(a)(3)		
63.4(a)(4)	No	Section reserved.
63.4(a)(5)	Yes	
63.4(b)	Yes	
63.4(c)	Yes	
63.5(a)	Yes	
63.5(b)(1)	Yes	
63.5(b)(2)	No	Section reserved.
63.5(b)(3)	Yes	
63.5(b)(4)–(6)	Yes	
63.5(c)	No	Section reserved.
63.5(d)	Yes	
63.5(e)	Yes	
63.5(f)	Yes	
63.6(a)	Yes	
63.6(b)	No	Subpart S specifies compliance dates for sources subject to subpart S.
63.6(c)	No	Subpart S specifies compliance dates for sources subject to subpart S.
63.6(d)	No	Section reserved.
63.6(e)	Yes	

63.6(f)	Yes	
63.6(g)	Yes	
63.6(h)	No	Pertains to continuous opacity monitors that are not part of this standard.
63.6(i)	Yes	
63.6(j)	Yes	
63.7	Yes	
63.8(a)(1)	Yes	
63.8(a)(2)	Yes	
63.8(a)(3)	No	Section reserved.
63.8(a)(4)	Yes	
63.8(b)(1)	Yes	
63.8(b)(2)	No	Subpart S specifies locations to conduct monitoring.
63.8(b)(3)	Yes	
63.8(c)(1)	Yes	
63.8(c)(2)	Yes	
63.8(c)(3)	Yes	
63.8(c)(4)	No	Subpart S allows site specific determination of monitoring frequency in §63.453(n)(4).
63.8(c)(5)	No	Pertains to continuous opacity monitors that are not part of this standard.
63.8(c)(6)	Yes	
63.8(c)(7)	Yes	
63.8(c)(8)	Yes	
63.8(d)	Yes	
63.8(e)	Yes	
63.8(f)(1)–(5)	Yes	
63.8(f)(6)	No	Subpart S does not specify relative accuracy test for CEMs.
63.8(g)	Yes	
63.9(a)	Yes	
63.9(b)	Yes	Initial notifications must be submitted within one year after the source becomes subject to the relevant standard.
63.9(c)	Yes	
63.9(d)	No	Special compliance requirements are only applicable to kraft mills.
63.9(e)	Yes	
63.9(f)	No	Pertains to continuous opacity monitors that are not part of this standard.
63.9(g)(1)	Yes	
63.9(g)(2)	No	Pertains to continuous opacity monitors that are

		not part of this standard.
63.9(g)(3)	No	Subpart S does not specify relative accuracy tests, therefore no notification is required for an alternative.
63.9(h)	Yes	
63.9(i)	Yes	
63.9(j)	Yes	
63.10(a)	Yes	
63.10(b)	Yes	
63.10(c)	Yes	
63.10(d)(1)	Yes	
63.10(d)(2)	Yes	
63.10(d)(3)	No	Pertains to continuous opacity monitors that are not part of this standard.
63.10(d)(4)	Yes	
63.10(d)(5)	Yes	
63.10(e)(1)	Yes	
63.10(e)(2)(i)	Yes	
63.10(e)(2)(ii)	No	Pertains to continuous opacity monitors that are not part of this standard.
63.10(e)(3)	Yes	
63.10(e)(4)	No	Pertains to continuous opacity monitors that are not part of this standard.
63.10(f)	Yes	
63.11–63.15	Yes	

^aWherever subpart A specifies “postmark” dates, submittals may be sent by methods other than the U.S. Mail (e.g., by fax or courier). Submittals shall be sent by the specified dates, but a postmark is not required.

[63 FR 18617, Apr. 15, 1998, as amended at 64 FR 17564, Apr. 12, 1999]

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Georgia-Pacific LLC - Crossett Paper Operations
Permit #: 0597-AOP-R14
AFIN: 02-00013

APPENDIX F - 10A BOILER ALTERNATIVE MONITORING EXEMPTION



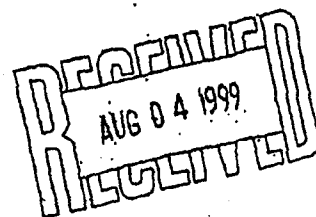
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6

1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

JUL 9 1999

CERTIFIED MAIL - RETURN RECEIPT REQUESTED



Mr. Keith Michaels
Chief, Air Division
Arkansas Department of Environmental Quality
8001 National Drive
P.O. Box 8913
Little Rock, AR 72219-8913

Re. Georgia-Pacific Crossett Paper Operations 10A Boiler-Request for
Alternative Monitoring

Dear Mr. Michaels:

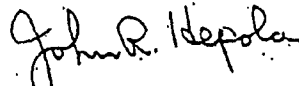
On July 9, 1999, we received your letter of July 1, 1999, which supported and transmitted Georgia-Pacific's (GP) June 21, 1999, request for alternative monitoring of their 10A boiler that is subject to NSPS Subpart D. GP has noted that new Permit 597-AOP-R1 reflects an appropriate level of monitoring opacity. The purpose of this letter is to approve GP's request given the following:

The 10A boiler is required to have continuous monitoring systems (CMS) for measuring various emitted pollutants, including the opacity of emissions, pursuant to 40 C.F.R. 60.45. It is GP's request that given the fact that a venturi scrubber is the control equipment for this boiler and that liquid water interference from the scrubber renders the CMS inaccurate, that parametric monitoring of the scrubber along with weekly visual observation of the boiler's emissions using EPA Reference Method 9 be accepted in lieu of a CMS. This alternative may be accepted by EPA via the general provisions of NSPS Subpart A, at 40 C.F.R. 60.13(i).

Enclosed with GP's letter of June 21, 1991, were relevant sections of permit 597-AOP-R1. After review of these sections, there were questions regarding the annual particulate tests for the boiler and the relationship between the tests and the parametric monitoring of the scrubber. Accordingly, on July 16, 1999, Rich Raybourne of my staff spoke with GP's Scott Bailey and received clarification on this issue which included a fax of the entire 10A Boiler section of 597-AOP-R1. After review of the entire 10A Boiler section and the conversation with Mr. Bailey, the questions were resolved. By this letter we approve GP's request via the provisions of NSPS Subpart A, at 40 C.F.R. 60.13(i).

If you should have any questions regarding this letter, please contact Rich Raybourne, Senior Enforcement Officer of my staff, at 214-665-7260. Legal inquiries should be directed to Jan Gerro, Enforcement Counsel, Legal Branch at 214-665-2121.

Sincerely yours,



John R. Hepola
Chief

Air, Toxics and Inspection Coordination
Branch

cc: Scott Bailey, GP
Drew Hodges, Esq. GP
Gordon Alphonso, Esq. GP
Tom Hudson, ADEQ
Melissa Blumenthal, ADEQ

Georgia-Pacific LLC - Crossett Paper Operations
Permit #: 0597-AOP-R14
AFIN: 02-00013

APPENDIX G - BLEACH PLANT ALTERNATIVE MONITORING EXEMPTION



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

FEB 11 2004

Charles E. Hodges
Senior Vice President
Manufacturing Southern Region
Georgia-Pacific
Crossett Paper Operations
P.O. Box 3333
Crossett, Arkansas 71635

RE: Alternative Monitoring Request for Pulp Washing System (Chemiwashers) located at Georgia-Pacific Corporation's Crossett Paper Operations

Dear Mr. Hodges:

This is in response to your letter dated August 18, 2003, regarding a 40 CFR 63 Subpart S request for the use of alternative monitoring for the pulp washing systems subject to § 63.443(a)(1)(iii). The Georgia-Pacific (G-P) Crossett Paper Operations Mill, located in Crossett, Arkansas, is subject to the Maximum Achievable Control Technology (MACT) standards regulations for the pulp and paper industry, promulgated at 40 CFR Part 63, Subpart S.

One requirement of Subpart S is to control hazardous air pollutant (HAP) emissions from pulp washing systems (40 CFR 63.443(a)(1)(iii)). In your letter, you describe the pulp washing system used at the Crossett Mill, which consists of two Chemiwashers. These Chemiwashers are flat, belt-type washers rather than conventional drum washers. The washers pull a vacuum on the wire (or belt), pulling the wash water, black liquor, and air through the pulp. The air is separated in the washer and recycled back into the enclosing hood over the wire. The manufacturer designed the Chemiwashers as closed systems, and therefore, collection and incineration of emissions from these units are not required under Subpart S since there are no discrete emission points. However, you point out in your letter that even though the washing system is essentially closed, there are, however, minor fugitive leaks of steam around the feed and exit roll seals and along the side gaskets.

Subpart S does require monitoring of the closed vent collection system for visual defects at least every 30 days (40 CFR 63.453(k)(2)) and instrumental monitoring for "detectable leaks" using Method 21 annually (40 CFR 63.453(k)(3)). 40 CFR 63.453(k) further requires that "visual defects" (in ductwork, piping, etc.) and detectable leaks (i.e., those greater than 500 parts per million (ppm) as measured by Method 21) be repaired within a specific timeframe.


According to your letter, G-P Crossett conducted preliminary testing of the minor fugitive leaks found around the feed and exit roll seals and along the side gaskets of the Chemiwashers using EPA Method 21 and had found that all were well under 500 ppm. Based upon these tests, you believe that the closed Chemiwasher systems at the Crossett facility do meet the 500 ppm limit, and have no "detectable leaks", even though there are minor visible emissions.

Therefore, G-P Crossett is requesting an alternative monitoring parameter for the closed vent system visual inspections by proposing to conduct monthly testing of the Chemiwashers using EPA Method 21 in lieu of the requirement to demonstrate monthly that there are no visual defects. Any leaks greater than 500 ppm that are detected during these monthly tests will be repaired as outlined in 40 CFR 63.453(k)(6).

Based upon the information supplied in your letter dated August 18, 2003, EPA Region 6 approves your request to conduct monthly Method 21 monitoring, in lieu of monthly visual monitoring, of the fugitive leaks found around the feed and exit roll seals and along the side gaskets of the Chemiwashers. However, you are still required to satisfy all of the other applicable monitoring and recordkeeping requirements of Subpart S.

If you have any questions regarding this alternative monitoring parameter approval, please feel free to contact Ms. Michelle Kelly, of my staff, at (214) 665-7580.

Sincerely yours,



William K. Honker, P.E.
Chief
Air/Toxics and Inspection
Coordination Branch

cc: Tom Hudson, ADEQ
Anna Hubbard, ADEQ
✓ Tom Rheume, ADEQ

Georgia-Pacific LLC - Crossett Paper Operations
Permit #: 0597-AOP-R14
AFIN: 02-00013

APPENDIX H - NESHAP MM

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Title 40: Protection of Environment

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES (CONTINUED)

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

Source: 66 FR 3193, Jan. 12, 2001, unless otherwise noted.

§ 63.860 Applicability and designation of affected source.

(a) The requirements of this subpart apply to the owner or operator of each kraft, soda, sulfite, or stand-alone semichemical pulp mill that is a major source of hazardous air pollutants (HAP) emissions as defined in §63.2.

(b) *Affected sources.* The requirements of this subpart apply to each new or existing affected source listed in paragraphs (b)(1) through (7) of this section:

- (1) Each existing chemical recovery system (as defined in §63.861) located at a kraft or soda pulp mill.
- (2) Each new nondirect contact evaporator (NDCE) recovery furnace and associated smelt dissolving tank(s) located at a kraft or soda pulp mill.
- (3) Each new direct contact evaporator (DCE) recovery furnace system (as defined in §63.861) and associated smelt dissolving tank(s) located at a kraft or soda pulp mill.
- (4) Each new lime kiln located at a kraft or soda pulp mill.
- (5) Each new or existing sulfite combustion unit located at a sulfite pulp mill, except such existing units at Weyerhaeuser Paper Company's Cosmopolis, Washington facility (Emission Unit no. AP-10).
- (6) Each new or existing semichemical combustion unit located at a stand-alone semichemical pulp mill.
- (7) The requirements of the alternative standard in §63.862(d) apply to the hog fuel dryer at Weyerhaeuser Paper Company's Cosmopolis, Washington facility (Emission Unit no. HD-14).

(c) The requirements of the General Provisions in subpart A of this part that apply to the owner or operator subject to the requirements of this subpart are identified in Table 1 to this subpart.

[66 FR 3193, Jan. 12, 2001, as amended at 68 FR 7713, Feb. 18, 2003]

§ 63.861 Definitions.

All terms used in this subpart are defined in the Clean Air Act, in subpart A of this part, or in this section. For the purposes of this subpart, if the same term is defined in subpart A or any other subpart of this part and in this section, it must have the meaning given in this section.

Bag leak detection system means an instrument that is capable of monitoring PM loadings in the exhaust of a fabric filter in order to detect bag failures. A bag leak detection system includes, but is not limited to, an instrument that operates on triboelectric, light scattering, light transmittance, or other principle to monitor relative PM loadings.

Black liquor means spent cooking liquor that has been separated from the pulp produced by the kraft, soda, or semichemical pulping process.

Black liquor gasification means the thermochemical conversion of black liquor into a combustible gaseous product.

Black liquor oxidation (BLO) system means the vessels used to oxidize the black liquor, with air or oxygen, and the associated storage tank(s).

Black liquor solids (BLS) means the dry weight of the solids in the black liquor that enters the recovery furnace or semichemical combustion unit.

Black liquor solids firing rate means the rate at which black liquor solids are fed to the recovery furnace or the semichemical combustion unit.

Chemical recovery combustion source means any source in the chemical recovery area of a kraft, soda, sulfite or stand-alone semichemical pulp mill that is an NDCE recovery furnace, a DCE recovery furnace system, a smelt dissolving tank, a lime kiln, a sulfite combustion unit, or a semichemical combustion unit.

Chemical recovery system means all existing DCE and NDCE recovery furnaces, smelt dissolving tanks, and lime kilns at a kraft or soda pulp mill. Each existing recovery furnace, smelt dissolving tank, or lime kiln is considered a process unit within a chemical recovery system.

Direct contact evaporator (DCE) recovery furnace means a kraft or soda recovery furnace equipped with a direct contact evaporator that concentrates strong black liquor by direct contact between the hot recovery furnace exhaust gases and the strong black liquor.

Direct contact evaporator (DCE) recovery furnace system means a direct contact evaporator recovery furnace and any black liquor oxidation system, if present, at the pulp mill.

Dry electrostatic precipitator (ESP) system means an electrostatic precipitator with a dry bottom (i.e., no black liquor, water, or other fluid is used in the ESP bottom) and a dry particulate matter return system (i.e., no black liquor, water, or other fluid is used to transport the collected PM to the mix tank).

Fabric filter means an air pollution control device used to capture PM by filtering a gas stream through filter media; also known as a baghouse.

Hazardous air pollutants (HAP) metals means the sum of all emissions of antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, mercury, nickel, and selenium as measured by EPA Method 29 (40 CFR part 60, appendix A) and with all nondetect data treated as one-half of the method detection limit.

Hog fuel dryer means the equipment that combusts fine particles of wood waste (hog fuel) in a fluidized bed and directs the heated exhaust stream to a rotary dryer containing wet hog fuel to be dried prior to combustion in the hog fuel boiler at Weyerhaeuser Paper Company's Cosmopolis, Washington facility. The hog fuel dryer at Weyerhaeuser Paper Company's Cosmopolis, Washington facility is Emission Unit no. HD-14.

Kraft pulp mill means any stationary source that produces pulp from wood by cooking (digesting) wood chips in a solution of sodium hydroxide and sodium sulfide. The recovery process used to regenerate cooking chemicals is also considered part of the kraft pulp mill.

Kraft recovery furnace means a recovery furnace that is used to burn black liquor produced by the kraft pulping process, as well as any recovery furnace that burns black liquor produced from both the kraft

and semichemical pulping processes, and includes the direct contact evaporator, if applicable. Includes black liquor gasification.

Lime kiln means the combustion unit (e.g., rotary lime kiln or fluidized-bed calciner) used at a kraft or soda pulp mill to calcine lime mud, which consists primarily of calcium carbonate, into quicklime, which is calcium oxide (CaO).

Lime production rate means the rate at which dry lime, measured as CaO, is produced in the lime kiln.

Method detection limit means the minimum concentration of an analyte that can be determined with 99 percent confidence that the true value is greater than zero.

Modification means, for the purposes of §63.862(a)(1)(ii)(E)(1), any physical change (excluding any routine part replacement or maintenance) or operational change (excluding any operational change that occurs during a start-up, shutdown, or malfunction) that is made to the air pollution control device that could result in an increase in PM emissions.

Nondetect data means, for the purposes of this subpart, any value that is below the method detection limit.

Nondirect contact evaporator (NDCE) recovery furnace means a kraft or soda recovery furnace that burns black liquor that has been concentrated by indirect contact with steam.

Particulate matter (PM) means total particulate matter as measured by EPA Method 5, EPA Method 17 (§63.865(b)(1)), or EPA Method 29 (40 CFR part 60, appendix A).

Process unit means an existing DCE or NDCE recovery furnace, smelt dissolving tank, or lime kiln in a chemical recovery system at a kraft or soda mill.

Recovery furnace means an enclosed combustion device where concentrated black liquor produced by the kraft or soda pulping process is burned to recover pulping chemicals and produce steam. Includes black liquor gasification.

Regenerative thermal oxidizer (RTO) means a thermal oxidizer that transfers heat from the exhaust gas stream to the inlet gas stream by passing the exhaust stream through a bed of ceramic stoneware or other heat-absorbing medium before releasing it to the atmosphere, then reversing the gas flow so the inlet gas stream passes through the heated bed, raising the temperature of the inlet stream close to or at its ignition temperature.

Semichemical combustion unit means any equipment used to combust or pyrolyze black liquor at stand-alone semichemical pulp mills for the purpose of chemical recovery. Includes black liquor gasification.

Similar process units means all existing DCE and NDCE recovery furnaces, smelt dissolving tanks, or lime kilns at a kraft or soda pulp mill.

Smelt dissolving tanks (SDT) means vessels used for dissolving the smelt collected from a kraft or soda recovery furnace.

Soda pulp mill means any stationary source that produces pulp from wood by cooking (digesting) wood chips in a sodium hydroxide solution. The recovery process used to regenerate cooking chemicals is also considered part of the soda pulp mill.

Soda recovery furnace means a recovery furnace used to burn black liquor produced by the soda pulping process and includes the direct contact evaporator, if applicable. Includes black liquor gasification.

Stand-alone semichemical pulp mill means any stationary source that produces pulp from wood by partially digesting wood chips in a chemical solution followed by mechanical defibrating (grinding), and has an onsite chemical recovery process that is not integrated with a kraft pulp mill.

Startup means, for the chemical recovery system employing black liquor gasification at Georgia-Pacific's facility in Big Island, Virginia only, the end of the gasification system commissioning phase. Commissioning is that period of time in which each part of the new gasification system will be checked

and operated on its own to make sure it is installed and functions properly. Commissioning will conclude with the successful completion of the gasification technology supplier's performance warranty demonstration, which proves the technology and equipment are performing to warranted levels and the system is ready to be placed in active service. For all other affected sources under this subpart, startup has the meaning given in §63.2.

Sulfite combustion unit means a combustion device, such as a recovery furnace or fluidized-bed reactor, where spent liquor from the sulfite pulping process (i.e., red liquor) is burned to recover pulping chemicals.

Sulfite pulp mill means any stationary source that produces pulp from wood by cooking (digesting) wood chips in a solution of sulfurous acid and bisulfite ions. The recovery process used to regenerate cooking chemicals is also considered part of the sulfite pulp mill.

Total hydrocarbons (THC) means the sum of organic compounds measured as carbon using EPA Method 25A (40 CFR part 60, appendix A).

[66 FR 3193, Jan. 12, 2001, as amended at 66 FR 16408, Mar. 26, 2001; 68 FR 7713, Feb. 18, 2003]

§ 63.862 Standards.

(a) *Standards for HAP metals: existing sources.* (1) Each owner or operator of an existing kraft or soda pulp mill must comply with the requirements of either paragraph (a)(1)(i) or (ii) of this section.

(i) Each owner or operator of a kraft or soda pulp mill must comply with the PM emissions limits in paragraphs (a)(1)(i)(A) through (C) of this section.

(A) The owner or operator of each existing kraft or soda 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 grain per dry standard cubic foot (gr/dscf)) corrected to 8 percent oxygen.

(B) The owner or operator of each existing kraft or soda 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 kilogram per megagram (kg/Mg) (0.20 pound per ton (lb/ton)) of black liquor solids fired.

(C) The owner or operator of each existing kraft or soda lime kiln must ensure that the concentration of PM in the exhaust gases discharged to the atmosphere is less than or equal to 0.15 g/dscm (0.064 gr/dscf) corrected to 10 percent oxygen.

(ii) As an alternative to meeting the requirements of §63.862(a)(1)(i), each owner or operator of a kraft or soda pulp mill may establish PM emissions limits for each existing kraft or soda recovery furnace, smelt dissolving tank, and lime kiln that operates 6,300 hours per year or more by:

(A) Establishing an overall PM emission limit for each existing process unit in the chemical recovery system at the kraft or soda pulp mill using the methods in §63.865(a)(1) and (2).

(B) The emissions limits for each kraft recovery furnace, smelt dissolving tank, and lime kiln that are used to establish the overall PM limit in paragraph (a)(1)(ii)(A) of this section must not be less stringent than the emissions limitations required by §60.282 of part 60 of this chapter for any kraft recovery furnace, smelt dissolving tank, or lime kiln that is subject to the requirements of §60.282.

(C) Each owner or operator of an existing kraft or soda recovery furnace, smelt dissolving tank, or lime kiln must ensure that the PM emissions discharged to the atmosphere from each of these sources are less than or equal to the applicable PM emissions limits, established using the methods in §63.865(a)(1), that are used to establish the overall PM emissions limits in paragraph (a)(1)(ii)(A) of this section.

(D) Each owner or operator of an existing kraft or soda recovery furnace, smelt dissolving tank, or lime kiln must reestablish the emissions limits determined in paragraph (a)(1)(ii)(A) of this section if either of the actions in paragraphs (a)(1)(ii)(D)(1) and (2) of this section are taken:

(1) The air pollution control system for any existing kraft or soda recovery furnace, smelt dissolving tank, or lime kiln for which an emission limit was established in paragraph (a)(1)(ii)(A) of this section is

modified (as defined in §63.861) or replaced; or

(2) Any kraft or soda recovery furnace, smelt dissolving tank, or lime kiln for which an emission limit was established in paragraph (a)(1)(ii)(A) of this section is shut down for more than 60 consecutive days.

(iii) Each owner or operator of an existing kraft or soda recovery furnace, smelt dissolving tank, or lime kiln that operates less than 6,300 hours per year must comply with the applicable PM emissions limits for that process unit provided in paragraph (a)(1)(i) of this section.

(2) Except as specified in paragraph (d) of this section, the owner or operator of each existing sulfite combustion unit must ensure that the concentration of PM in the exhaust gases discharged to the atmosphere is less than or equal to 0.092 g/dscm (0.040 gr/dscf) corrected to 8 percent oxygen.

(b) *Standards for HAP metals: new sources.* (1) The owner or operator of any new kraft or soda recovery furnace must ensure that the concentration of PM in the exhaust gases discharged to the atmosphere is less than or equal to 0.034 g/dscm (0.015 gr/dscf) corrected to 8 percent oxygen.

(2) The owner or operator of any new kraft or soda smelt dissolving tank must ensure that the concentration of PM in the exhaust gases discharged to the atmosphere is less than or equal to 0.06 kg/Mg (0.12 lb/ton) of black liquor solids fired.

(3) The owner or operator of any new kraft or soda lime kiln must ensure that the concentration of PM in the exhaust gases discharged to the atmosphere is less than or equal to 0.023 g/dscm (0.010 gr/dscf) corrected to 10 percent oxygen.

(4) The owner or operator of any new sulfite combustion unit must ensure that the concentration of PM in the exhaust gases discharged to the atmosphere is less than or equal to 0.046 g/dscm (0.020 gr/dscf) corrected to 8 percent oxygen.

(c) *Standards for gaseous organic HAP.* (1) The owner or operator of any new recovery furnace at a kraft or soda pulp mill must ensure that the concentration of gaseous organic HAP, as measured by methanol, discharged to the atmosphere is no greater than 0.012 kg/Mg (0.025 lb/ton) of black liquor solids fired.

(2) The owner or operator of each existing or new semichemical combustion unit must ensure that:

(i) The concentration of gaseous organic HAP, as measured by total hydrocarbons reported as carbon, discharged to the atmosphere is less than or equal to 1.49 kg/Mg (2.97 lb/ton) of black liquor solids fired; or

(ii) The gaseous organic HAP emissions, as measured by total hydrocarbons reported as carbon, are reduced by at least 90 percent prior to discharge of the gases to the atmosphere.

(d) *Alternative standard.* As an alternative to meeting the requirements of paragraph (a)(2) of this section, the owner or operator of the existing hog fuel dryer at Weyerhaeuser Paper Company's Cosmopolis, Washington facility (Emission Unit no. HD-14) must ensure that the mass of PM in the exhaust gases discharged to the atmosphere from the hog fuel dryer is less than or equal to 4.535 kilograms per hour (kg/hr) (10.0 pounds per hour (lb/hr)).

[66 FR 3193, Jan. 12, 2001, as amended at 68 FR 7713, Feb. 18, 2003; 68 FR 67954, Dec. 5, 2003]

§ 63.863 Compliance dates.

(a) The owner or operator of an existing affected source or process unit must comply with the requirements in this subpart no later than March 13, 2004.

(b) The owner or operator of a new affected source that has an initial startup date after March 13, 2001 must comply with the requirements in this subpart immediately upon startup of the affected source, except as specified in §63.6(b).

(c) The two existing semichemical combustion units at Georgia-Pacific Corporation's Big Island, VA facility must comply with the requirements of this subpart no later than March 13, 2004, except as

provided in paragraphs (c)(1) and (c)(2) of this section.

(1) If Georgia-Pacific Corporation constructs a new black liquor gasification system at Big Island, VA, determines that its attempt to start up the new system has been a failure and, therefore, must construct another type of chemical recovery unit to replace the two existing semichemical combustion units at Big Island, then the two existing semichemical combustion units must comply with the requirements of this subpart by the earliest of the following dates: three years after Georgia-Pacific declares the gasification system a failure, upon startup of the new replacement unit(s), or March 1, 2008.

(2) After March 13, 2004 and if Georgia-Pacific Corporation constructs and successfully starts up a new black liquor gasification system, the provisions of this subpart will not apply to the two existing semichemical combustion units at Georgia-Pacific's facility in Big Island, VA for up to 1500 hours, while Georgia-Pacific conducts trials of the new gasification system on black liquor from a Kraft pulp mill.

[66 FR 3193, Jan. 12, 2001, as amended at 66 FR 16408, Mar. 26, 2001; 66 FR 37593, July 19, 2001; 68 FR 46108, Aug. 5, 2003]

§ 63.864 Monitoring requirements.

(a)–(c) [Reserved]

(d) *Continuous opacity monitoring system (COMS)*. The owner or operator of each affected kraft or soda recovery furnace or lime kiln equipped with an ESP must install, calibrate, maintain, and operate a COMS according to the provisions in §§63.6(h) and 63.8 and paragraphs (d)(1) through (4) of this section.

(1)–(2) [Reserved]

(3) As specified in §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.

(4) The COMS data must be reduced as specified in §63.8(g)(2).

(e) *Continuous parameter monitoring system (CPMS)*. For each CPMS required in this section, the owner or operator of each affected source or process unit must meet the requirements in paragraphs (e)(1) through (14) of this section.

(1)–(9) [Reserved]

(10) The owner or operator of each affected kraft or soda recovery furnace, kraft or soda lime kiln, sulfite combustion unit, or kraft or soda 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 §63.8(c), as well as the procedures in paragraphs (e)(10)(i) and (ii) of this section:

(i) 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); and

(ii) 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.

(11) The owner or operator of each affected semichemical combustion unit equipped with an RTO must install, calibrate, maintain, and operate a CPMS that can be used to determine and record the operating temperature of the RTO at least once every successive 15-minute period using the procedures in §63.8

(c). The monitor must compute and record the operating temperature at the point of incineration of effluent gases that are emitted using a temperature monitor accurate to within ± 1 percent of the temperature being measured.

(12) The owner or operator of the affected hog fuel dryer at Weyerhaeuser Paper Company's Cosmopolis, Washington facility (Emission Unit no. HD-14) must meet the requirements in paragraphs

(e)(12)(i) through (xi) of this section for each bag leak detection system.

(i) The owner or operator must install, calibrate, maintain, and operate each triboelectric bag leak detection system according to the "Fabric Filter Bag Leak Detection Guidance," (EPA-454/R-98-015, September 1997). This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality Planning and Standards; Emissions, Monitoring and Analysis Division; Emission Measurement Center, MD-D205-02, Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network under Emission Measurement Center Continuous Emission Monitoring. The owner or operator must install, calibrate, maintain, and operate other types of bag leak detection systems in a manner consistent with the manufacturer's written specifications and recommendations.

(ii) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.

(iii) The bag leak detection system sensor must provide an output of relative PM loadings.

(iv) The bag leak detection system must be equipped with a device to continuously record the output signal from the sensor.

(v) The bag leak detection system must be equipped with an audible alarm system that will sound automatically when an increase in relative PM emissions over a preset level is detected. The alarm must be located where it is easily heard by plant operating personnel.

(vi) For positive pressure fabric filter systems, a bag leak detector must be installed in each baghouse compartment or cell.

(vii) For negative pressure or induced air fabric filters, the bag leak detector must be installed downstream of the fabric filter.

(viii) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(ix) The baseline output must be established by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time according to section 5.0 of the "Fabric Filter Bag Leak Detection Guidance."

(x) Following initial adjustment of the system, the sensitivity or range, averaging period, alarm set points, or alarm delay time may not be adjusted except as detailed in the site-specific monitoring plan. In no case may the sensitivity be increased by more than 100 percent or decreased more than 50 percent over a 365-day period unless such adjustment follows a complete fabric filter inspection which demonstrates that the fabric filter is in good operating condition. Record each adjustment.

(xi) The owner or operator must record the results of each inspection, calibration, and validation check.

(13) The owner or operator of each affected source or process unit that uses an ESP, wet scrubber, RTO, or fabric filter may monitor alternative control device operating parameters subject to prior written approval by the Administrator.

(14) The owner or operator of each affected source or process unit that uses an air pollution control system other than an ESP, wet scrubber, RTO, or fabric filter must provide to the Administrator an alternative monitoring request that includes the site-specific monitoring plan described in paragraph (a) of this section, a description of the control device, test results verifying the performance of the control device, the appropriate operating parameters that will be monitored, and the frequency of measuring and recording to establish continuous compliance with the standards. The alternative monitoring request is subject to the Administrator's approval. The owner or operator of the affected source or process unit must install, calibrate, operate, and maintain the monitor(s) in accordance with the alternative monitoring request approved by the Administrator. The owner or operator must include in the information submitted to the Administrator proposed performance specifications and quality assurance procedures for the monitors. The Administrator may request further information and will approve acceptable test methods and procedures. The owner or operator must monitor the parameters as approved by the Administrator using the methods and procedures in the alternative monitoring request.

(f) [Reserved]

(g) The owner or operator of each affected source or process unit complying with the gaseous organic HAP standard of §63.862(c)(1) through the use of an NDCE recovery furnace equipped with a dry ESP system is not required to conduct any continuous monitoring to demonstrate compliance with the gaseous organic HAP standard.

(h)–(i) [Reserved]

(j) *Determination of operating ranges.* (1) During the initial performance test required in §63.865, the owner or operator of any affected source or process unit must establish operating ranges for the monitoring parameters in paragraphs (e)(10) through (14) of this section, as appropriate; or

(2) The owner or operator may base operating ranges on values recorded during previous performance tests or conduct additional performance tests for the specific purpose of establishing operating ranges, provided that test data used to establish the operating ranges are or have been obtained using the test methods required in this subpart. The owner or operator of the affected source or process unit must certify that all control techniques and processes have not been modified subsequent to the testing upon which the data used to establish the operating parameter ranges were obtained.

(3) The owner or operator of an affected source or process unit may establish expanded or replacement operating ranges for the monitoring parameter values listed in paragraphs (e)(10) through (14) of this section and established in paragraph (j)(1) or (2) of this section during subsequent performance tests using the test methods in §63.865.

(4) The owner or operator of the affected source or process unit must continuously monitor each parameter and determine the arithmetic average value of each parameter during each performance test. Multiple performance tests may be conducted to establish a range of parameter values.

(5)–(6) [Reserved]

(k) *On-going compliance provisions.* (1) Following the compliance date, owners or operators of all affected sources or process units are required to implement corrective action if the monitoring exceedances in paragraphs (k)(1)(i) through (vi) of this section occur:

(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;

(ii) For a new or existing kraft or soda recovery furnace, kraft or soda smelt dissolving tank, kraft or soda lime kiln, or sulfite combustion unit equipped with a wet scrubber, when any 3-hour average parameter value is outside the range of values established in paragraph (j) of this section.

(iii) For a new or existing semichemical combustion unit equipped with an RTO, when any 1-hour average temperature falls below the temperature established in paragraph (j) of this section;

(iv) For the hog fuel dryer at Weyerhaeuser Paper Company's Cosmopolis, Washington facility (Emission Unit no. HD-14), when the bag leak detection system alarm sounds.

(v) For an affected source or process unit equipped with an ESP, wet scrubber, RTO, or fabric filter and monitoring alternative operating parameters established in paragraph (e)(13) of this section, when any 3-hour average value is outside the range of parameter values established in paragraph (j) of this section; and

(vi) For an affected source or process unit equipped with an alternative air pollution control system and monitoring operating parameters approved by the Administrator as established in paragraph (e)(14) of this section, when any 3-hour average value is outside the range of parameter values established in paragraph (j) of this section.

(2) Following the compliance date, owners or operators of all affected sources or process units are in violation of the standards of §63.862 if the monitoring exceedances in paragraphs (k)(2)(i) through (vii) of this section occur:

(i) For an existing kraft or soda recovery furnace equipped with an ESP, when opacity is greater than 35

percent for 6 percent or more of the operating time within any quarterly period;

(ii) For a new kraft or soda recovery furnace or a new or existing lime kiln equipped with an ESP, when opacity is greater than 20 percent for 6 percent or more of the operating time within any quarterly period;

(iii) For a new or existing kraft or soda recovery furnace, kraft or soda smelt dissolving tank, kraft or soda lime kiln, or sulfite combustion unit equipped with a wet scrubber, when six or more 3-hour average parameter values within any 6-month reporting period are outside the range of values established in paragraph (j) of this section;

(iv) For a new or existing semichemical combustion unit equipped with an RTO, when any 3-hour average temperature falls below the temperature established in paragraph (j) of this section;

(v) For the hog fuel dryer at Weyerhaeuser Paper Company's Cosmopolis, Washington facility (Emission Unit no. HD-14), when corrective action is not initiated within 1 hour of a bag leak detection system alarm and the alarm is engaged for more than 5 percent of the total operating time in a 6-month block reporting period. In calculating the operating time fraction, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted; if corrective action is required, each alarm is counted as a minimum of 1 hour; if corrective action is not initiated within 1 hour, the alarm time is counted as the actual amount of time taken to initiate corrective action.

(vi) For an affected source or process unit equipped with an ESP, wet scrubber, RTO, or fabric filter and monitoring alternative operating parameters established in paragraph (e)(13) of this section, when six or more 3-hour average values within any 6-month reporting period are outside the range of parameter values established in paragraph (j) of this section; and

(vii) For an affected source or process unit equipped with an alternative air pollution control system and monitoring operating parameters approved by the Administrator as established in paragraph (e)(14) of this section, when six or more 3-hour average values within any 6-month reporting period are outside the range of parameter values established in paragraph (j) of this section.

(3) For purposes of determining the number of nonopacity monitoring exceedances, no more than one exceedance will be attributed in any given 24-hour period.

[68 FR 7713, Feb. 18, 2003, as amended at 68 FR 42605, July 18, 2003; 68 FR 67955, Dec. 5, 2003; 71 FR 20458, Apr. 20, 2006]

§ 63.86 Performance test requirements and test methods.

The owner or operator of each affected source or process unit subject to the requirements of this subpart is required to conduct an initial performance test using the test methods and procedures listed in §63.7 and paragraph (b) of this section, except as provided in paragraph (c)(1) of this section.

(a) The owner or operator of a process unit seeking to comply with a PM emission limit under §63.862(a)(1)(ii)(A) must use the procedures in paragraphs (a)(1) and (2) of this section:

(1) Determine the overall PM emission limit for the chemical recovery system at the mill using Equation 1 of this section as follows:

$$EL_{PM} = \frac{[(C_{ref,RF})(Q_{RFot}) + (C_{ref,LK})(Q_{LKot})](F1)}{(BLS_{tot})} + ER1_{ref,SDT} \quad (Eq. 1)$$

Where:

EL_{PM} = overall PM emission limit for all existing process units in the chemical recovery system at the kraft or soda pulp mill, kg/Mg (lb/ton) of black liquor solids fired.

$C_{ref,RF}$ = reference concentration of 0.10 g/dscm (0.044 gr/dscf) corrected to 8 percent oxygen for existing kraft or soda recovery furnaces.

$Q_{RF\text{tot}}$ = sum of the average volumetric gas flow rates measured during the performance test and corrected to 8 percent oxygen for all existing recovery furnaces in the chemical recovery system at the kraft or soda pulp mill, dry standard cubic meters per minute (dscm/min) (dry standard cubic feet per minute (dscf/min)).

$C_{\text{ref,LK}}$ = reference concentration of 0.15 g/dscm (0.064 gr/dscf) corrected to 10 percent oxygen for existing kraft or soda lime kilns.

$Q_{LK\text{tot}}$ = sum of the average volumetric gas flow rates measured during the performance test and corrected to 10 percent oxygen for all existing lime kilns in the chemical recovery system at the kraft or soda pulp mill, dscm/min (dscf/min).

$F1$ = conversion factor, 1.44 minutes·kilogram/day·gram (min·kg/d·g) (0.206 minutes·pound/day·grain (min·b/d·gr)).

BLS_{tot} = sum of the average black liquor solids firing rates of all existing recovery furnaces in the chemical recovery system at the kraft or soda pulp mill measured during the performance test, megagrams per day (Mg/d) (tons per day (ton/d)) of black liquor solids fired.

$ER1_{\text{ref, SDT}}$ = reference emission rate of 0.10 kg/Mg (0.20 lb/ton) of black liquor solids fired for existing kraft or soda smelt dissolving tanks.

(2) Establish an emission limit for each kraft or soda recovery furnace, smelt dissolving tank, and lime kiln; and, using these emissions limits, determine the overall PM emission rate for the chemical recovery system at the mill using the procedures in paragraphs (a)(2)(i) through (v) of this section, such that the overall PM emission rate calculated in paragraph (a)(2)(v) of this section is less than or equal to the overall PM emission limit determined in paragraph (a)(1) of this section, as appropriate.

(i) The PM emission rate from each affected recovery furnace must be determined using Equation 2 of this section as follows:

$$ER_{RF} = (F1)(C_{EL, RF})(Q_{RF})/(BLS) \quad (Eq. 2)$$

Where:

ER_{RF} = emission rate from each recovery furnace, kg/Mg (lb/ton) of black liquor solids.

$F1$ = conversion factor, 1.44 min·kg/d·g (0.206 min·/d·gr).

$C_{EL, RF}$ = PM emission limit proposed by owner or operator for the recovery furnace, g/dscm (gr/dscf) corrected to 8 percent oxygen.

Q_{RF} = average volumetric gas flow rate from the recovery furnace measured during the performance test and corrected to 8 percent oxygen, dscm/min (dscf/min).

BLS = average black liquor solids firing rate of the recovery furnace measured during the performance test, Mg/d (ton/d) of black liquor solids.

(ii) The PM emission rate from each affected smelt dissolving tank must be determined using Equation 3 of this section as follows:

$$ER_{SDT} = (F1)(C_{EL, SDT})(Q_{SDT})/(BLS) \quad (Eq. 3)$$

Where:

ER_{SDT} =emission rate from each SDT, kg/Mg (lb/ton) of black liquor solids fired.

$F1$ =conversion factor, 1.44 min·kg/d·g (0.206 min·lb/d·gr).

$C_{EL, SDT}$ =PM emission limit proposed by owner or operator for the smelt dissolving tank, g/dscm (gr/dscf).

Q_{SDT} =average volumetric gas flow rate from the smelt dissolving tank measured during the performance test, dscm/min (dscf/min).

BLS =average black liquor solids firing rate of the associated recovery furnace measured during the performance test, Mg/d (ton/d) of black liquorsolids fired. If more than one SDT is used to dissolve the smelt from a given recovery furnace, then the black liquor solids firing rate of the furnace must be proportioned according to the size of the SDT.

(iii) The PM emission rate from each affected lime kiln must be determined using Equation 4 of this section as follows:

$$ER_{LK} = (F1)(C_{EL, LK})(Q_{LK})(CaO_{tot}/BLS_{tot})/(CaO_{LK}) \quad (Eq. 4)$$

Where:

ER_{LK} =emission rate from each lime kiln, kg/Mg (lb/ton) of black liquor solids.

$F1$ =conversion factor, 1.44 min·kg/d·g (0.206 min·lb/d·gr).

$C_{EL, LK}$ =PM emission limit proposed by owner or operator for the lime kiln, g/dscm (gr/dscf) corrected to 10 percent oxygen.

Q_{LK} =average volumetric gas flow rate from the lime kiln measured during the performance test and corrected to 10 percent oxygen, dscm/min (dscf/min).

CaO_{LK} =lime production rate of the lime kiln, measured as CaO during the performance test, Mg/d (ton/d) of CaO.

CaO_{tot} =sum of the average lime production rates for all existing lime kilns in the chemical recovery system at the mill measured as CaO during the performance test, Mg/d (ton/d).

BLS_{tot} =sum of the average black liquor solids firing rates of all recovery furnaces in the chemical recovery system at the mill measured during the performance test, Mg/d (ton/d) of black liquor solids.

(iv) If more than one similar process unit is operated in the chemical recovery system at the kraft or soda pulp mill, Equation 5 of this section must be used to calculate the overall PM emission rate from all similar process units in the chemical recovery system at the mill and must be used in determining the overall PM emission rate for the chemical recovery system at the mill:

$$ER_{PUTot} = ER_{PU1}(PR_{PU1}/PR_{tot}) + \dots + (ER_{PUn})(PR_{PUn}/PR_{tot}) \quad (Eq. 5)$$

Where:

ER_{PUTot} =overall PM emission rate from all similar process units, kg/Mg (lb/ton) of black liquor solids fired.

ER_{PU1} =PM emission rate from process unit No. 1, kg/Mg (lb/ton) of black liquor solids fired, calculated using Equation 2, 3, or 4 in paragraphs (a)(2)(i) through (iii) of this section.

PR_{PU1} =black liquor solids firing rate in Mg/d (ton/d) for process unit No. 1, if process unit is a recovery furnace or SDT. The CaO production rate in Mg/d (ton/d) for process unit No. 1, if process unit is a lime kiln.

PR_{tot} =total black liquor solids firing rate in Mg/d (ton/d) for all recovery furnaces in the chemical recovery system at the kraft or soda pulp mill if the similar process units are recovery furnaces or SDT, or the total CaO production rate in Mg/d (ton/d) for all lime kilns in the chemical recovery system at the mill if the similar process units are lime kilns.

ER_{PUi} =PM emission rate from process unit No. i, kg/Mg (lb/ton) of black liquor solids fired.

PR_{PUi} =black liquor solids firing rate in Mg/d (ton/d) for process unit No. i, if process unit is a recovery furnace or SDT. The CaO production rate in Mg/d (ton/d) for process unit No. i, if process unit is a lime kiln.

i=number of similar process units located in the chemical recovery system at the kraft or soda pulp mill.

(v) The overall PM emission rate for the chemical recovery system at the mill must be determined using Equation 6 of this section as follows:

$$ER_{tot} = ER_{RFtot} + ER_{SDTtot} + ER_{LKtot} \quad (Eq. 6)$$

Where:

ER_{tot} =overall PM emission rate for the chemical recovery system at the mill, kg/Mg (lb/ton) of black liquor solids fired.

ER_{RFtot} =PM emission rate from all kraft or soda recovery furnaces, calculated using Equation 2 or 5 in paragraphs (a)(2)(i) and (iv) of this section, where applicable, kg/Mg (lb/ton) of black liquor solids fired.

ER_{SDTtot} =PM emission rate from all smelt dissolving tanks, calculated using Equation 3 or 5 in paragraphs (a)(2)(ii) and (iv) of this section, where applicable, kg/Mg (lb/ton) of black liquor solids fired.

ER_{LKtot} =PM emission rate from all lime kilns, calculated using Equation 4 or 5 in paragraphs (a)(2)(iii) and (iv) of this section, where applicable, kg/Mg (lb/ton) of black liquor solids fired.

(vi) After the Administrator has approved the PM emissions limits for each kraft or soda recovery furnace, smelt dissolving tank, and lime kiln, the owner or operator complying with an overall PM emission limit established in §63.862(a)(1)(ii) must demonstrate compliance with the HAP metals standard by demonstrating compliance with the approved PM emissions limits for each affected kraft or soda recovery furnace, smelt dissolving tank, and lime kiln, using the test methods and procedures in paragraph (b) of this section.

(b) The owner or operator seeking to determine compliance with §63.862(a), (b), or (d) must use the procedures in paragraphs (b)(1) through (6) of this section.

(1) For purposes of determining the concentration or mass of PM emitted from each kraft or soda recovery furnace, sulfite combustion unit, smelt dissolving tank, lime kiln, or the hog fuel dryer at Weyerhaeuser Paper Company's Cosmopolis, Washington facility (Emission Unit no. HD-14), Method 5 or 29 in appendix A of 40 CFR part 60 must be used, except that Method 17 in appendix A of 40 CFR part 60 may be used in lieu of Method 5 or Method 29 if a constant value of 0.009 g/dscm (0.004 gr/dscf)

is added to the results of Method 17, and the stack temperature is no greater than 205 °C (400 °F). For Methods 5, 29, and 17, the sampling time and sample volume for each run must be at least 60 minutes and 0.90 dscm (31.8 dscf), and water must be used as the cleanup solvent instead of acetone in the sample recovery procedure.

(2) For sources complying with §63.862(a) or (b), the PM concentration must be corrected to the appropriate oxygen concentration using Equation 7 of this section as follows:

$$C_{\text{corr}} = C_{\text{meas}} \times \frac{(21 - X)}{(21 - Y)} \quad (\text{Eq. 7})$$

Where:

C_{corr} = The measured concentration corrected for oxygen, g/dscm (gr/dscf);

C_{meas} = The measured concentration uncorrected for oxygen, g/dscm (gr/dscf);

X = The corrected volumetric oxygen concentration (8 percent for kraft or soda recovery furnaces and sulfite combustion units and 10 percent for kraft or soda lime kilns); and

Y = The measured average volumetric oxygen concentration.

(3) Method 3A or 3B in appendix A of 40 CFR part 60 must be used to determine the oxygen concentration. The voluntary consensus standard ANSI/ASME PTC 19.10-1981—Part 10 (incorporated by reference—see §63.14) may be used as an alternative to using Method 3B. The gas sample must be taken at the same time and at the same traverse points as the particulate sample.

(4) For purposes of complying with of §63.862(a)(1)(ii)(A), the volumetric gas flow rate must be corrected to the appropriate oxygen concentration using Equation 8 of this section as follows:

$$Q_{\text{corr}} = Q_{\text{meas}} \times (21 - Y) / (21 - X) \quad (\text{Eq. 8})$$

Where:

Q_{corr} = the measured volumetric gas flow rate corrected for oxygen, dscm/min (dscf/min).

Q_{meas} = the measured volumetric gas flow rate uncorrected for oxygen, dscm/min (dscf/min).

Y = the measured average volumetric oxygen concentration.

X = the corrected volumetric oxygen concentration (8 percent for kraft or soda recovery furnaces and 10 percent for kraft or soda lime kilns).

(5)(i) For purposes of selecting sampling port location and number of traverse points, Method 1 or 1A in appendix A of 40 CFR part 60 must be used;

(ii) For purposes of determining stack gas velocity and volumetric flow rate, Method 2, 2A, 2C, 2D, 2F, or 2G in appendix A of 40 CFR part 60 must be used;

(iii) For purposes of conducting gas analysis, Method 3, 3A, or 3B in appendix A of 40 CFR part 60 must be used. The voluntary consensus standard ANSI/ASME PTC 19.10-1981—Part 10 (incorporated by reference—see §63.14) may be used as an alternative to using Method 3B; and

(iv) For purposes of determining moisture content of stack gas, Method 4 in appendix A of 40 CFR part 60 must be used.

(6) Process data measured during the performance test must be used to determine the black liquor

solids firing rate on a dry basis and the CaO production rate.

(c) The owner or operator of each affected source or process unit complying with the gaseous organic HAP standard in §63.862(c)(1) must demonstrate compliance according to the provisions in paragraphs (c)(1) and (2) of this section.

(1) The owner or operator complying through the use of an NDCE recovery furnace equipped with a dry ESP system is not required to conduct any performance testing to demonstrate compliance with the gaseous organic HAP standard.

(2) The owner or operator complying without using an NDCE recovery furnace equipped with a dry ESP system must use Method 308 in appendix A of this part, as well as the methods listed in paragraphs (b)(5)(i) through (iv) of this section. The sampling time and sample volume for each Method 308 run must be at least 60 minutes and 0.014 dscm (0.50 dscf), respectively.

(i) The emission rate from any new NDCE recovery furnace must be determined using Equation 9 of this section as follows:

$$ER_{NDCE} = \frac{(MR_{meas})}{BLS} \quad (\text{Eq. 9})$$

Where:

ER_{NDCE} = Methanol emission rate from the NDCE recovery furnace, kg/Mg (lb/ton) of black liquor solids fired;

MR_{meas} = Measured methanol mass emission rate from the NDCE recovery furnace, kg/hr (lb/hr); and

BLS = Average black liquor solids firing rate of the NDCE recovery furnace, megagrams per hour (Mg/hr) (tons per hour (ton/hr)) determined using process data measured during the performance test.

(ii) The emission rate from any new DCE recovery furnace system must be determined using Equation 10 of this section as follows:

$$ER_{DCE} = \left[\frac{(MR_{meas,RF})}{BLS_{RF}} \right] + \left[\frac{MR_{meas,BLO}}{BLS_{BLO}} \right] \quad (\text{Eq. 10})$$

Where:

ER_{DCE} = Methanol emission rate from each DCE recovery furnace system, kg/Mg (lb/ton) of black liquor solids fired;

$MR_{meas,RF}$ = Average measured methanol mass emission rate from each DCE recovery furnace, kg/hr (lb/hr);

$MR_{meas,BLO}$ = Average measured methanol mass emission rate from the black liquor oxidation system, kg/hr (lb/hr);

BLS_{RF} = Average black liquor solids firing rate for each DCE recovery furnace, Mg/hr (ton/hr) determined using process data measured during the performance test; and

BLS_{BLO} = The average mass rate of black liquor solids treated in the black liquor oxidation system, Mg/hr (ton/hr) determined using process data measured during the performance test.

(d) The owner or operator seeking to determine compliance with the gaseous organic HAP standards in §63.862(c)(2) for semichemical combustion units must use Method 25A in appendix A of 40 CFR part 60, as well as the methods listed in paragraphs (b)(5)(i) through (iv) of this section. The sampling time for each Method 25A run must be at least 60 minutes. The calibration gas for each Method 25A run must be propane.

(1) The emission rate from any new or existing semichemical combustion unit must be determined using Equation 11 of this section as follows:

$$ER_{SCCU} = \frac{(THC_{meas})}{BLS} \quad (Eq. 11)$$

Where:

ER_{SCCU} = THC emission rate reported as carbon from each semichemical combustion unit, kg/Mg (lb/ton) of black liquor solids fired;

THC_{meas} = Measured THC mass emission rate reported as carbon, kg/hr (lb/hr); and

BLS = Average black liquor solids firing rate, Mg/hr (ton/hr); determined using process data measured during the performance test.

(2) If the owner or operator of the semichemical combustion unit has selected the percentage reduction standards for THC, under §63.862(c)(2)(ii), the percentage reduction in THC emissions is computed using Equation 12 of this section as follows, provided that E_i and E_o are measured simultaneously:

$$(\%R_{THC}) = \left(\frac{E_i - E_o}{E_i} \right) \times 100 \quad (Eq. 12)$$

Where:

$\%R_{THC}$ = percentage reduction of total hydrocarbons emissions achieved.

E_i = measured THC mass emission rate at the THC control device inlet, kg/hr (lb/hr).

E_o = measured THC mass emission rate at the THC control device outlet, kg/hr (lb/hr).

[66 FR 3193, Jan. 12, 2001, as amended at 66 FR 37593, July 19, 2001; 68 FR 7716, Feb. 18, 2003; 68 FR 67955, Dec. 5, 2003]

§ 63.866 Record keeping requirements.

(a) *Startup, shutdown, and malfunction plan.* The owner or operator must develop a written plan as described in §63.6(e)(3) that contains specific procedures for operating the source and maintaining the source during periods of startup, shutdown, and malfunction, and a program of corrective action for malfunctioning process and control systems used to comply with the standards. In addition to the information required in §63.6(e), the plan must include the requirements in paragraphs (a)(1) and (2) of this section.

(1) Procedures for responding to any process parameter level that is inconsistent with the level(s) established under §63.864(j), including the procedures in paragraphs (a)(1)(i) and (ii) of this section:

(i) Procedures to determine and record the cause of an operating parameter exceedance and the time the exceedance began and ended; and

(ii) Corrective actions to be taken in the event of an operating parameter exceedance, including

procedures for recording the actions taken to correct the exceedance.

(2) The startup, shutdown, and malfunction plan also must include the schedules listed in paragraphs (a)(2)(i) and (ii) of this section:

(i) A maintenance schedule for each control technique that is consistent with, but not limited to, the manufacturer's instructions and recommendations for routine and long-term maintenance; and

(ii) An inspection schedule for each continuous monitoring system required under §63.864 to ensure, at least once in each 24-hour period, that each continuous monitoring system is properly functioning.

(b) The owner or operator of an affected source or process unit must maintain records of any occurrence when corrective action is required under §63.864(k)(1), and when a violation is noted under §63.864(k)(2).

(c) In addition to the general records required by §63.10(b)(2), the owner or operator must maintain records of the information in paragraphs (c)(1) through (7) of this section:

(1) Records of black liquor solids firing rates in units of Mg/d or ton/d for all recovery furnaces and semichemical combustion units;

(2) Records of CaO production rates in units of Mg/d or ton/d for all lime kilns;

(3) Records of parameter monitoring data required under §63.864, including any period when the operating parameter levels were inconsistent with the levels established during the initial performance test, with a brief explanation of the cause of the deviation, the time the deviation occurred, the time corrective action was initiated and completed, and the corrective action taken;

(4) Records and documentation of supporting calculations for compliance determinations made under §§63.865(a) through (d);

(5) Records of monitoring parameter ranges established for each affected source or process unit;

(6) Records certifying that an NDCE recovery furnace equipped with a dry ESP system is used to comply with the gaseous organic HAP standard in §63.862(c)(1).

(7) For the bag leak detection system on the hog fuel dryer fabric filter at Weyerhaeuser Paper Company's Cosmopolis, Washington facility (Emission Unit no. HD-14), records of each alarm, the time of the alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken.

(d) For operation under §63.863(c)(2), Georgia-Pacific Corporation must keep a record of the hours of operation of the two existing semichemical combustion units at their Big Island, VA facility.

[66 FR 3193, Jan. 12, 2001, as amended at 66 FR 16408, Mar. 26, 2001; 68 FR 7718, Feb. 18, 2003; 69 FR 25323, May 6, 2004; 71 FR 20458, Apr. 20, 2006]

§ 63.867 Reporting requirements.

(a) *Notifications.* (1) The owner or operator of any affected source or process unit must submit the applicable notifications from subpart A of this part, as specified in Table 1 of this subpart.

(2) Notifications specific to Georgia-Pacific Corporation's affected sources in Big Island, Virginia.

(i) For a compliance extension under §63.863(c)(1), submit a notice that provides the date of Georgia-Pacific's determination that the black liquor gasification system is not successful and the reasons why the technology is not successful. The notice must be submitted within 15 days of Georgia-Pacific's determination, but not later than March 16, 2005.

(ii) For operation under §63.863(c)(2), submit a notice providing: a statement that Georgia-Pacific Corporation intends to run the Kraft black liquor trials, the anticipated period in which the trials will take place, and a statement explaining why the trials could not be conducted prior to March 1, 2005. The

notice must be submitted at least 30 days prior to the start of the Kraft liquor trials.

(3) In addition to the requirements in subpart A of this part, the owner or operator of the hog fuel dryer at Weyerhaeuser Paper Company's Cosmopolis, Washington, facility (Emission Unit no. HD-14) must include analysis and supporting documentation demonstrating conformance with EPA guidance and specifications for bag leak detection systems in §63.864(e)(12) in the Notification of Compliance Status.

(b) *Additional reporting requirements for HAP metals standards.* (1) Any owner or operator of a group of process units in a chemical recovery system at a mill complying with the PM emissions limits in §63.862(a)(1)(ii) must submit the PM emissions limits determined in §63.865(a) for each affected kraft or soda recovery furnace, smelt dissolving tank, and lime kiln to the Administrator for approval. The emissions limits must be submitted as part of the notification of compliance status required under subpart A of this part.

(2) Any owner or operator of a group of process units in a chemical recovery system at a mill complying with the PM emissions limits in §63.862(a)(1)(ii) must submit the calculations and supporting documentation used in §63.865(a)(1) and (2) to the Administrator as part of the notification of compliance status required under subpart A of this part.

(3) After the Administrator has approved the emissions limits for any process unit, the owner or operator of a process unit must notify the Administrator before any of the actions in paragraphs (b)(3)(i) through (iv) of this section are taken:

(i) The air pollution control system for any process unit is modified or replaced;

(ii) Any kraft or soda recovery furnace, smelt dissolving tank, or lime kiln in a chemical recovery system at a kraft or soda pulp mill complying with the PM emissions limits in §63.862(a)(1)(ii) is shut down for more than 60 consecutive days;

(iii) A continuous monitoring parameter or the value or range of values of a continuous monitoring parameter for any process unit is changed; or

(iv) The black liquor solids firing rate for any kraft or soda recovery furnace during any 24-hour averaging period is increased by more than 10 percent above the level measured during the most recent performance test.

(4) An owner or operator of a group of process units in a chemical recovery system at a mill complying with the PM emissions limits in §63.862(a)(1)(ii) and seeking to perform the actions in paragraph (b)(3)(i) or (ii) of this section must recalculate the overall PM emissions limit for the group of process units and resubmit the documentation required in paragraph (b)(2) of this section to the Administrator. All modified PM emissions limits are subject to approval by the Administrator.

(c) *Excess emissions report.* The owner or operator must report quarterly if measured parameters meet any of the conditions specified in paragraph (k)(1) or (2) of §63.864. This report must contain the information specified in §63.10(c) of this part as well as the number and duration of occurrences when the source met or exceeded the conditions in §63.864(k)(1), and the number and duration of occurrences when the source met or exceeded the conditions in §63.864(k)(2). Reporting excess emissions below the violation thresholds of §63.864(k) does not constitute a violation of the applicable standard.

(1) When no exceedances of parameters have occurred, the owner or operator must submit a semiannual report stating that no excess emissions occurred during the reporting period.

(2) The owner or operator of an affected source or process unit subject to the requirements of this subpart and subpart S of this part may combine excess emissions and/or summary reports for the mill.

[66 FR 3193, Jan. 12, 2001 as amended at 66 FR 16408, Mar. 26, 2001; 68 FR 7718, Feb. 18, 2003; 68 FR 42605, July 18, 2003; 68 FR 46108, Aug. 5, 2003; 69 FR 25323, May 6, 2004]

§ 63.868 Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 112(d) of the Clean Air Act, the authorities contained in paragraph (b) of this section must be retained by the Administrator

and not transferred to a State.

(b) The authorities which will not be delegated to States are listed in paragraphs (b)(1) through (4) of this section:

- (1) Approval of alternatives to standards in §63.862 under §63.6(g).
- (2) Approval of major alternatives to test methods under §63.7(e)(2)(iii) and (f) and as defined in §63.90.
- (3) Approval of major alternatives to monitoring under §63.8(f) and as defined in §63.90.
- (4) Approval of major alternatives to recordkeeping and reporting under §63.10(f) and as defined in §63.90.

Table 1 to Subpart MM of Part 63— General Provisions Applicability to Subpart MM

General provisions reference	Summary of requirements	Applies to subpart MM	Explanation
63.1(a)(1)	General applicability of the General Provisions	Yes	Additional terms defined in §63.861; when overlap between subparts A and MM of this part, subpart MM takes precedence.
63.1(a)(2)–(14)	General applicability of the General Provisions	Yes	
63.1(b)(1)	Initial applicability determination.	No.	Subpart MM specifies the applicability in §63.860.
63.1(b)(2)	Title V operating permit—see 40 CFR part 70	Yes	All major affected sources are required to obtain a title V permit.
63.1(b)(3)	Record of the applicability determination	No	All affected sources are subject to subpart MM according to the applicability definition of subpart MM.
63.1(c)(1)	Applicability of subpart A of this part after a relevant standard has been set	Yes	Subpart MM clarifies the applicability of each paragraph of subpart A of this part to sources subject to subpart MM.
63.1(c)(2)	Title V permit requirement	Yes	All major affected

			sources are required to obtain a title V permit. There are no area sources in the pulp and paper mill source category.
63.1(c)(3)	[Reserved]	NA.	
63.1(c)(4)	Requirements for existing source that obtains an extension of compliance	Yes	
63.1(c)(5)	Notification requirements for an area source that increases HAP emissions to major source levels	Yes	
63.1(d)	[Reserved]	NA	
63.1(e)	Applicability of permit program before a relevant standard has been set	Yes	
63.2	Definitions	Yes	Additional terms defined in §63.861; when overlap between subparts A and MM of this part occurs, subpart MM takes precedence.
63.3	Units and abbreviations	Yes	
63.4	Prohibited activities and circumvention	Yes	
63.5(a)	Construction and reconstruction—applicability	Yes	
63.5(b)(1)	Upon construction, relevant standards for new sources	Yes	
63.5(b)(2)	[Reserved]	NA	
63.5(b)(3)	New construction/reconstruction	Yes	
63.5(b)(4)	Construction/reconstruction notification	Yes	
63.5(b)(5)	Construction/reconstruction compliance	Yes	
63.5(b)(6)	Equipment addition or process change	Yes	
63.5(c)	[Reserved]	NA	
63.5(d)	Application for approval of construction/reconstruction	Yes	
63.5(e)	Construction/reconstruction approval	Yes	

63.5(f)	Construction/reconstruction approval based on prior State preconstruction review	Yes	
63.6(a)(1)	Compliance with standards and maintenance requirements—applicability	Yes	
63.6(a)(2)	Requirements for area source that increases emissions to become major	Yes	
63.6(b)	Compliance dates for new and reconstructed sources	Yes	
63.6(c)	Compliance dates for existing sources	Yes, except for sources granted extensions under 63.863(c)	Subpart MM specifically stipulates the compliance schedule for existing sources.
63.6(d)	[Reserved]	NA	
63.6(e)	Operation and maintenance requirements	Yes	
63.6(f)	Compliance with nonopacity emissions standards	Yes	
63.6(g)	Compliance with alternative nonopacity emissions standards	Yes	
63.6(h)	Compliance with opacity and visible emissions (VE) standards	Yes	Subpart MM does not contain any opacity or VE standards; however, §63.864 specifies opacity monitoring requirements.
63.6(i)	Extension of compliance with emission standards	Yes, except for sources granted extensions under 63.863(c)	
63.6(j)	Exemption from compliance with emissions standards	Yes	
63.7(a)(1)	Performance testing requirements—applicability	Yes	§63.865(c)(1) specifies the only exemption from performance testing allowed under subpart MM.
63.7(a)(2)	Performance test dates	Yes	

63.7(a)(3)	Performance test requests by Administrator under CAA section 114	Yes	
63.7(b)(1)	Notification of performance test	Yes	
63.7(b)(2)	Notification of delay in conducting a scheduled performance test	Yes	
63.7(c)	Quality assurance program	Yes	
63.7(d)	Performance testing facilities	Yes	
63.7(e)	Conduct of performance tests	Yes	
63.7(f)	Use of an alternative test method	Yes	
63.7(g)	Data analysis, recordkeeping, and reporting	Yes	
63.7(h)	Waiver of performance tests	Yes	§63.865(c)(1) specifies the only exemption from performance testing allowed under subpart MM.
63.8(a)	Monitoring requirements—applicability	Yes	See §63.864.
63.8(b)	Conduct of monitoring	Yes	See §63.864.
63.8(c)	Operation and maintenance of CMS	Yes	See §63.864.
63.8(d)	Quality control program	Yes	See §63.864.
63.8(e)(1)	Performance evaluation of CMS	Yes	
63.8(e)(2)	Notification of performance evaluation	Yes	
63.8(e)(3)	Submission of site-specific performance evaluation test plan	Yes	
63.8(e)(4)	Conduct of performance evaluation and performance evaluation dates	Yes	
63.8(e)(5)	Reporting performance evaluation results	Yes	
63.8(f)	Use of an alternative monitoring method	Yes	
63.8(g)	Reduction of monitoring data	Yes	
63.9(a)	Notification requirements—applicability and general information	Yes	
63.9(b)	Initial notifications	Yes	
63.9(c)	Request for extension of	Yes	

	compliance		
63.9(d)	Notification that source subject to special compliance requirements	Yes	
63.9(e)	Notification of performance test	Yes	
63.9(f)	Notification of opacity and VE observations	Yes	Subpart MM does not contain any opacity or VE standards; however, §63.864 specifies opacity monitoring requirements.
63.9(g)(1)	Additional notification requirements for sources with CMS	Yes	
63.9(g)(2)	Notification of compliance with opacity emissions standard	Yes	Subpart MM does not contain any opacity or VE emissions standards; however, §63.864 specifies opacity monitoring requirements.
63.9(g)(3)	Notification that criterion to continue use of alternative to relative accuracy testing has been exceeded	Yes	
63.9(h)	Notification of compliance status	Yes	
63.9(i)	Adjustment to time periods or postmark deadlines for submittal and review of required communications	Yes	
63.9(j)	Change in information already provided	Yes	
63.10(a)	Recordkeeping requirements—applicability and general information	Yes	See §63.866.
63.10(b)(1)	Records retention	Yes	
63.10(b)(2)	Information and documentation to support notifications and demonstrate compliance	Yes	
63.10(b)(3)	Records retention for sources not subject to relevant standard	Yes	Applicability requirements are given in §63.860.

63.10(c)	Additional recordkeeping requirements for sources with CMS.	Yes	
63.10(d)(1)	General reporting requirements	Yes	
63.10(d)(2)	Reporting results of performance tests	Yes	
63.10(d)(3)	Reporting results of opacity or VE observations	Yes	Subpart MM does not include any opacity or VE standards; however, §63.864 specifies opacity monitoring requirements.
63.10(d)(4)	Progress reports	Yes	
63.10(d)(5)	Periodic and immediate startup, shutdown, and malfunction reports	Yes	
63.10(e)	Additional reporting requirements for sources with CMS	Yes	
63.10(f)	Waiver of recordkeeping and reporting requirements	Yes	
63.11	Control device requirements for flares	No	The use of flares to meet the standards in subpart MM is not anticipated.
63.12	State authority and delegations	Yes	
63.13	Addresses of State air pollution control agencies and EPA Regional Offices	Yes	
63.14	Incorporations by reference	Yes	
63.15	Availability of information and confidentiality	Yes	

[66 FR 3193, Jan. 12, 2001, as amended at 66 FR 16408, Mar. 26, 2001]

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Georgia-Pacific LLC - Crossett Paper Operations
Permit #: 0597-AOP-R14
AFIN: 02-00013

APPENDIX I- LINE WASHER ALTERNATIVE MONITORING EXEMPTION



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

P.P.

DEC 10 2003

02.00013

Charles E. Hodges
Senior Vice President
Manufacturing Southern Region
Georgia Pacific
Crossett Paper Operations
P.O. Box 3333
Crossett, Arkansas 71635

REC'D DEC 15 2003

Dear Mr. Hodges:

This is in response to your letter dated August 18, 2003, regarding a 40 C.F.R. 63 Subpart S request for the use of alternative monitoring and inspection procedures for the closed vent systems subject to § 63.453(k)(2).

40 C.F.R. § 63.453(k) and 40 C.F.R. § 63.453(l) specify that monitoring occur every 30 days or at least once every 30 days. You are requesting approval to have monitoring established on a calendar month, due to the fact that you utilize the same third-party contractor for the 30-day visual inspections at the Crossett Paper and for inspections at the Crossett Chemical plant, and it would be easier to schedule both facilities in the same time frame.

We will allow Georgia Pacific Crossett Paper to conduct monitoring and inspections for the closed vent systems subject to § 63.453(k)(2), based upon the information contained in your letter, once during each calendar month, with at least 21 days elapsed time between inspection.

If you have any questions regarding this determination response, please contact me at (214) 665-7220 or Michelle Kelly, of my staff, at (214) 665-7580.

Sincerely yours,

William K. Honker, P.E.
Chief
Air/Toxic and Inspection
Coordination Branch

cc: Tom Hudson, ADEQ
✓ Tom Rheume, ADEQ



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

JUL 24 2001

Mr. Eric Reynolds
Environmental Engineer
Georgia-Pacific Corporation
Ashdown Operations
285 Highway 71 South
Ashdown, AR 71822

Dear Mr. Reynolds:

This is in response to your letter of March 7, 2001, requesting the approval of an alternative monitoring protocol, as required under Section 63.453(m) through (o), pursuant to the Pulp & Paper MACT standard, 40 C.F.R. 63, Subpart S. Specifically, Georgia-Pacific Ashdown Operations is seeking approval to replace the required use of the §63.453(c)(2) "gas scrubber vent gas inlet flow rate" continuous monitoring system (CMS) with a system to continuously monitor amperage on the induced draft fans used to convey HAPs to the bleach plant scrubber.

Per 40 CFR 63.453(m), a source or an operator may choose to adopt an alternative monitoring parameter to comply with the standards established in Subpart S, provided that a continuous Monitoring System is in place and the source or operator establishes appropriate operating parameters to be monitored in such a way that it will demonstrate continuous compliance with the applicable control requirements to the satisfaction of the Administrator. However, per CFR 63.458(b)(2), the authority for determination and use of an alternative monitoring parameter can not be transferred (delegated) to a State.

Based on the discussion of the alternative monitoring parameter issue in the Environmental Protection Agency's (EPA's) O&A Document for the Pulp & Paper MACT (Volume 1, Page 8-10), Region 6 agrees that adequate rationale for using an alternative parameter (as required in §63.453(n)), has been demonstrated. Therefore, Region 6 concurs with Georgia-Pacific's request to substitute fan motor amperage as an alternative monitoring parameter to §63.453(c)(2), and accordingly approves this specific request.

In order to ensure compliance with Subpart S, we request that you perform the following:

- a) conduct annual negative pressure checks to ensure that the bleach plant scrubber fan induces the desired negative pressure across the system;
- b) conduct monthly visual inspections under the Leak Detection and Repair plan provisions for the scrubber fan and associated process;

- c) conduct periodic preventive maintenance of the bleach plant scrubber fan to ensure safe and proper operation of the system;
- d) respond immediately to any signs or indications of visible emissions from the scrubber stack, washer hoods, or towers at the bleach plant;
- e) continuously record/monitor the fan motor amperage loading to ensure proper rotational fan speed and pressure drop for the bleach plant scrubber fan; and,
- f) perform a successful initial performance test to determine an acceptable range of electrical current (amps) within which the fan needs to be operated.

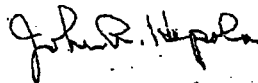
Furthermore, in case of future replacement of the fan blades or fan motor, you must demonstrate that gas flow to the scrubber has not increased as a result of changes to the fan or conduct another performance test to ensure that the gas scrubber meets the emission limitations of the air permit.

Please be advised that this alternative monitoring determination shall by no means relieve you from complying with the applicable Record keeping and Reporting requirements established in 40 CFR 63.454 and 63.355 of Subpart S.

We also recommend that you share a copy of this alternative monitoring parameter determination letter with the appropriate State or local Title V permitting authority for any pending or future air permitting activities relevant to your mill. Consequently, the permitting authority would be able to craft air permit conditions tailored specifically for your bleach plant operations.

If you have any questions regarding this response, please contact Michelle Kelly, of my staff, at (214) 665-7580.

Sincerely yours,



John R. Hepola
Chief
Air/Toxic & Inspection
Coordination Branch

cc: Lyndon Poole, ADEQ
Tom Hudson, ADEQ
Tom Rheams, ADEQ

Georgia-Pacific LLC - Crossett Paper Operations
Permit #: 0597-AOP-R14
AFIN: 02-00013

APPENDIX J - NESHAP JJJJ

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e-CFR Data is current as of May 17, 2012

Title 40: Protection of Environment

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES (CONTINUED)

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Subpart JJJJ—National Emission Standards for Hazardous Air Pollutants: Paper and Other Web Coating

Source: 67 FR 72341, Dec. 4, 2002, unless otherwise noted.

What This Subpart Covers

§ 63.3280 What is in this subpart?

This subpart describes the actions you must take to reduce emissions of organic hazardous air pollutants (HAP) from paper and other web coating operations. This subpart establishes emission standards for web coating lines and specifies what you must do to comply if you own or operate a facility with web coating lines that is a major source of HAP. Certain requirements apply to all who are subject to this subpart; others depend on the means you use to comply with an emission standard.

§ 63.3290 Does this subpart apply to me?

The provisions of this subpart apply to each new and existing facility that is a major source of HAP, as defined in §63.2, at which web coating lines are operated.

§ 63.3300 Which of my emission sources are affected by this subpart?

The affected source subject to this subpart is the collection of all web coating lines at your facility. This includes web coating lines engaged in the coating of metal webs that are used in flexible packaging, and web coating lines engaged in the coating of fabric substrates for use in pressure sensitive tape and abrasive materials. Web coating lines specified in paragraphs (a) through (g) of this section are not part of the affected source of this subpart.

(a) Any web coating line that is stand-alone equipment under subpart KK of this part (National Emission Standards for the Printing and Publishing Industry) which the owner or operator includes in the affected source under subpart KK.

(b) Any web coating line that is a product and packaging rotogravure or wide-web flexographic press under subpart KK of this part (national emission standards for the printing and publishing industry) which is included in the affected source under subpart KK.

(c) Web coating in lithography, screenprinting, letterpress, and narrow-web flexographic printing processes.

(d) Any web coating line subject to subpart EE of this part (national emission standards for magnetic tape manufacturing operations).

(e) Any web coating line that will be subject to the national emission standards for hazardous air pollutants (NESHAP) for surface coating of metal coil currently under development.

(f) Any web coating line that will be subject to the NESHAP for the printing, coating, and dyeing of fabric and other textiles currently under development. This would include any web coating line that coats both a paper or other web substrate and a fabric or other textile substrate, except for a fabric substrate used for pressure sensitive tape and abrasive materials.

(g) Any web coating line that is defined as research or laboratory equipment in §63.3310.

[67 FR 72341, Dec. 4, 2002, as amended at 71 FR 29805, May 24, 2006]

§ 63.3310 What definitions are used in this subpart?

All terms used in this subpart that are not defined in this section have the meaning given to them in the Clean Air Act (CAA) and in subpart A of this part.

Always-controlled work station means a work station associated with a dryer from which the exhaust is delivered to a control device with no provision for the dryer exhaust to bypass the control device unless there is an interlock to interrupt and prevent continued coating during a bypass. Sampling lines for analyzers, relief valves needed for safety purposes, and periodic cycling of exhaust dampers to ensure safe operation are not considered bypass lines.

Applied means, for the purposes of this subpart, the amount of organic HAP, coating material, or coating solids (as appropriate for the emission standards in §63.3320(b)) used by the affected source during the compliance period.

As-applied means the condition of a coating at the time of application to a substrate, including any added solvent.

As-purchased means the condition of a coating as delivered to the user.

Capture efficiency means the fraction of all organic HAP emissions generated by a process that is delivered to a control device, expressed as a percentage.

Capture system means a hood, enclosed room, or other means of collecting organic HAP emissions into a closed-vent system that exhausts to a control device.

Car-seal means a seal that is placed on a device that is used to change the position of a valve or damper (e.g., from open to closed) in such a way that the position of the valve or damper cannot be changed without breaking the seal.

Coating material(s) means all inks, varnishes, adhesives, primers, solvents, reducers, and other coating materials applied to a substrate via a web coating line. Materials used to form a substrate are not considered coating materials.

Control device means a device such as a solvent recovery device or oxidizer which reduces the organic HAP in an exhaust gas by recovery or by destruction.

Control device efficiency means the ratio of organic HAP emissions recovered or destroyed by a control device to the total organic HAP emissions that are introduced into the control device, expressed as a percentage.

Day means a 24-consecutive-hour period.

Deviation means any instance in which an affected source, subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart including, but not limited to, any emission limitation (including any operating limit) or work practice standard;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this

subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limitation (including any operating limit) or work practice standard in this subpart during start-up, shutdown, or malfunction, regardless of whether or not such failure is permitted by this subpart.

Existing affected source means any affected source the construction or reconstruction of which is commenced on or before September 13, 2000, and has not undergone reconstruction as defined in §63.2.

Fabric means any woven, knitted, plaited, braided, felted, or non-woven material made of filaments, fibers, or yarns including thread. This term includes material made of fiberglass, natural fibers, synthetic fibers, or composite materials.

Facility means all contiguous or adjoining property that is under common ownership or control, including properties that are separated only by a road or other public right-of-way.

Flexible packaging means any package or part of a package the shape of which can be readily changed. Flexible packaging includes, but is not limited to, bags, pouches, labels, liners and wraps utilizing paper, plastic, film, aluminum foil, metalized or coated paper or film, or any combination of these materials.

Formulation data means data on the organic HAP mass fraction, volatile matter mass fraction, or coating solids mass fraction of a material that is generated by the manufacturer or means other than a test method specified in this subpart or an approved alternative method.

HAP means hazardous air pollutants.

HAP applied means the organic HAP content of all coating materials applied to a substrate by a web coating line at an affected source.

Intermittently-controlled work station means a work station associated with a dryer with provisions for the dryer exhaust to be delivered to or diverted from a control device through a bypass line, depending on the position of a valve or damper. Sampling lines for analyzers, relief valves needed for safety purposes, and periodic cycling of exhaust dampers to ensure safe operation are not considered bypass lines.

Metal coil means a continuous metal strip that is at least 0.15 millimeter (0.006 inch) thick which is packaged in a roll or coil prior to coating. After coating, it may or may not be rewound into a roll or coil. Metal coil does not include metal webs that are coated for use in flexible packaging.

Month means a calendar month or a pre-specified period of 28 days to 35 days to allow for flexibility in recordkeeping when data are based on a business accounting period.

Never-controlled work station means a work station that is not equipped with provisions by which any emissions, including those in the exhaust from any associated dryer, may be delivered to a control device.

New affected source means any affected source the construction or reconstruction of which is commenced after September 13, 2000.

Overall organic HAP control efficiency means the total efficiency of a capture and control system.

Pressure sensitive tape means a flexible backing material with a pressure-sensitive adhesive coating on one or both sides of the backing. Examples include, but are not limited to, duct/duct insulation tape and medical tape.

Research or laboratory equipment means any equipment for which the primary purpose is to conduct research and development into new processes and products where such equipment is operated under the close supervision of technically trained personnel and is not engaged in the manufacture of products for commercial sale in commerce except in a *de minimis* manner.

Rewind or cutting station means a unit from which substrate is collected at the outlet of a web coating line.

Uncontrolled coating line means a coating line consisting of only never-controlled work stations.

Unwind or feed station means a unit from which substrate is fed to a web coating line.

Web means a continuous substrate (e.g., paper, film, foil) which is flexible enough to be wound or unwound as rolls.

Web coating line means any number of work stations, of which one or more applies a continuous layer of coating material across the entire width or any portion of the width of a web substrate, and any associated curing/drying equipment between an unwind or feed station and a rewind or cutting station.

Work station means a unit on a web coating line where coating material is deposited onto a web substrate.

Emission Standards and Compliance Dates

§ 63.3320 What emission standards must I meet?

(a) If you own or operate any affected source that is subject to the requirements of this subpart, you must comply with these requirements on and after the compliance dates as specified in §63.3330.

(b) You must limit organic HAP emissions to the level specified in paragraph (b)(1), (2), (3), or (4) of this section.

(1) No more than 5 percent of the organic HAP applied for each month (95 percent reduction) at existing affected sources, and no more than 2 percent of the organic HAP applied for each month (98 percent reduction) at new affected sources; or

(2) No more than 4 percent of the mass of coating materials applied for each month at existing affected sources, and no more than 1.6 percent of the mass of coating materials applied for each month at new affected sources; or

(3) No more than 20 percent of the mass of coating solids applied for each month at existing affected sources, and no more than 8 percent of the coating solids applied for each month at new affected sources.

(4) If you use an oxidizer to control organic HAP emissions, operate the oxidizer such that an outlet organic HAP concentration of no greater than 20 parts per million by volume (ppmv) by compound on a dry basis is achieved and the efficiency of the capture system is 100 percent.

(c) You must demonstrate compliance with this subpart by following the procedures in §63.3370.

§ 63.3321 What operating limits must I meet?

(a) For any web coating line or group of web coating lines for which you use add-on control devices, unless you use a solvent recovery system and conduct a liquid-liquid material balance, you must meet the operating limits specified in Table 1 to this subpart or according to paragraph (b) of this section. These operating limits apply to emission capture systems and control devices, and you must establish the operating limits during the performance test according to the requirements in §63.3360(e)(3). You must meet the operating limits at all times after you establish them.

(b) If you use an add-on control device other than those listed in Table 1 to this subpart or wish to monitor an alternative parameter and comply with a different operating limit, you must apply to the Administrator for approval of alternative monitoring under §63.8(f).

§ 63.3330 When must I comply?

(a) If you own or operate an existing affected source subject to the provisions of this subpart, you must comply by the compliance date. The compliance date for existing affected sources in this subpart is December 5, 2005. You must complete any performance test required in §63.3360 within the time limits specified in §63.7(a)(2).

(b) If you own or operate a new affected source subject to the provisions of this subpart, your compliance date is immediately upon start-up of the new affected source or by December 4, 2002, whichever is later. You must complete any performance test required in §63.3360 within the time limits specified in §63.7(a)(2).

(c) If you own or operate a reconstructed affected source subject to the provisions of this subpart, your compliance date is immediately upon startup of the affected source or by December 4, 2002, whichever is later. Existing affected sources which have undergone reconstruction as defined in §63.2 are subject to the requirements for new affected sources. The costs associated with the purchase and installation of air pollution control equipment are not considered in determining whether the existing affected source has been reconstructed. Additionally, the costs of retrofitting and replacing of equipment that is installed specifically to comply with this subpart are not considered reconstruction costs. You must complete any performance test required in §63.3360 within the time limits specified in §63.7(a)(2).

General Requirements for Compliance With the Emission Standards and for Monitoring and Performance Tests

§ 63.3340 What general requirements must I meet to comply with the standards?

Table 2 to this subpart specifies the provisions of subpart A of this part that apply if you are subject to this subpart, such as startup, shutdown, and malfunction plans (SSMP) in §63.6(e)(3) for affected sources using a control device to comply with the emission standards.

§ 63.3350 If I use a control device to comply with the emission standards, what monitoring must I do?

(a) A summary of monitoring you must do follows:

If you operate a web coating line, and have the following:	Then you must:
(1) Intermittently-controlled work stations	Record parameters related to possible exhaust flow bypass of control device and to coating use (§63.3350(c)).
(2) Solvent recovery unit	Operate continuous emission monitoring system and perform quarterly audits or determine volatile matter recovered and conduct a liquid-liquid material balance (§63.3350(d)).
(3) Control Device	Operate continuous parameter monitoring system (§63.3350(e)).
(4) Capture system	Monitor capture system operating parameter (§63.3350(f)).

(b) Following the date on which the initial performance test of a control device is completed to demonstrate continuing compliance with the standards, you must monitor and inspect each capture system and each control device used to comply with §63.3320. You must install and operate the monitoring equipment as specified in paragraphs (c) and (f) of this section.

(c) *Bypass and coating use monitoring.* If you own or operate web coating lines with intermittently-controlled work stations, you must monitor bypasses of the control device and the mass of each coating material applied at the work station during any such bypass. If using a control device for complying with the requirements of this subpart, you must demonstrate that any coating material applied on a never-controlled work station or an intermittently-controlled work station operated in bypass mode is allowed in your compliance demonstration according to §63.3370(n) and (o). The bypass monitoring must be conducted using at least one of the procedures in paragraphs (c)(1) through (4) of this section for each work station and associated dryer.

(1) *Flow control position indicator.* Install, calibrate, maintain, and operate according to the

manufacturer's specifications a flow control position indicator that provides a record indicating whether the exhaust stream from the dryer was directed to the control device or was diverted from the control device. The time and flow control position must be recorded at least once per hour as well as every time the flow direction is changed. A flow control position indicator must be installed at the entrance to any bypass line that could divert the exhaust stream away from the control device to the atmosphere.

(2) *Car-seal or lock-and-key valve closures.* Secure any bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism must be performed at least once every month to ensure that the valve or damper is maintained in the closed position, and the exhaust stream is not diverted through the bypass line.

(3) *Valve closure continuous monitoring.* Ensure that any bypass line valve or damper is in the closed position through continuous monitoring of valve position when the emission source is in operation and is using a control device for compliance with the requirements of this subpart. The monitoring system must be inspected at least once every month to verify that the monitor will indicate valve position.

(4) *Automatic shutdown system.* Use an automatic shutdown system in which the web coating line is stopped when flow is diverted away from the control device to any bypass line when the control device is in operation. The automatic system must be inspected at least once every month to verify that it will detect diversions of flow and would shut down operations in the event of such a diversion.

(d) *Solvent recovery unit.* If you own or operate a solvent recovery unit to comply with §63.3320, you must meet the requirements in either paragraph (d)(1) or (2) of this section depending on how control efficiency is determined.

(1) *Continuous emission monitoring system (CEM).* If you are demonstrating compliance with the emission standards in §63.3320 through continuous emission monitoring of a control device, you must install, calibrate, operate, and maintain the CEMS according to paragraphs (d)(1)(i) through (iii) of this section.

(i) Measure the total organic volatile matter mass flow rate at both the control device inlet and the outlet such that the reduction efficiency can be determined. Each continuous emission monitor must comply with performance specification 6, 8, or 9 of 40 CFR part 60, appendix B, as appropriate.

(ii) You must follow the quality assurance procedures in procedure 1, appendix F of 40 CFR part 60. In conducting the quarterly audits of the monitors as required by procedure 1, appendix F, you must use compounds representative of the gaseous emission stream being controlled.

(iii) You must have valid data from at least 90 percent of the hours during which the process is operated.

(2) *Liquid-liquid material balance.* If you are demonstrating compliance with the emission standards in §63.3320 through liquid-liquid material balance, you must install, calibrate, maintain, and operate according to the manufacturer's specifications a device that indicates the cumulative amount of volatile matter recovered by the solvent recovery device on a monthly basis. The device must be certified by the manufacturer to be accurate to within ± 2.0 percent by mass.

(e) *Continuous parameter monitoring system (CPM).* If you are using a control device to comply with the emission standards in §63.3320, you must install, operate, and maintain each CPMS specified in paragraphs (e)(9) and (10) and (f) of this section according to the requirements in paragraphs (e)(1) through (8) of this section. You must install, operate, and maintain each CPMS specified in paragraph (c) of this section according to paragraphs (e)(5) through (7) of this section.

(1) Each CPMS must complete a minimum of one cycle of operation for each successive 15-minute period. You must have a minimum of four equally spaced successive cycles of CPMS operation to have a valid hour of data.

(2) You must have valid data from at least 90 percent of the hours during which the process operated.

(3) You must determine the hourly average of all recorded readings according to paragraphs (e)(3)(i) and (ii) of this section.

(i) To calculate a valid hourly value, you must have at least three of four equally spaced data values from that hour from a continuous monitoring system (CMS) that is not out-of-control.

(ii) Provided all of the readings recorded in accordance with paragraph (e)(3) of this section clearly demonstrate continuous compliance with the standard that applies to you, then you are not required to determine the hourly average of all recorded readings.

(4) You must determine the rolling 3-hour average of all recorded readings for each operating period. To calculate the average for each 3-hour averaging period, you must have at least two of three of the hourly averages for that period using only average values that are based on valid data (*i.e.*, not from out-of-control periods).

(5) You must record the results of each inspection, calibration, and validation check of the CPMS.

(6) At all times, you must maintain the monitoring system in proper working order including, but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

(7) Except for monitoring malfunctions, associated repairs, or required quality assurance or control activities (including calibration checks or required zero and span adjustments), you must conduct all monitoring at all times that the unit is operating. Data recorded during monitoring malfunctions, associated repairs, out-of-control periods, or required quality assurance or control activities shall not be used for purposes of calculating the emissions concentrations and percent reductions specified in §63.3370. You must use all the valid data collected during all other periods in assessing compliance of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

(8) Any averaging period for which you do not have valid monitoring data and such data are required constitutes a deviation, and you must notify the Administrator in accordance with §63.3400(c).

(9) *Oxidizer*. If you are using an oxidizer to comply with the emission standards, you must comply with paragraphs (e)(9)(i) through (iii) of this section.

(i) Install, calibrate, maintain, and operate temperature monitoring equipment according to the manufacturer's specifications. The calibration of the chart recorder, data logger, or temperature indicator must be verified every 3 months or the chart recorder, data logger, or temperature indicator must be replaced. You must replace the equipment whether you choose not to perform the calibration or the equipment cannot be calibrated properly.

(ii) For an oxidizer other than a catalytic oxidizer, install, calibrate, operate, and maintain a temperature monitoring device equipped with a continuous recorder. The device must have an accuracy of ± 1 percent of the temperature being monitored in degrees Celsius, or ± 1 °Celsius, whichever is greater. The thermocouple or temperature sensor must be installed in the combustion chamber at a location in the combustion zone.

(iii) For a catalytic oxidizer, install, calibrate, operate, and maintain a temperature monitoring device equipped with a continuous recorder. The device must be capable of monitoring temperature with an accuracy of ± 1 percent of the temperature being monitored in degrees Celsius or ± 1 degree Celsius, whichever is greater. The thermocouple or temperature sensor must be installed in the vent stream at the nearest feasible point to the inlet and outlet of the catalyst bed. Calculate the temperature rise across the catalyst.

(10) *Other types of control devices*. If you use a control device other than an oxidizer or wish to monitor an alternative parameter and comply with a different operating limit, you must apply to the Administrator for approval of an alternative monitoring method under §63.8(f).

(f) *Capture system monitoring*. If you are complying with the emission standards in §63.3320 through the use of a capture system and control device for one or more web coating lines, you must develop a site-specific monitoring plan containing the information specified in paragraphs (f)(1) and (2) of this section for these capture systems. You must monitor the capture system in accordance with paragraph (f)(3) of this section. You must make the monitoring plan available for inspection by the permitting authority upon request.

(1) The monitoring plan must:

(i) Identify the operating parameter to be monitored to ensure that the capture efficiency determined during the initial compliance test is maintained; and

(ii) Explain why this parameter is appropriate for demonstrating ongoing compliance; and

(iii) Identify the specific monitoring procedures.

(2) The monitoring plan must specify the operating parameter value or range of values that demonstrate compliance with the emission standards in §63.3320. The specified operating parameter value or range of values must represent the conditions present when the capture system is being properly operated and maintained.

(3) You must conduct all capture system monitoring in accordance with the plan.

(4) Any deviation from the operating parameter value or range of values which are monitored according to the plan will be considered a deviation from the operating limit.

(5) You must review and update the capture system monitoring plan at least annually.

§ 63.3360 What performance tests must I conduct?

(a) The performance test methods you must conduct are as follows:

If you control organic HAP on any individual web coating line or any group of web coating lines by:	ou must:
(1) Limiting organic HAP or volatile matter content of coatings	Determine the organic HAP or volatile matter and coating solids content of coating materials according to procedures in §63.3360(c) and (d). If applicable, determine the mass of volatile matter retained in the coated web or otherwise not emitted to the atmosphere according to §63.3360(g).
(2) Using a capture and control system	Conduct a performance test for each capture and control system to determine: the destruction or removal efficiency of each control device other than solvent recovery according to §63.3360(e), and the capture efficiency of each capture system according to §63.3360(f). If applicable, determine the mass of volatile matter retained in the coated web or otherwise not emitted to the atmosphere according to §63.3360 (g).

(b) If you are using a control device to comply with the emission standards in §63.3320, you are not required to conduct a performance test to demonstrate compliance if one or more of the criteria in paragraphs (b)(1) through (3) of this section are met.

(1) The control device is equipped with continuous emission monitors for determining inlet and outlet total organic volatile matter concentration and capture efficiency has been determined in accordance with the requirements of this subpart such that an overall organic HAP control efficiency can be calculated, and the continuous emission monitors are used to demonstrate continuous compliance in accordance with §63.3350; or

(2) You have met the requirements of §63.7(h) (for waiver of performance testing; or

(3) The control device is a solvent recovery system and you comply by means of a monthly liquid-liquid material balance.

(c) *Organic HAP content.* If you determine compliance with the emission standards in §63.3320 by means other than determining the overall organic HAP control efficiency of a control device, you must determine the organic HAP mass fraction of each coating material "as-purchased" by following one of the procedures in paragraphs (c)(1) through (3) of this section, and determine the organic HAP mass fraction of each coating material "as-applied" by following the procedures in paragraph (c)(4) of this section. If the organic HAP content values are not determined using the procedures in paragraphs (c)(1) through (3) of this section, the owner or operator must submit an alternative test method for determining their values for approval by the Administrator in accordance with §63.7(f). The recovery efficiency of the test method must be determined for all of the target organic HAP and a correction factor, if necessary, must be determined and applied.

(1) *Method* . You may test the coating material in accordance with Method 311 of appendix A of this part. The Method 311 determination may be performed by the manufacturer of the coating material and the results provided to the owner or operator. The organic HAP content must be calculated according to the criteria and procedures in paragraphs (c)(1)(i) through (iii) of this section.

(i) Include each organic HAP determined to be present at greater than or equal to 0.1 mass percent for Occupational Safety and Health Administration (OSHA)-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and greater than or equal to 1.0 mass percent for other organic HAP compounds.

(ii) Express the mass fraction of each organic HAP you include according to paragraph (c)(1)(i) of this section as a value truncated to four places after the decimal point (for example, 0.3791).

(iii) Calculate the total mass fraction of organic HAP in the tested material by summing the counted individual organic HAP mass fractions and truncating the result to three places after the decimal point (for example, 0.763).

(2) *Method* . For coatings, determine the volatile organic content as mass fraction of nonaqueous volatile matter and use it as a substitute for organic HAP using Method 24 of 40 CFR part 60, appendix A. The Method 24 determination may be performed by the manufacturer of the coating and the results provided to you.

(3) *Formulation data.* You may use formulation data to determine the organic HAP mass fraction of a coating material. Formulation data may be provided to the owner or operator by the manufacturer of the material. In the event of an inconsistency between Method 311 (appendix A of 40 CFR part 63) test data and a facility's formulation data, and the Method 311 test value is higher, the Method 311 data will govern. Formulation data may be used provided that the information represents all organic HAP present at a level equal to or greater than 0.1 percent for OSHA-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and equal to or greater than 1.0 percent for other organic HAP compounds in any raw material used.

(4) *As-applied organic HAP mass fraction.* If the as-purchased coating material is applied to the web without any solvent or other material added, then the as-applied organic HAP mass fraction is equal to the as-purchased organic HAP mass fraction. Otherwise, the as-applied organic HAP mass fraction must be calculated using Equation 1a of §63.3370.

(d) *olatile organic and coating solids content.* If you determine compliance with the emission standards in §63.3320 by means other than determining the overall organic HAP control efficiency of a control device and you choose to use the volatile organic content as a surrogate for the organic HAP content of coatings, you must determine the as-purchased volatile organic content and coating solids content of each coating material applied by following the procedures in paragraph (d)(1) or (2) of this section, and the as-applied volatile organic content and coating solids content of each coating material by following the procedures in paragraph (d)(3) of this section.

(1) *Method* . You may determine the volatile organic and coating solids mass fraction of each coating applied using Method 24 (40 CFR part 60, appendix A.) The Method 24 determination may be performed by the manufacturer of the material and the results provided to you. If these values cannot be determined using Method 24, you must submit an alternative technique for determining their values for approval by the Administrator.

(2) *Formulation data.* You may determine the volatile organic content and coating solids content of a coating material based on formulation data and may rely on volatile organic content data provided by the manufacturer of the material. In the event of any inconsistency between the formulation data and the results of Method 24 of 40 CFR part 60, appendix A, and the Method 24 results are higher, the results of Method 24 will govern.

(3) *As-applied volatile organic content and coating solids content.* If the as-purchased coating material is applied to the web without any solvent or other material added, then the as-applied volatile organic content is equal to the as-purchased volatile content and the as-applied coating solids content is equal to the as-purchased coating solids content. Otherwise, the as-applied volatile organic content must be calculated using Equation 1b of §63.3370 and the as-applied coating solids content must be calculated using Equation 2 of §63.3370.

(e) *Control device efficiency.* If you are using an add-on control device other than solvent recovery, such as an oxidizer, to comply with the emission standards in §63.3320, you must conduct a performance test to establish the destruction or removal efficiency of the control device according to the methods and procedures in paragraphs (e)(1) and (2) of this section. During the performance test, you must establish the operating limits required by §63.3321 according to paragraph (e)(3) of this section.

(1) An initial performance test to establish the destruction or removal efficiency of the control device must be conducted such that control device inlet and outlet testing is conducted simultaneously, and the data are reduced in accordance with the test methods and procedures in paragraphs (e)(1)(i) through (ix) of this section. You must conduct three test runs as specified in §63.7(e)(3), and each test run must last at least 1 hour.

(i) Method 1 or 1A of 40 CFR part 60, appendix A, must be used for sample and velocity traverses to determine sampling locations.

(ii) Method 2, 2A, 2C, 2D, 2F, or 2G of 40 CFR part 60, appendix A, must be used to determine gas volumetric flow rate.

(iii) Method 3, 3A, or 3B of 40 CFR part 60, appendix A, must be used for gas analysis to determine dry molecular weight. You may also use as an alternative to Method 3B the manual method for measuring the oxygen, carbon dioxide, and carbon monoxide content of exhaust gas in ANSI/ASME PTC 19.10–1981, "Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus]," (incorporated by reference, see §63.14).

(iv) Method 4 of 40 CFR part 60, appendix A, must be used to determine stack gas moisture.

(v) The gas volumetric flow rate, dry molecular weight, and stack gas moisture must be determined during each test run specified in paragraph (f)(1)(vii) of this section.

(vi) Method 25 or 25A of 40 CFR part 60, appendix A, must be used to determine total gaseous non-methane organic matter concentration. Use the same test method for both the inlet and outlet measurements which must be conducted simultaneously. You must submit notice of the intended test method to the Administrator for approval along with notification of the performance test required under §63.7(b). You must use Method 25A if any of the conditions described in paragraphs (e)(1)(vi)(A) through (D) of this section apply to the control device.

(A) The control device is not an oxidizer.

(B) The control device is an oxidizer but an exhaust gas volatile organic matter concentration of 50 ppmv or less is required to comply with the emission standards in §63.3320; or

(C) The control device is an oxidizer but the volatile organic matter concentration at the inlet to the control system and the required level of control are such that they result in exhaust gas volatile organic matter concentrations of 50 ppmv or less; or

(D) The control device is an oxidizer but because of the high efficiency of the control device the anticipated volatile organic matter concentration at the control device exhaust is 50 ppmv or less, regardless of inlet concentration.

(vii) Except as provided in §63.7(e)(3), each performance test must consist of three separate runs with each run conducted for at least 1 hour under the conditions that exist when the affected source is operating under normal operating conditions. For the purpose of determining volatile organic compound concentrations and mass flow rates, the average of the results of all the runs will apply.

(viii) Volatile organic matter mass flow rates must be determined for each run specified in paragraph (e)(1)(vii) of this section using Equation 1 of this section:

$$M_f = Q_{sd} C_c [12] [0.0416] [10^{-6}] \quad \text{Eq. 1}$$

Where:

M_f = Total organic volatile matter mass flow rate, kilograms (kg)/hour (h).

Q_{sd} = Volumetric flow rate of gases entering or exiting the control device, as determined according to §63.3360(e)(1)(ii), dry standard cubic meters (dscm)/h.

C_c = Concentration of organic compounds as carbon, ppmv.

12.0 = Molecular weight of carbon.

0.0416 = Conversion factor for molar volume, kg-moles per cubic meter (mol/m^3) (@ 293 Kelvin (K) and 760 millimeters of mercury (mmHg)).

(ix) For each run, emission control device destruction or removal efficiency must be determined using Equation 2 of this section:

$$E = \frac{M_{fi} - M_{fo}}{M_{fi}} \times 100 \quad \text{Eq. 2}$$

Where:

E = Organic volatile matter control efficiency of the control device, percent.

M_{fi} = Organic volatile matter mass flow rate at the inlet to the control device, kg/h.

M_{fo} = Organic volatile matter mass flow rate at the outlet of the control device, kg/h.

(x) The control device destruction or removal efficiency is determined as the average of the efficiencies determined in the test runs and calculated in Equation 2 of this section.

(2) You must record such process information as may be necessary to determine the conditions in existence at the time of the performance test. Operations during periods of startup, shutdown, and malfunction will not constitute representative conditions for the purpose of a performance test.

(3) *Operating limits.* If you are using one or more add-on control device other than a solvent recovery system for which you conduct a liquid-liquid material balance to comply with the emission standards in §63.3320, you must establish the applicable operating limits required by §63.3321. These operating limits apply to each add-on emission control device, and you must establish the operating limits during the performance test required by paragraph (e) of this section according to the requirements in paragraphs (e)(3)(i) and (ii) of this section.

(i) *thermal oxidizer.* If your add-on control device is a thermal oxidizer, establish the operating limits according to paragraphs (e)(3)(i)(A) and (B) of this section.

(A) During the performance test, you must monitor and record the combustion temperature at least once every 15 minutes during each of the three test runs. You must monitor the temperature in the firebox of the thermal oxidizer or immediately downstream of the firebox before any substantial heat exchange occurs.

(B) Use the data collected during the performance test to calculate and record the average combustion temperature maintained during the performance test. This average combustion temperature is the minimum operating limit for your thermal oxidizer.

(ii) *Catalytic oxidizer*. If your add-on control device is a catalytic oxidizer, establish the operating limits according to paragraphs (e)(3)(ii)(A) and (B) or paragraphs (e)(3)(ii)(C) and (D) of this section.

(A) During the performance test, you must monitor and record the temperature just before the catalyst bed and the temperature difference across the catalyst bed at least once every 15 minutes during each of the three test runs.

(B) Use the data collected during the performance test to calculate and record the average temperature just before the catalyst bed and the average temperature difference across the catalyst bed maintained during the performance test. These are the minimum operating limits for your catalytic oxidizer.

(C) As an alternative to monitoring the temperature difference across the catalyst bed, you may monitor the temperature at the inlet to the catalyst bed and implement a site-specific inspection and maintenance plan for your catalytic oxidizer as specified in paragraph (e)(3)(ii)(D) of this section. During the performance test, you must monitor and record the temperature just before the catalyst bed at least once every 15 minutes during each of the three test runs. Use the data collected during the performance test to calculate and record the average temperature just before the catalyst bed during the performance test. This is the minimum operating limit for your catalytic oxidizer.

(D) You must develop and implement an inspection and maintenance plan for your catalytic oxidizer(s) for which you elect to monitor according to paragraph (e)(3)(ii)(C) of this section. The plan must address, at a minimum, the elements specified in paragraphs (e)(3)(ii)(D)() through () of this section.

() Annual sampling and analysis of the catalyst activity (*i.e.*, conversion efficiency) following the manufacturer's or catalyst supplier's recommended procedures,

() Monthly inspection of the oxidizer system including the burner assembly and fuel supply lines for problems, and

() Annual internal and monthly external visual inspection of the catalyst bed to check for channeling, abrasion, and settling. If problems are found, you must take corrective action consistent with the manufacturer's recommendations and conduct a new performance test to determine destruction efficiency in accordance with this section.

(f) *Capture efficiency*. If you demonstrate compliance by meeting the requirements of §63.3370(e), (f), (g), (h), (i)(2), (k), (n)(2) or (3), or (p), you must determine capture efficiency using the procedures in paragraph (f)(1), (2), or (3) of this section, as applicable.

(1) You may assume your capture efficiency equals 100 percent if your capture system is a permanent total enclosure (PTE). You must confirm that your capture system is a PTE by demonstrating that it meets the requirements of section 6 of EPA Method 204 of 40 CFR part 51, appendix M, and that all exhaust gases from the enclosure are delivered to a control device.

(2) You may determine capture efficiency according to the protocols for testing with temporary total enclosures that are specified in Methods 204 and 204A through F of 40 CFR part 51, appendix M. You may exclude never-controlled work stations from such capture efficiency determinations.

(3) You may use any capture efficiency protocol and test methods that satisfy the criteria of either the Data Quality Objective or the Lower Confidence Limit approach as described in appendix A of subpart KK of this part. You may exclude never-controlled work stations from such capture efficiency determinations.

(g) *Volatile matter retained in the coated web or otherwise not emitted to the atmosphere*. You may choose to take into account the mass of volatile matter retained in the coated web after curing or drying or otherwise not emitted to the atmosphere when determining compliance with the emission standards in §63.3320. If you choose this option, you must develop a testing protocol to determine the mass of volatile matter retained in the coated web or otherwise not emitted to the atmosphere and submit this protocol to the Administrator for approval. You must submit this protocol with your site-specific test plan under §63.7(f). If you intend to take into account the mass of volatile matter retained in the coated web after curing or drying or otherwise not emitted to the atmosphere and demonstrate compliance according to §63.3370(c)(3), (c)(4), (c)(5), or (d), then the test protocol you submit must determine the mass of organic HAP retained in the coated web or otherwise not emitted to the atmosphere. Otherwise, compliance must be shown using the volatile organic matter content as a surrogate for the HAP content of the coatings.

(h) *Control devices in series.* If you use multiple control devices in series to comply with the emission standards in §63.3320, the performance test must include, at a minimum, the inlet to the first control device in the series, the outlet of the last control device in the series, and all intermediate streams (e.g., gaseous exhaust to the atmosphere or a liquid stream from a recovery device) that are not subsequently treated by any of the control devices in the series.

Requirements for Showing Compliance

§ 63.3370 How do I demonstrate compliance with the emission standards?

(a) A summary of how you must demonstrate compliance follows:

If you choose to demonstrate compliance by:	Then you must demonstrate that:	To accomplish this:
(1) Use of “as-purchased” compliant coating materials	(i) Each coating material used at an existing affected source does not exceed 0.04 kg organic HAP per kg coating material, and each coating material used at a new affected source does not exceed 0.016 kg organic HAP per kg coating material as-purchased; or	Follow the procedures set out in §63.3370(b).
	(ii) Each coating material used at an existing affected source does not exceed 0.2 kg organic HAP per kg coating solids, and each coating material used at a new affected source does not exceed 0.08 kg organic HAP per kg coating solids as-purchased	Follow the procedures set out in §63.3370(b).
(2) Use of “as-applied” compliant coating materials	(i) Each coating material used at an existing affected source does not exceed 0.04 kg organic HAP per kg coating material, and each coating material used at a new affected source does not exceed 0.016 kg organic HAP per kg coating material as-applied; or	Follow the procedures set out in §63.3370(c)(1). Use either Equation 1a or b of §63.3370 to determine compliance with §63.3320(b)(2) in accordance with §63.3370(c)(5)(i).
	(ii) Each coating material used at an existing affected source does not exceed 0.2 kg organic HAP per kg coating solids, and each coating material used at a	Follow the procedures set out in §63.3370(c)(2). Use Equations 2 and 3 of §63.3370 to determine compliance with §63.3320(b)(3) in accordance with

	new affected source does not exceed 0.08 kg organic HAP per kg coating solids as-applied; or	§63.3370(c)(5)(i).
	(iii) Monthly average of all coating materials used at an existing affected source does not exceed 0.04 kg organic HAP per kg coating material, and monthly average of all coating materials used at a new affected source does not exceed 0.016 kg organic HAP per kg coating material as-applied on a monthly average basis; or	Follow the procedures set out in §63.3370(c)(3). Use Equation 4 of §63.3370 to determine compliance with §63.3320(b)(2) in accordance with §63.3370(c)(5)(ii).
	(iv) Monthly average of all coating materials used at an existing affected source does not exceed 0.2 kg organic HAP per kg coating solids, and monthly average of all coating materials used at a new affected source does not exceed 0.08 kg organic HAP per kg coating solids as-applied on a monthly average basis	Follow the procedures set out in §63.3370(c)(4). Use Equation 5 of §63.3370 to determine compliance with §63.3320(b)(3) in accordance with §63.3370(c)(5)(ii).
(3) Tracking total monthly organic HAP applied	Total monthly organic HAP applied does not exceed the calculated limit based on emission limitations	Follow the procedures set out in §63.3370(d). Show that total monthly HAP applied (Equation 6 of §63.3370) is less than the calculated equivalent allowable organic HAP (Equation 13a or b of §63.3370).
(4) Use of a capture system and control device	(i) Overall organic HAP control efficiency is equal to 95 percent at an existing affected source and 98 percent at a new affected source on a monthly basis; or oxidizer outlet organic HAP concentration is no greater than 20 ppmv by compound and capture efficiency is 100 percent; or operating parameters are continuously monitored; or	Follow the procedures set out in §63.3370(e) to determine compliance with §63.3320(b)(1) according to §63.3370(i) if using a solvent recovery device, or §63.3370(j) if using a control device and CPMS, or §63.3370(k) if using an oxidizer.
	(ii) Overall organic HAP	Follow the procedures set out

	emission rate does not exceed 0.2 kg organic HAP per kg coating solids for an existing affected source or 0.08 kg organic HAP per kg coating solids for a new affected source on a monthly average as-applied basis;	in §63.3370(f) to determine compliance with §63.3320(b) (3) according to §63.3370(i) if using a solvent recovery device, or §63.3370(k) if using an oxidizer.
	(iii) Overall organic HAP emission rate does not exceed 0.04 kg organic HAP per kg coating material for an existing affected source or 0.016 kg organic HAP per kg coating material for a new affected source on a monthly average as-applied basis; or	Follow the procedures set out in §63.3370(g) to determine compliance with §63.3320(b) (2) according to §63.3370(i) if using a solvent recovery device, or §63.3370(k) if using an oxidizer.
	(iv) Overall organic HAP emission rate does not exceed the calculated limit based on emission limitations	Follow the procedures set out in §63.3370(h). Show that the monthly organic HAP emission rate is less than the calculated equivalent allowable organic HAP emission rate (Equation 13a or b of §63.3370). Calculate the monthly organic HAP emission rate according to §63.3370(i) if using a solvent recovery device, or §63.3370(k) if using an oxidizer.
(5) Use of multiple capture and/or control devices	(i) Overall organic HAP control efficiency is equal to 95 percent at an existing affected source and 98 percent at a new affected source on a monthly basis; or	Follow the procedures set out in §63.3370(e) to determine compliance with §63.3320(b) (1) according to §63.3370(e) (1) or (2).
	(ii) Average equivalent organic HAP emission rate does not exceed 0.2 kg organic HAP per kg coating solids for an existing affected source or 0.08 kg organic HAP per kg coating solids for a new affected source on a monthly average as-applied basis; or	Follow the procedures set out in §63.3370(f) to determine compliance with §63.3320(b) (3) according to §63.3370(n).
	(iii) Average equivalent organic HAP emission rate does not exceed 0.04 kg organic HAP per kg coating	Follow the procedures set out in §63.3370(g) to determine compliance with §63.3320(b) (2) according to §63.3370(n).

	material for an existing affected source or 0.016 kg organic HAP per kg coating material for a new affected source on a monthly average as-applied basis; or	
	(iv) Average equivalent organic HAP emission rate does not exceed the calculated limit based on emission limitations	Follow the procedures set out in §63.3370(h). Show that the monthly organic HAP emission rate is less than the calculated equivalent allowable organic HAP emission rate (Equation 13a or b of §63.3370) according to §63.3370(n).
(6) Use of a combination of compliant coatings and control devices	(i) Average equivalent organic HAP emission rate does not exceed 0.2 kg organic HAP per kg coating solids for an existing affected source or 0.08 kg organic HAP per kg coating solids for a new affected source on a monthly average as-applied basis; or	Follow the procedures set out in §63.3370(f) to determine compliance with §63.3320(b) (3) according to §63.3370(n).
	(ii) Average equivalent organic HAP emission rate does not exceed 0.04 kg organic HAP per kg coating material for an existing affected source or 0.016 kg organic HAP per kg coating material for a new affected source on a monthly average as-applied basis; or	Follow the procedures set out in §63.3370(g) to determine compliance with §63.3320(b) (2) according to §63.3370(n).
	(iii) Average equivalent organic HAP emission rate does not exceed the calculated limit based on emission limitations	Follow the procedures set out in §63.3370(h). Show that the monthly organic HAP emission rate is less than the calculated equivalent allowable organic HAP emission rate (Equation 13a or b of §63.3370) according to §63.3370(n).

(b) *As-purchased compliant coating materials.* (1) If you comply by using coating materials that individually meet the emission standards in §63.3320(b)(2) or (3), you must demonstrate that each coating material applied during the month at an existing affected source contains no more than 0.04 mass fraction organic HAP or 0.2 kg organic HAP per kg coating solids, and that each coating material applied during the month at a new affected source contains no more than 0.016 mass fraction organic HAP or 0.08 kg organic HAP per kg coating solids on an as-purchased basis as determined in accordance with §63.3360(c).

(2) You are in compliance with emission standards in §63.3320(b)(2) and (3) if each coating material applied at an existing affected source is applied as-purchased and contains no more than 0.04 kg organic HAP per kg coating material or 0.2 kg organic HAP per kg coating solids, and each coating material applied at a new affected source is applied as-purchased and contains no more than 0.016 kg organic HAP per kg coating material or 0.08 kg organic HAP per kg coating solids.

(c) *As-applied compliant coating materials.* If you comply by using coating materials that meet the emission standards in §63.3320(b)(2) or (3) as-applied, you must demonstrate compliance by following one of the procedures in paragraphs (c)(1) through (4) of this section. Compliance is determined in accordance with paragraph (c)(5) of this section.

(1) *Each coating material as-applied meets the mass fraction of coating material standard* (. . . (b) ()). You must demonstrate that each coating material applied at an existing affected source during the month contains no more than 0.04 kg organic HAP per kg coating material applied, and each coating material applied at a new affected source contains no more than 0.016 kg organic HAP per kg coating material applied as determined in accordance with paragraphs (c)(1)(i) and (ii) of this section. You must calculate the as-applied organic HAP content of as-purchased coating materials which are reduced, thinned, or diluted prior to application.

(i) Determine the organic HAP content or volatile organic content of each coating material applied on an as-purchased basis in accordance with §63.3360(c).

(ii) Calculate the as-applied organic HAP content of each coating material using Equation 1a of this section:

$$C_{ahi} = \frac{\left(C_{hi}M_i + \sum_{j=1}^q C_{hij}M_j \right)}{M_i + \sum_{j=1}^q M_j} \quad \text{Eq. 1a}$$

Where:

C_{ahi} = Monthly average, as-applied, organic HAP content of coating material, i, expressed as a mass fraction, kg/kg.

C_{hi} = Organic HAP content of coating material, i, as-purchased, expressed as a mass fraction, kg/kg.

M_i = Mass of as-purchased coating material, i, applied in a month, kg.

q = number of different materials added to the coating material.

C_{hij} = Organic HAP content of material, j, added to as-purchased coating material, i, expressed as a mass fraction, kg/kg.

M_{ij} = Mass of material, j, added to as-purchased coating material, i, in a month, kg.

M_i = Mass of as-purchased coating material, i, applied in a month, kg.

or calculate the as-applied volatile organic content of each coating material using Equation 1b of this section:

$$C_{avi} = \frac{\left(C_{vi}M_i + \sum_{j=1}^q C_{vij}M_{ij} \right)}{M_i + \sum_{j=1}^q M_{ij}} \quad \text{Eq. 1b}$$

Where:

C_{avi} = Monthly average, as-applied, volatile organic content of coating material, i, expressed as a mass fraction, kg/kg.

C_{vi} = Volatile organic content of coating material, i, expressed as a mass fraction, kg/kg.

M_i = Mass of as-purchased coating material, i, applied in a month, kg.

q = Number of different materials added to the coating material.

C_{vij} = Volatile organic content of material, j, added to as-purchased coating material, i, expressed as a mass fraction, kg/kg.

M_{ij} = Mass of material, j, added to as-purchased coating material, i, in a month, kg.

(2) *Each coating material as-applied meets the mass fraction of coating solids standard (. . . (b) ()*). You must demonstrate that each coating material applied at an existing affected source contains no more than 0.20 kg of organic HAP per kg of coating solids applied and each coating material applied at a new affected source contains no more than 0.08 kg of organic HAP per kg of coating solids applied. You must demonstrate compliance in accordance with paragraphs (c)(2)(i) and (ii) of this section.

(i) Determine the as-applied coating solids content of each coating material following the procedure in §63.3360(d). You must calculate the as-applied coating solids content of coating materials which are reduced, thinned, or diluted prior to application, using Equation 2 of this section:

$$C_{asi} = \frac{\left(C_{si}M_i + \sum_{j=1}^q C_{sij}M_{ij} \right)}{M_i + \sum_{j=1}^q M_{ij}} \quad \text{Eq. 2}$$

Where:

C_{si} = Coating solids content of coating material, i, expressed as a mass fraction, kg/kg.

M_i = Mass of as-purchased coating material, i, applied in a month, kg.

q = Number of different materials added to the coating material.

C_{sij} = Coating solids content of material, j, added to as-purchased coating material, i, expressed as a mass-fraction, kg/kg.

M_{ij} = Mass of material, j, added to as-purchased coating material, i, in a month, kg.

(ii) Calculate the as-applied organic HAP to coating solids ratio using Equation 3 of this section:

$$H_{si} = \frac{C_{ahi}}{C_{asi}} \quad \text{Eq. 3}$$

Where:

H_{si} = As-applied, organic HAP to coating solids ratio of coating material, i.

C_{ahi} = Monthly average, as-applied, organic HAP content of coating material, i, expressed as a mass fraction, kg/kg.

C_{asi} = Monthly average, as-applied, coating solids content of coating material, i, expressed as a mass fraction, kg/kg.

(3) *Monthly average organic HAP content of all coating materials as-applied is less than the mass percent limit (. . . (b)()).* Demonstrate that the monthly average as-applied organic HAP content of all coating materials applied at an existing affected source is less than 0.04 kg organic HAP per kg of coating material applied, and all coating materials applied at a new affected source are less than 0.016 kg organic HAP per kg of coating material applied, as determined by Equation 4 of this section:

$$H_L = \frac{\sum_{i=1}^p C_{hi} M_i + \sum_{j=1}^q C_{hij} M_{ij} - M_{vret}}{\sum_{i=1}^p M_i + \sum_{j=1}^q M_{ij}} \quad \text{Eq. 4}$$

Where:

H_L = Monthly average, as-applied, organic HAP content of all coating materials applied, expressed as kg organic HAP per kg of coating material applied, kg/kg.

p = Number of different coating materials applied in a month.

C_{hi} = Organic HAP content of coating material, i, as-purchased, expressed as a mass fraction, kg/kg.

M_i = Mass of as-purchased coating material, i, applied in a month, kg.

q = Number of different materials added to the coating material.

C_{hij} = Organic HAP content of material, j, added to as-purchased coating material, i, expressed as a mass fraction, kg/kg.

M_{ij} = Mass of material, j, added to as-purchased coating material, i, in a month, kg.

M_{vret} = Mass of volatile matter retained in the coated web after curing or drying, or otherwise not emitted to the atmosphere, kg. The value of this term will be zero in all cases except where you choose to take into account the volatile matter retained in the coated web or otherwise not emitted to the atmosphere for the compliance demonstration procedures in §63.3370.

(4) *Monthly average organic HAP content of all coating materials as-applied is less than the mass fraction of coating solids limit (. . . (b)()).* Demonstrate that the monthly average as-applied organic HAP content on the basis of coating solids applied of all coating materials applied at an existing affected source is less than 0.20 kg organic HAP per kg coating solids applied, and all coating materials applied at a new affected source are less than 0.08 kg organic HAP per kg coating solids applied, as

determined by Equation 5 of this section:

$$H_s = \frac{\sum_{i=1}^p C_{hi} M_i + \sum_{j=1}^q C_{hij} M_{ij} - M_{vret}}{\sum_{i=1}^p C_{si} M_i + \sum_{j=1}^q C_{sij} M_{ij}} \quad \text{Eq. 5}$$

Where:

H_s = Monthly average, as-applied, organic HAP to coating solids ratio, kg organic HAP/kg coating solids applied.

p = Number of different coating materials applied in a month.

C_{hi} = Organic HAP content of coating material, i , as-purchased, expressed as a mass fraction, kg/kg.

M_i = Mass of as-purchased coating material, i , applied in a month, kg.

q = Number of different materials added to the coating material.

C_{hij} = Organic HAP content of material, j , added to as-purchased coating material, i , expressed as a mass fraction, kg/kg.

M_{ij} = Mass of material, j , added to as-purchased coating material, i , in a month, kg.

M_{vret} = Mass of volatile matter retained in the coated web after curing or drying, or otherwise not emitted to the atmosphere, kg. The value of this term will be zero in all cases except where you choose to take into account the volatile matter retained in the coated web or otherwise not emitted to the atmosphere for the compliance demonstration procedures in §63.3370.

C_{si} = Coating solids content of coating material, i , expressed as a mass fraction, kg/kg.

C_{sij} = Coating solids content of material, j , added to as-purchased coating material, i , expressed as a mass-fraction, kg/kg.

(5) The affected source is in compliance with emission standards in §63.3320(b)(2) or (3) if:

(i) The organic HAP content of each coating material as-applied at an existing affected source is no more than 0.04 kg organic HAP per kg coating material or 0.2 kg organic HAP per kg coating solids, and the organic HAP content of each coating material as-applied at a new affected source contains no more than 0.016 kg organic HAP per kg coating material or 0.08 kg organic HAP per kg coating solids; or

(ii) The monthly average organic HAP content of all as-applied coating materials at an existing affected source are no more than 0.04 kg organic HAP per kg coating material or 0.2 kg organic HAP per kg coating solids, and the monthly average organic HAP content of all as-applied coating materials at a new affected source is no more than 0.016 kg organic HAP per kg coating material or 0.08 kg organic HAP per kg coating solids.

(d) *Monthly allowable organic HAP applied.* Demonstrate that the total monthly organic HAP applied as determined by Equation 6 of this section is less than the calculated equivalent allowable organic HAP as determined by Equation 13a or b in paragraph (l) of this section:

$$H_m = \sum_{i=1}^p C_{hi} M_i + \sum_{j=1}^q C_{hij} M_{ij} - M_{vret} \quad \text{Eq. 6}$$

Where:

H_m = Total monthly organic HAP applied, kg.

p = Number of different coating materials applied in a month.

C_{hi} = Organic HAP content of coating material, i , as-purchased, expressed as a mass fraction, kg/kg.

M_i = Mass of as-purchased coating material, i , applied in a month, kg.

q = Number of different materials added to the coating material.

C_{hij} = Organic HAP content of material, j , added to as-purchased coating material, i , expressed as a mass fraction, kg/kg.

M_{ij} = Mass of material, j , added to as-purchased coating material, i , in a month, kg.

M_{vret} = Mass of volatile matter retained in the coated web after curing or drying, or otherwise not emitted to the atmosphere, kg. The value of this term will be zero in all cases except where you choose to take into account the volatile matter retained in the coated web or otherwise not emitted to the atmosphere for the compliance demonstration procedures in §63.3370.

(e) *Capture and control to reduce emissions to no more than allowable limit* ((b)()). Operate a capture system and control device and demonstrate an overall organic HAP control efficiency of at least 95 percent at an existing affected source and at least 98 percent at a new affected source for each month, or operate a capture system and oxidizer so that an outlet organic HAP concentration of no greater than 20 ppmv by compound on a dry basis is achieved as long as the capture efficiency is 100 percent as detailed in §63.3320(b)(4). Unless one of the cases described in paragraph (e)(1), (2), or (3) of this section applies to the affected source, you must either demonstrate compliance in accordance with the procedure in paragraph (i) of this section when emissions from the affected source are controlled by a solvent recovery device, or the procedure in paragraph (k) of this section when emissions are controlled by an oxidizer or demonstrate compliance for a web coating line by operating each capture system and each control device and continuous parameter monitoring according to the procedures in paragraph (j) of this section.

(1) If the affected source has only always-controlled work stations and operates more than one capture system or more than one control device, you must demonstrate compliance in accordance with the provisions of either paragraph (n) or (p) of this section.

(2) If the affected source operates one or more never-controlled work stations or one or more intermittently-controlled work stations, you must demonstrate compliance in accordance with the provisions of paragraph (n) of this section.

(3) An alternative method of demonstrating compliance with §63.3320(b)(1) is the installation of a PTE around the web coating line that achieves 100 percent capture efficiency and ventilation of all organic HAP emissions from the total enclosure to an oxidizer with an outlet organic HAP concentration of no greater than 20 ppmv by compound on a dry basis. If this method is selected, you must demonstrate compliance by following the procedures in paragraphs (e)(3)(i) and (ii) of this section. Compliance is determined according to paragraph (e)(3)(iii) of this section.

(i) Demonstrate that a total enclosure is installed. An enclosure that meets the requirements in §63.3360 (f)(1) will be considered a total enclosure.

(ii) Determine the organic HAP concentration at the outlet of your total enclosure using the procedures in paragraph (e)(3)(ii)(A) or (B) of this section.

(A) Determine the control device efficiency using Equation 2 of §63.3360 and the applicable test methods and procedures specified in §63.3360(e).

(B) Use a CEMS to determine the organic HAP emission rate according to paragraphs (i)(2)(i) through (x) of this section.

(iii) You are in compliance if the installation of a total enclosure is demonstrated and the organic HAP concentration at the outlet of the incinerator is demonstrated to be no greater than 20 ppmv by compound on a dry basis.

(f) *Capture and control to achieve mass fraction of coating solids applied limit* (. . . (b)()). Operate a capture system and control device and limit the organic HAP emission rate from an existing affected source to no more than 0.20 kg organic HAP emitted per kg coating solids applied, and from a new affected source to no more than 0.08 kg organic HAP emitted per kg coating solids applied as determined on a monthly average as-applied basis. If the affected source operates more than one capture system, more than one control device, one or more never-controlled work stations, or one or more intermittently-controlled work stations, then you must demonstrate compliance in accordance with the provisions of paragraph (n) of this section. Otherwise, you must demonstrate compliance following the procedure in paragraph (i) of this section when emissions from the affected source are controlled by a solvent recovery device or the procedure in paragraph (k) of this section when emissions are controlled by an oxidizer.

(g) *Capture and control to achieve mass fraction limit* (. . . (b)()). Operate a capture system and control device and limit the organic HAP emission rate to no more than 0.04 kg organic HAP emitted per kg coating material applied at an existing affected source, and no more than 0.016 kg organic HAP emitted per kg coating material applied at a new affected source as determined on a monthly average as-applied basis. If the affected source operates more than one capture system, more than one control device, one or more never-controlled work stations, or one or more intermittently-controlled work stations, then you must demonstrate compliance in accordance with the provisions of paragraph (n) of this section. Otherwise, you must demonstrate compliance following the procedure in paragraph (i) of this section when emissions from the affected source are controlled by a solvent recovery device or the procedure in paragraph (k) of this section when emissions are controlled by an oxidizer.

(h) *Capture and control to achieve allowable emission rate*. Operate a capture system and control device and limit the monthly organic HAP emissions to less than the allowable emissions as calculated in accordance with paragraph (l) of this section. If the affected source operates more than one capture system, more than one control device, one or more never-controlled work stations, or one or more intermittently-controlled work stations, then you must demonstrate compliance in accordance with the provisions of paragraph (n) of this section. Otherwise, the owner or operator must demonstrate compliance following the procedure in paragraph (i) of this section when emissions from the affected source are controlled by a solvent recovery device or the procedure in paragraph (k) of this section when emissions are controlled by an oxidizer.

(i) *solvent recovery device compliance demonstration*. If you use a solvent recovery device to control emissions, you must show compliance by following the procedures in either paragraph (i)(1) or (2) of this section:

(1) *liquid-liquid material balance*. Perform a monthly liquid-liquid material balance as specified in paragraphs (i)(1)(i) through (v) of this section and use the applicable equations in paragraphs (i)(1)(vi) through (ix) of this section to convert the data to units of the selected compliance option in paragraphs (e) through (h) of this section. Compliance is determined in accordance with paragraph (i)(1)(x) of this section.

(i) Determine the mass of each coating material applied on the web coating line or group of web coating lines controlled by a common solvent recovery device during the month.

(ii) If demonstrating compliance on the basis of organic HAP emission rate based on coating solids applied, organic HAP emission rate based on coating material applied, or emission of less than the calculated allowable organic HAP, determine the organic HAP content of each coating material as-applied during the month following the procedure in §63.3360(c).

(iii) Determine the volatile organic content of each coating material as-applied during the month following

the procedure in §63.3360(d).

(iv) If demonstrating compliance on the basis of organic HAP emission rate based on coating solids applied or emission of less than the calculated allowable organic HAP, determine the coating solids content of each coating material applied during the month following the procedure in §63.3360(d).

(v) Determine and monitor the amount of volatile organic matter recovered for the month according to the procedures in §63.3350(d).

(vi) *Recovery efficiency.* Calculate the volatile organic matter collection and recovery efficiency using Equation 7 of this section:

$$R_v = \frac{M_{vr} + M_{vret}}{\sum_{i=1}^p C_{vi} M_i + \sum_{j=1}^q C_{vij} M_{ij}} \times 100 \quad \text{Eq. 7}$$

Where:

R_v = Organic volatile matter collection and recovery efficiency, percent.

M_{vr} = Mass of volatile matter recovered in a month, kg.

M_{vret} = Mass of volatile matter retained in the coated web after curing or drying, or otherwise not emitted to the atmosphere, kg. The value of this term will be zero in all cases except where you choose to take into account the volatile matter retained in the coated web or otherwise not emitted to the atmosphere for the compliance demonstration procedures in §63.3370.

p = Number of different coating materials applied in a month.

C_{vi} = Volatile organic content of coating material, i , expressed as a mass fraction, kg/kg.

M_i = Mass of as-purchased coating material, i , applied in a month, kg.

q = Number of different materials added to the coating material.

C_{vij} = Volatile organic content of material, j , added to as-purchased coating material, i , expressed as a mass fraction, kg/kg.

M_{ij} = Mass of material, j , added to as-purchased coating material, i , in a month, kg.

(vii) *Organic HAP emitted.* Calculate the organic HAP emitted during the month using Equation 8 of this section:

$$H_e = \left[1 - \frac{R_v}{100} \right] \left[\sum_{i=1}^p C_{hi} M_i + \sum_{j=1}^q C_{hij} M_{ij} - M_{vret} \right] \quad \text{Eq. 8}$$

Where:

H_e = Total monthly organic HAP emitted, kg.

R_v = Organic volatile matter collection and recovery efficiency, percent.

p = Number of different coating materials applied in a month.

C_{hi} = Organic HAP content of coating material, i , as-purchased, expressed as a mass fraction, kg/kg.

M_i = Mass of as-purchased coating material, i , applied in a month, kg.

q = Number of different materials added to the coating material.

C_{hij} = Organic HAP content of material, j , added to as-purchased coating material, i , expressed as a mass fraction, kg/kg.

M_{ij} = Mass of material, j , added to as-purchased coating material, i , in a month, kg.

M_{vret} = Mass of volatile matter retained in the coated web after curing or drying, or otherwise not emitted to the atmosphere, kg. The value of this term will be zero in all cases except where you choose to take into account the volatile matter retained in the coated web or otherwise not emitted to the atmosphere for the compliance demonstration procedures in §63.3370.

(viii) *Organic HAP emission rate based on coating solids applied.* Calculate the organic HAP emission rate based on coating solids applied using Equation 9 of this section:

$$L = \frac{H_e}{\sum_{i=1}^p C_{si} M_i + \sum_{j=1}^q C_{sij} M_{ij}} \quad \text{Eq. 9}$$

Where:

L = Mass organic HAP emitted per mass of coating solids applied, kg/kg.

H_e = Total monthly organic HAP emitted, kg.

p = Number of different coating materials applied in a month.

C_{si} = Coating solids content of coating material, i , expressed as a mass fraction, kg/kg.

M_i = Mass of as-purchased coating material, i , applied in a month, kg.

q = Number of different materials added to the coating material.

C_{sij} = Coating solids content of material, j , added to as-purchased coating material, i , expressed as a mass-fraction, kg/kg.

M_{ij} = Mass of material, j , added to as-purchased coating material, i , in a month, kg.

(ix) *Organic HAP emission rate based on coating materials applied.* Calculate the organic HAP emission rate based on coating material applied using Equation 10 of this section:

$$S = \frac{H_e}{\sum_{i=1}^p M_i + \sum_{j=1}^q M_{ij}} \quad \text{Eq. 10}$$

Where:

S = Mass organic HAP emitted per mass of material applied, kg/kg.

H_e = Total monthly organic HAP emitted, kg.

p = Number of different coating materials applied in a month.

M_i = Mass of as-purchased coating material, i, applied in a month, kg.

q = Number of different materials added to the coating material.

M_{ij} = Mass of material, j, added to as-purchased coating material, i, in a month, kg.

(x) You are in compliance with the emission standards in §63.3320(b) if:

(A) The volatile organic matter collection and recovery efficiency is 95 percent or greater at an existing affected source and 98 percent or greater at a new affected source; or

(B) The organic HAP emission rate based on coating solids applied is no more than 0.20 kg organic HAP per kg coating solids applied at an existing affected source and no more than 0.08 kg organic HAP per kg coating solids applied at a new affected source; or

(C) The organic HAP emission rate based on coating material applied is no more than 0.04 kg organic HAP per kg coating material applied at an existing affected source and no more than 0.016 kg organic HAP per kg coating material applied at a new affected source; or

(D) The organic HAP emitted during the month is less than the calculated allowable organic HAP as determined using paragraph (l) of this section.

(2) *Continuous emission monitoring of capture system and control device performance.* Demonstrate initial compliance through a performance test on capture efficiency and continuing compliance through continuous emission monitors and continuous monitoring of capture system operating parameters following the procedures in paragraphs (i)(2)(i) through (vii) of this section. Use the applicable equations specified in paragraphs (i)(2)(viii) through (x) of this section to convert the monitoring and other data into units of the selected compliance option in paragraphs (e) through (h) of this section. Compliance is determined in accordance with paragraph (i)(2)(xi) of this section.

(i) *Control device efficiency.* Continuously monitor the gas stream entering and exiting the control device to determine the total organic volatile matter mass flow rate (e.g., by determining the concentration of the vent gas in grams per cubic meter and the volumetric flow rate in cubic meters per second such that the total organic volatile matter mass flow rate in grams per second can be calculated) such that the control device efficiency of the control device can be calculated for each month using Equation 2 of §63.3360.

(ii) *Capture efficiency monitoring.* Whenever a web coating line is operated, continuously monitor the operating parameters established in accordance with §63.3350(f) to ensure capture efficiency.

(iii) Determine the percent capture efficiency in accordance with §63.3360(f).

(iv) *Control efficiency.* Calculate the overall organic HAP control efficiency achieved for each month using Equation 11 of this section:

$$R = \frac{(E)(CE)}{100} \quad \text{Eq. 11}$$

Where:

R = Overall organic HAP control efficiency, percent.

E = Organic volatile matter control efficiency of the control device, percent.

CE = Organic volatile matter capture efficiency of the capture system, percent.

(v) If demonstrating compliance on the basis of organic HAP emission rate based on coating solids applied, organic HAP emission rate based on coating materials applied, or emission of less than the calculated allowable organic HAP, determine the mass of each coating material applied on the web coating line or group of web coating lines controlled by a common control device during the month.

(vi) If demonstrating compliance on the basis of organic HAP emission rate based on coating solids applied, organic HAP emission rate based on coating material applied, or emission of less than the calculated allowable organic HAP, determine the organic HAP content of each coating material as-applied during the month following the procedure in §63.3360(c).

(vii) If demonstrating compliance on the basis of organic HAP emission rate based on coating solids applied or emission of less than the calculated allowable organic HAP, determine the coating solids content of each coating material as-applied during the month following the procedure in §63.3360(d).

(viii) *Organic HAP emitted.* Calculate the organic HAP emitted during the month for each month using Equation 12 of this section:

$$H_e = (1 - R) \left(\sum_{i=1}^p C_{ahi} M_i \right) - M_{\text{wet}} \quad \text{Eq. 12}$$

Where:

H_e = Total monthly organic HAP emitted, kg.

R = Overall organic HAP control efficiency, percent.

p = Number of different coating materials applied in a month.

C_{ahi} = Monthly average, as-applied, organic HAP content of coating material, i, expressed as a mass fraction, kg/kg.

M_i = Mass of as-purchased coating material, i, applied in a month, kg.

M_{wet} = Mass of volatile matter retained in the coated web after curing or drying, or otherwise not emitted to the atmosphere, kg. The value of this term will be zero in all cases except where you choose to take into account the volatile matter retained in the coated web or otherwise not emitted to the atmosphere for the compliance demonstration procedures in this section.

(ix) *Organic HAP emission rate based on coating solids applied.* Calculate the organic HAP emission rate based on coating solids applied using Equation 9 of this section.

(x) *Organic HAP emission rate based on coating materials applied.* Calculate the organic HAP emission rate based on coating material applied using Equation 10 of this section.

(xi) *Compare actual performance to the performance required by compliance option.* The affected source is in compliance with the emission standards in §63.3320(b) for each month if the capture system is operated such that the average capture system operating parameter is greater than or less than (as appropriate) the operating parameter value established in accordance with §63.3350(f); and

(A) The organic volatile matter collection and recovery efficiency is 95 percent or greater at an existing affected source and 98 percent or greater at a new affected source; or

(B) The organic HAP emission rate based on coating solids applied is no more than 0.20 kg organic HAP per kg coating solids applied at an existing affected source and no more than 0.08 kg organic HAP per kg coating solids applied at a new affected source; or

(C) The organic HAP emission rate based on coating material applied is no more than 0.04 kg organic HAP per kg coating material applied at an existing affected source and no more than 0.016 kg organic HAP per kg coating material applied at a new affected source; or

(D) The organic HAP emitted during the month is less than the calculated allowable organic HAP as determined using paragraph (I) of this section.

(j) *Capture and control system compliance demonstration procedures using a CPM*. If you use an add-on control device, you must demonstrate initial compliance for each capture system and each control device through performance tests and demonstrate continuing compliance through continuous monitoring of capture system and control device operating parameters as specified in paragraphs (j)(1) through (3) of this section. Compliance is determined in accordance with paragraph (j)(4) of this section.

(1) Determine the control device destruction or removal efficiency using the applicable test methods and procedures in §63.3360(e).

(2) Determine the emission capture efficiency in accordance with §63.3360(f).

(3) Whenever a web coating line is operated, continuously monitor the operating parameters established according to §63.3350(e) and (f).

(4) You are in compliance with the emission standards in §63.3320(b) if the control device is operated such that the average operating parameter value is greater than or less than (as appropriate) the operating parameter value established in accordance with §63.3360(e) for each 3-hour period, and the capture system operating parameter is operated at an average value greater than or less than (as appropriate) the operating parameter value established in accordance with §63.3350(f); and

(i) The overall organic HAP control efficiency is 95 percent or greater at an existing affected source and 98 percent or greater at a new affected source; or

(ii) The organic HAP emission rate based on coating solids applied is no more than 0.20 kg organic HAP per kg coating solids applied at an existing affected source and no more than 0.08 kg organic HAP per kg coating solids applied at a new affected source; or

(iii) The organic HAP emission rate based on coating material applied is no more than 0.04 kg organic HAP per kg coating material applied at an existing affected source and no more than 0.016 kg organic HAP per kg coating material applied at a new affected source; or

(iv) The organic HAP emitted during the month is less than the calculated allowable organic HAP as determined using paragraph (I) of this section.

(k) *Oxidizer compliance demonstration procedures*. If you use an oxidizer to control emissions, you must show compliance by following the procedures in paragraph (k)(1) of this section. Use the applicable equations specified in paragraph (k)(2) of this section to convert the monitoring and other data into units of the selected compliance option in paragraph (e) through (h) of this section. Compliance is determined in accordance with paragraph (k)(3) of this section.

(1) Demonstrate initial compliance through performance tests of capture efficiency and control device efficiency and continuing compliance through continuous monitoring of capture system and control device operating parameters as specified in paragraphs (k)(1)(i) through (vi) of this section:

(i) Determine the oxidizer destruction efficiency using the procedure in §63.3360(e).

(ii) Determine the capture system capture efficiency in accordance with §63.3360(f).

(iii) *Capture and control efficiency monitoring*. Whenever a web coating line is operated, continuously monitor the operating parameters established in accordance with §63.3350(e) and (f) to ensure capture and control efficiency.

(iv) If demonstrating compliance on the basis of organic HAP emission rate based on coating solids applied, organic HAP emission rate based on coating materials applied, or emission of less than the calculated allowable organic HAP, determine the mass of each coating material applied on the web coating line or group of web coating lines controlled by a common oxidizer during the month.

(v) If demonstrating compliance on the basis of organic HAP emission rate based on coating solids applied, organic HAP emission rate based on coating material applied, or emission of less than the calculated allowable organic HAP, determine the organic HAP content of each coating material as-applied during the month following the procedure in §63.3360(c).

(vi) If demonstrating compliance on the basis of organic HAP emission rate based on coating solids applied or emission of less than the calculated allowable organic HAP, determine the coating solids content of each coating material applied during the month following the procedure in §63.3360(d).

(2) Convert the information obtained under paragraph (p)(1) of this section into the units of the selected compliance option using the calculation procedures specified in paragraphs (k)(2)(i) through (iv) of this section.

(i) *Control efficiency.* Calculate the overall organic HAP control efficiency achieved using Equation 11 of this section.

(ii) *Organic HAP emitted.* Calculate the organic HAP emitted during the month using Equation 12 of this section.

(iii) *Organic HAP emission rate based on coating solids applied.* Calculate the organic HAP emission rate based on coating solids applied for each month using Equation 9 of this section.

(iv) *Organic HAP based on coating materials applied.* Calculate the organic HAP emission rate based on coating material applied using Equation 10 of this section.

(3) You are in compliance with the emission standards in §63.3320(b) if the oxidizer is operated such that the average operating parameter value is greater than the operating parameter value established in accordance with §63.3360(e) for each 3-hour period, and the capture system operating parameter is operated at an average value greater than or less than (as appropriate) the operating parameter value established in accordance with §63.3350(f); and

(i) The overall organic HAP control efficiency is 95 percent or greater at an existing affected source and 98 percent or greater at a new affected source; or

(ii) The organic HAP emission rate based on coating solids applied is no more than 0.20 kg organic HAP per kg coating solids applied at an existing affected source and no more than 0.08 kg organic HAP per kg coating solids applied at a new affected source; or

(iii) The organic HAP emission rate based on coating material applied is no more than 0.04 kg organic HAP per kg coating material applied at an existing affected source and no more than 0.016 kg organic HAP per kg coating material applied at a new affected source; or

(iv) The organic HAP emitted during the month is less than the calculated allowable organic HAP as determined using paragraph (l) of this section.

(l) *Monthly allowable organic HAP emissions.* This paragraph provides the procedures and calculations for determining monthly allowable organic HAP emissions for use in demonstrating compliance in accordance with paragraph (d), (h), (i)(1)(x)(D), (i)(2)(xi)(D), or (k)(3)(iv) of this section. You will need to determine the amount of coating material applied at greater than or equal to 20 mass percent coating solids and the amount of coating material applied at less than 20 mass percent coating solids. The allowable organic HAP limit is then calculated based on coating material applied at greater than or equal to 20 mass percent coating solids complying with 0.2 kg organic HAP per kg coating solids at an existing affected source or 0.08 kg organic HAP per kg coating solids at a new affected source, and coating material applied at less than 20 mass percent coating solids complying with 4 mass percent organic HAP at an existing affected source and 1.6 mass-percent organic HAP at a new affected source as follows:

(1) Determine the as-purchased mass of each coating material applied each month.

(2) Determine the as-purchased coating solids content of each coating material applied each month in accordance with §63.3360(d)(1).

(3) Determine the as-purchased mass fraction of each coating material which was applied at 20 mass percent or greater coating solids content on an as-applied basis.

(4) Determine the total mass of each solvent, diluent, thinner, or reducer added to coating materials which were applied at less than 20 mass percent coating solids content on an as-applied basis each month.

(5) Calculate the monthly allowable organic HAP emissions using Equation 13a of this section for an existing affected source:

$$H_a = 0.20 \left[\sum_{i=1}^p M_i G_i C_{si} \right] + 0.04 \left[\sum_{i=1}^p M_i (1 - G_i) + \sum_{j=1}^q M_{L_j} \right] \quad \text{Eq. 13a}$$

Where:

H_a = Monthly allowable organic HAP emissions, kg.

p = Number of different coating materials applied in a month.

M_i = mass of as-purchased coating material, i , applied in a month, kg.

G_i = Mass fraction of each coating material, i , which was applied at 20 mass percent or greater coating solids content, on an as-applied basis, kg/kg.

C_{si} = Coating solids content of coating material, i , expressed as a mass fraction, kg/kg.

q = Number of different materials added to the coating material.

M_{L_j} = Mass of non-coating-solids-containing coating material, j , added to coating-solids-containing coating materials which were applied at less than 20 mass percent coating solids content, on an as-applied basis, in a month, kg.

or Equation 13b of this section for a new affected source:

$$H_a = 0.08 \left[\sum_{i=1}^p M_i G_i C_{si} \right] + 0.016 \left[\sum_{i=1}^p M_i (1 - G_i) + \sum_{j=1}^q M_{L_j} \right] \quad \text{Eq. 13b}$$

Where:

H_a = Monthly allowable organic HAP emissions, kg.

p = Number of different coating materials applied in a month.

M_i = Mass of as-purchased coating material, i , applied in a month, kg.

G_i = Mass fraction of each coating material, i , which was applied at 20 mass percent or greater coating solids content, on an as-applied basis, kg/kg.

C_{si} = Coating solids content of coating material, i , expressed as a mass fraction, kg/kg.

q = Number of different materials added to the coating material.

M_{Lj} = Mass of non-coating-solids-containing coating material, j, added to coating-solids-containing coating materials which were applied at less than 20 mass percent coating solids content, on an as-applied basis, in a month, kg.

(m) [Reserved]

(n) *Combinations of capture and control.* If you operate more than one capture system, more than one control device, one or more never-controlled work stations, or one or more intermittently-controlled work stations, you must calculate organic HAP emissions according to the procedures in paragraphs (n)(1) through (4) of this section, and use the calculation procedures specified in paragraph (n)(5) of this section to convert the monitoring and other data into units of the selected control option in paragraphs (e) through (h) of this section. Use the procedures specified in paragraph (n)(6) of this section to demonstrate compliance.

(1) *solvent recovery system using liquid-liquid material balance compliance demonstration.* If you choose to comply by means of a liquid-liquid material balance for each solvent recovery system used to control one or more web coating lines, you must determine the organic HAP emissions for those web coating lines controlled by that solvent recovery system either:

(i) In accordance with paragraphs (i)(1)(i) through (iii) and (v) through (vii) of this section, if the web coating lines controlled by that solvent recovery system have only always-controlled work stations; or

(ii) In accordance with paragraphs (i)(1)(ii), (iii), (v), and (vi) and (o) of this section, if the web coating lines controlled by that solvent recovery system have one or more never-controlled or intermittently-controlled work stations.

(2) *solvent recovery system using performance test compliance demonstration and CEM.* To demonstrate compliance through an initial test of capture efficiency, continuous monitoring of a capture system operating parameter, and a CEMS on each solvent recovery system used to control one or more web coating lines, you must:

(i) For each capture system delivering emissions to that solvent recovery system, monitor the operating parameter established in accordance with §63.3350(f) to ensure capture system efficiency; and

(ii) Determine the organic HAP emissions for those web coating lines served by each capture system delivering emissions to that solvent recovery system either:

(A) In accordance with paragraphs (i)(2)(i) through (iii), (v), (vi), and (viii) of this section, if the web coating lines served by that capture and control system have only always-controlled work stations; or

(B) In accordance with paragraphs (i)(2)(i) through (iii), (vi), and (o) of this section, if the web coating lines served by that capture and control system have one or more never-controlled or intermittently-controlled work stations.

(3) *Oxidizer.* To demonstrate compliance through performance tests of capture efficiency and control device efficiency, continuous monitoring of capture system, and CPMS for control device operating parameters for each oxidizer used to control emissions from one or more web coating lines, you must:

(i) Monitor the operating parameter in accordance with §63.3350(e) to ensure control device efficiency; and

(ii) For each capture system delivering emissions to that oxidizer, monitor the operating parameter established in accordance with §63.3350(f) to ensure capture efficiency; and

(iii) Determine the organic HAP emissions for those web coating lines served by each capture system delivering emissions to that oxidizer either:

(A) In accordance with paragraphs (k)(1)(i) through (vi) of this section, if the web coating lines served by that capture and control system have only always-controlled work stations; or

(B) In accordance with paragraphs (k)(1)(i) through (iii), (v), and (o) of this section, if the web coating lines served by that capture and control system have one or more never-controlled or intermittently-controlled work stations.

(4) *Uncontrolled coating lines.* If you own or operate one or more uncontrolled web coating lines, you must determine the organic HAP applied on those web coating lines using Equation 6 of this section. The organic HAP emitted from an uncontrolled web coating line is equal to the organic HAP applied on that web coating line.

(5) Convert the information obtained under paragraphs (n)(1) through (4) of this section into the units of the selected compliance option using the calculation procedures specified in paragraphs (n)(5)(i) through (iv) of this section.

(i) *Organic HAP emitted.* Calculate the organic HAP emissions for the affected source for the month by summing all organic HAP emissions calculated according to paragraphs (n)(1), (2)(ii), (3)(iii), and (4) of this section.

(ii) *Coating solids applied.* If demonstrating compliance on the basis of organic HAP emission rate based on coating solids applied or emission of less than the calculated allowable organic HAP, the owner or operator must determine the coating solids content of each coating material applied during the month following the procedure in §63.3360(d).

(iii) *Organic HAP emission rate based on coating solids applied.* Calculate the organic HAP emission rate based on coating solids applied for each month using Equation 9 of this section.

(iv) *Organic HAP based on materials applied.* Calculate the organic HAP emission rate based on material applied using Equation 10 of this section.

(6) *Compliance.* The affected source is in compliance with the emission standards in §63.3320(b) for the month if all operating parameters required to be monitored under paragraphs (n)(1) through (3) of this section were maintained at the values established under §§63.3350 and 63.3360; and

(i) The total mass of organic HAP emitted by the affected source based on coating solids applied is no more than 0.20 kg organic HAP per kg coating solids applied at an existing affected source and no more than 0.08 kg organic HAP per kg coating solids applied at a new affected source; or

(ii) The total mass of organic HAP emitted by the affected source based on material applied is no more than 0.04 kg organic HAP per kg material applied at an existing affected source and no more than 0.016 kg organic HAP per kg material applied at a new affected source; or

(iii) The total mass of organic HAP emitted by the affected source during the month is less than the calculated allowable organic HAP as determined using paragraph (l) of this section; or

(iv) The total mass of organic HAP emitted by the affected source was not more than 5 percent of the total mass of organic HAP applied for the month at an existing affected source and no more than 2 percent of the total mass of organic HAP applied for the month at a new affected source. The total mass of organic HAP applied by the affected source in the month must be determined using Equation 6 of this section.

(o) *Intermittently-controlled and never-controlled work stations.* If you have been expressly referenced to this paragraph by paragraphs (n)(1)(ii), (n)(2)(ii)(B), or (n)(3)(iii)(B) of this section for calculation procedures to determine organic HAP emissions for your intermittently-controlled and never-controlled work stations, you must:

(1) Determine the sum of the mass of all coating materials as-applied on intermittently-controlled work stations operating in bypass mode and the mass of all coating materials as-applied on never-controlled work stations during the month.

(2) Determine the sum of the mass of all coating materials as-applied on intermittently-controlled work stations operating in a controlled mode and the mass of all coating materials applied on always-controlled work stations during the month.

(3) *liquid-liquid material balance compliance demonstration.* For each web coating line or group of web

coating lines for which you use the provisions of paragraph (n)(1)(ii) of this section, you must calculate the organic HAP emitted during the month using Equation 14 of this section:

$$H_e = \left[\sum_{i=1}^p M_{ci} C_{ahi} \right] \left[1 - \frac{R_v}{100} \right] + \left[\sum_{i=1}^p M_{bi} C_{ahi} \right] - M_{vret} \quad \text{Eq. 14}$$

Where:

H_e = Total monthly organic HAP emitted, kg.

p = Number of different coating materials applied in a month.

M_{ci} = Sum of the mass of coating material, i , as-applied on intermittently-controlled work stations operating in controlled mode and the mass of coating material, i , as-applied on always-controlled work stations, in a month, kg.

C_{ahi} = Monthly average, as-applied, organic HAP content of coating material, i , expressed as a mass fraction, kg/kg.

R_v = Organic volatile matter collection and recovery efficiency, percent.

M_{bi} = Sum of the mass of coating material, i , as-applied on intermittently-controlled work stations operating in bypass mode and the mass of coating material, i , as-applied on never-controlled work stations, in a month, kg.

C_{ahi} = Monthly average, as-applied, organic HAP content of coating material, i , expressed as a mass fraction, kg/kg.

M_{vret} = Mass of volatile matter retained in the coated web after curing or drying, or otherwise not emitted to the atmosphere, kg. The value of this term will be zero in all cases except where you choose to take into account the volatile matter retained in the coated web or otherwise not emitted to the atmosphere for the compliance demonstration procedures in this section.

(4) *Performance test to determine capture efficiency and control device efficiency.* For each web coating line or group of web coating lines for which you use the provisions of paragraph (n)(2)(ii)(B) or (n)(3)(iii) (B) of this section, you must calculate the organic HAP emitted during the month using Equation 15 of this section:

$$H_e = \left[\sum_{i=1}^p M_{ci} C_{ahi} \right] \left[1 - \frac{R}{100} \right] + \left[\sum_{i=1}^p M_{bi} C_{ahi} \right] - M_{vret} \quad \text{Eq. 15}$$

Where:

H_e = Total monthly organic HAP emitted, kg.

p = Number of different coating materials applied in a month.

M_{ci} = Sum of the mass of coating material, i , as-applied on intermittently-controlled work stations operating in controlled mode and the mass of coating material, i , as-applied on always-controlled work stations, in a month, kg.

C_{ahi} = Monthly average, as-applied, organic HAP content of coating material, i , expressed as a

mass fraction, kg/kg.

R = Overall organic HAP control efficiency, percent.

M_{Bi} = Sum of the mass of coating material, i, as-applied on intermittently-controlled work stations operating in bypass mode and the mass of coating material, i, as-applied on never-controlled work stations, in a month, kg.

C_{ahi} = Monthly average, as-applied, organic HAP content of coating material, i, expressed as a mass fraction, kg/kg.

M_{vret} = Mass of volatile matter retained in the coated web after curing or drying, or otherwise not emitted to the atmosphere, kg. The value of this term will be zero in all cases except where you choose to take into account the volatile matter retained in the coated web or otherwise not emitted to the atmosphere for the compliance demonstration procedures in this section.

(p) *Always-controlled work stations with more than one capture and control system.* If you operate more than one capture system or more than one control device and only have always-controlled work stations, then you are in compliance with the emission standards in §63.3320(b)(1) for the month if for each web coating line or group of web coating lines controlled by a common control device:

(1) The volatile matter collection and recovery efficiency as determined by paragraphs (i)(1)(i), (iii), (v), and (vi) of this section is at least 95 percent at an existing affected source and at least 98 percent at a new affected source; or

(2) The overall organic HAP control efficiency as determined by paragraphs (i)(2)(i) through (iv) of this section for each web coating line or group of web coating lines served by that control device and a common capture system is at least 95 percent at an existing affected source and at least 98 percent at a new affected source; or

(3) The overall organic HAP control efficiency as determined by paragraphs (k)(1)(i) through (iii) and (k)(2)(i) of this section for each web coating line or group of web coating lines served by that control device and a common capture system is at least 95 percent at an existing affected source and at least 98 percent at a new affected source.

Notifications, Reports, and Records

§ 63.3400 What notifications and reports must I submit?

(a) Each owner or operator of an affected source subject to this subpart must submit the reports specified in paragraphs (b) through (g) of this section to the Administrator:

(b) You must submit an initial notification as required by §63.9(b).

(1) Initial notification for existing affected sources must be submitted no later than 1 year before the compliance date specified in §63.3330(a).

(2) Initial notification for new and reconstructed affected sources must be submitted as required by §63.9(b).

(3) For the purpose of this subpart, a title V or part 70 permit application may be used in lieu of the initial notification required under §63.9(b), provided the same information is contained in the permit application as required by §63.9(b) and the State to which the permit application has been submitted has an approved operating permit program under part 70 of this chapter and has received delegation of authority from the EPA to implement and enforce this subpart.

(4) If you are using a permit application in lieu of an initial notification in accordance with paragraph (b)(3) of this section, the permit application must be submitted by the same due date specified for the initial notification.

(c) You must submit a semiannual compliance report according to paragraphs (c)(1) and (2) of this section.

(1) Compliance report dates.

(i) The first compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.3330 and ending on June 30 or December 31, whichever date is the first date following the end of the calendar half immediately following the compliance date that is specified for your affected source in §63.3330.

(ii) The first compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the calendar half immediately following the compliance date that is specified for your affected source in §63.3330.

(iii) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(iv) Each subsequent compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(v) For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 40 CFR part 71, and the permitting authority has established dates for submitting semiannual reports pursuant to §70.6(a)(3)(iii)(A) or §71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (c)(1)(i) through (iv) of this section.

(2) The compliance report must contain the information in paragraphs (c)(2)(i) through (vi) of this section:

(i) Company name and address.

(ii) Statement by a responsible official with that official's name, title, and signature certifying the accuracy of the content of the report.

(iii) Date of report and beginning and ending dates of the reporting period.

(iv) If there are no deviations from any emission limitations (emission limit or operating limit) that apply to you, a statement that there were no deviations from the emission limitations during the reporting period, and that no CMS was inoperative, inactive, malfunctioning, out-of-control, repaired, or adjusted.

(v) For each deviation from an emission limitation (emission limit or operating limit) that applies to you and that occurs at an affected source where you are not using a CEMS to comply with the emission limitations in this subpart, the compliance report must contain the information in paragraphs (c)(2)(i) through (iii) of this section, and:

(A) The total operating time of each affected source during the reporting period.

(B) Information on the number, duration, and cause of deviations (including unknown cause), if applicable, and the corrective action taken.

(C) Information on the number, duration, and cause for CPMS downtime incidents, if applicable, other than downtime associated with zero and span and other calibration checks.

(vi) For each deviation from an emission limit occurring at an affected source where you are using a CEMS to comply with the emission limit in this subpart, you must include the information in paragraphs (c)(2)(i) through (iii) and (vi)(A) through (J) of this section.

(A) The date and time that each malfunction started and stopped.

(B) The date and time that each CEMS and CPMS, if applicable, was inoperative except for zero (low-level) and high-level checks.

(C) The date and time that each CEMS and CPMS, if applicable, was out-of-control, including the

information in §63.8(c)(8).

(D) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(E) A summary of the total duration (in hours) of each deviation during the reporting period and the total duration of each deviation as a percent of the total source operating time during that reporting period.

(F) A breakdown of the total duration of the deviations during the reporting period into those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

(G) A summary of the total duration (in hours) of CEMS and CPMS downtime during the reporting period and the total duration of CEMS and CPMS downtime as a percent of the total source operating time during that reporting period.

(H) A breakdown of the total duration of CEMS and CPMS downtime during the reporting period into periods that are due to monitoring equipment malfunctions, nonmonitoring equipment malfunctions, quality assurance/quality control calibrations, other known causes, and other unknown causes.

(I) The date of the latest CEMS and CPMS certification or audit.

(J) A description of any changes in CEMS, CPMS, or controls since the last reporting period.

(d) You must submit a Notification of Performance Tests as specified in §§63.7 and 63.9(e) if you are complying with the emission standard using a control device and you are required to conduct a performance test of the control device. This notification and the site-specific test plan required under §63.7(c)(2) must identify the operating parameters to be monitored to ensure that the capture efficiency of the capture system and the control efficiency of the control device determined during the performance test are maintained. Unless EPA objects to the parameter or requests changes, you may consider the parameter approved.

(e) You must submit a Notification of Compliance Status as specified in §63.9(h).

(f) You must submit performance test reports as specified in §63.10(d)(2) if you are using a control device to comply with the emission standard and you have not obtained a waiver from the performance test requirement or you are not exempted from this requirement by §63.3360(b). The performance test reports must be submitted as part of the notification of compliance status required in §63.3400(e).

(g) You must submit startup, shutdown, and malfunction reports as specified in §63.10(d)(5), except that the provisions in subpart A of this part pertaining to startups, shutdowns, and malfunctions do not apply unless a control device is used to comply with this subpart.

(1) If actions taken by an owner or operator during a startup, shutdown, or malfunction of an affected source (including actions taken to correct a malfunction) are not consistent with the procedures specified in the affected source's SSMP required by §63.6(e)(3), the owner or operator must state such information in the report. The startup, shutdown, or malfunction report must consist of a letter containing the name, title, and signature of the responsible official who is certifying its accuracy and must be submitted to the Administrator.

(2) Separate startup, shutdown, and malfunction reports are not required if the information is included in the report specified in paragraph (c)(2)(vi) of this section.

§ 63.3410 What records must I keep?

(a) Each owner or operator of an affected source subject to this subpart must maintain the records specified in paragraphs (a)(1) and (2) of this section on a monthly basis in accordance with the requirements of §63.10(b)(1):

(1) Records specified in §63.10(b)(2) of all measurements needed to demonstrate compliance with this standard, including:

- (i) Continuous emission monitor data in accordance with the requirements of §63.3350(d);
 - (ii) Control device and capture system operating parameter data in accordance with the requirements of §63.3350(c), (e), and (f);
 - (iii) Organic HAP content data for the purpose of demonstrating compliance in accordance with the requirements of §63.3360(c);
 - (iv) Volatile matter and coating solids content data for the purpose of demonstrating compliance in accordance with the requirements of §63.3360(d);
 - (v) Overall control efficiency determination using capture efficiency and control device destruction or removal efficiency test results in accordance with the requirements of §63.3360(e) and (f); and
 - (vi) Material usage, organic HAP usage, volatile matter usage, and coating solids usage and compliance demonstrations using these data in accordance with the requirements of §63.3370(b), (c), and (d).
- (2) Records specified in §63.10(c) for each CMS operated by the owner or operator in accordance with the requirements of §63.3350(b).
- (b) Each owner or operator of an affected source subject to this subpart must maintain records of all liquid-liquid material balances performed in accordance with the requirements of §63.3370. The records must be maintained in accordance with the requirements of §63.10(b).

Delegation of Authority

§ 63.3420 What authorities may be delegated to the States?

(a) In delegating implementation and enforcement authority to a State under 40 CFR part 63, subpart E, the authorities contained in paragraph (b) of this section must be retained by the Administrator and not transferred to a State.

(b) Authority which will not be delegated to States: §63.3360(c), approval of alternate test method for organic HAP content determination; §63.3360(d), approval of alternate test method for volatile matter determination.

Table 1 to Subpart JJJJ of Part 63—Operating Limits for Using Add-On Control Devices and Capture System

If you are required to comply with operating limits by §63.3321, you must comply with the applicable operating limits in the following table:

For the following device:	You must meet the following operating limit:	And you must demonstrate continuous compliance with operating limits by:
1. Thermal oxidizer	a. The average combustion temperature in any 3-hour period must not fall below the combustion temperature limit established according to §63.3360(e)(3)(i)	i. Collecting the combustion temperature data according to §63.3350(e)(9); ii. Reducing the data to 3-hour block averages; and iii. Maintain the 3-hour average combustion temperature at or above the temperature limit.

2. Catalytic oxidizer	a. The average temperature at the inlet to the catalyst bed in any 3-hour period must not fall below the combustion temperature limit established according to §63.3360(e)(3)(ii)	i. Collecting the catalyst bed inlet temperature data according to §63.3350(e)(9); ii. Reducing the data to 3-hour block averages; and iii. Maintain the 3-hour average catalyst bed inlet temperature at or above the temperature limit.
	b. The temperature rise across the catalyst bed must not fall below the limit established according to §63.3360(e)(3)(ii)	i. Collecting the catalyst bed inlet and outlet temperature data according to §63.3350(e)(9); ii. Reducing the data to 3-hour block averages; and iii. Maintain the 3-hour average temperature rise across the catalyst bed at or above the limit.
3. Emission capture system	Submit monitoring plan to the Administrator that identifies operating parameters to be monitored according to §63.3350(f)	Conduct monitoring according to the plan (§63.3350(f)(3)).

Table 2 to Subpart JJJJ of Part 63—Applicability of 40 CFR Part 63 General Provisions to Subpart JJJJ

You must comply with the applicable General Provisions requirements according to the following table:

General provisions reference	Applicable to subpart JJJJ	E planation
§63.1(a)(1)–(4)	Yes.	
§63.1(a)(5)	No	Reserved.
§63.1(a)(6)–(8)	Yes.	
§63.1(a)(9)	No	Reserved.
§63.1(a)(10)–(14)	Yes.	
§63.1(b)(1)	No	Subpart JJJJ specifies applicability.
§63.1(b)(2)–(3)	Yes.	
§63.1(c)(1)	Yes.	
§63.1(c)(2)	No	Area sources are not subject to emission standards of subpart JJJJ.
§63.1(c)(3)	No	Reserved.
§63.1(c)(4)	Yes.	
§63.1(c)(5)	Yes.	

§63.1(d)	No	Reserved.
§63.1(e)	Yes.	
§63.1(e)(4)	No.	
§63.2	Yes	Additional definitions in subpart JJJJ.
§63.3(a)–(c)	Yes.	
§63.4(a)(1)–(3)	Yes.	
§63.4(a)(4)	No	Reserved.
§63.4(a)(5)	Yes.	
§63.4(b)–(c)	Yes.	
§63.5(a)(1)–(2)	Yes.	
§63.5(b)(1)	Yes.	
§63.5(b)(2)	No	Reserved.
§63.5(b)(3)–(6)	Yes.	
§63.5(c)	No	Reserved.
§63.5(d)	Yes.	
§63.5(e)	Yes.	
§63.5(f)	Yes.	
§63.6(a)	Yes	Applies only when capture and control system is used to comply with the standard.
§63.6(b)(1)–(5)	No	
§63.6(b)(6)	No	Reserved.
§63.6(b)(7)	Yes.	
§63.6(c)(1)–(2)	Yes.	
§63.6(c)(3)–(4)	No	Reserved.
§63.6(c)(5)	Yes.	
§63.6(d)	No	Reserved.
§63.6(e)	Yes	Provisions pertaining to SSMP, and CMS do not apply unless an add-on control system is used to comply with the emission limitations.
§63.6(f)	Yes.	
§63.6(g)	Yes.	
§63.6(h)	No	Subpart JJJJ does not require continuous opacity monitoring systems (COMS).
§63.6(i)(1)–(14)	Yes.	
§63.6(i)(15)	No	Reserved.
§63.6(i)(16)	Yes.	
§63.6(j)	Yes.	
§63.7	Yes.	
§63.8(a)(1)–(2)	Yes.	
§63.8(a)(3)	No	Reserved.
§63.8(a)(4)	No.	
§63.8(b)	Yes.	

§63.8(c)(1)–(3)	Yes	§63.8(c)(1)(i) & (ii) only apply if you use capture and control systems and are required to have a start-up, shutdown, and malfunction plan.
§63.8(c)(4)	Yes.	
§63.8(c)(5)	No	Subpart JJJJ does not require COMS.
§63.8(c)(6)–(c)(8)	Yes	Provisions for COMS are not applicable.
§63.8(d)–(f)	Yes	§63.8(f)(6) only applies if you use CEMS.
§63.8(g)	Yes	Only applies if you use CEMS.
§63.9(a)	Yes.	
§63.9(b)(1)	Yes.	
§63.9(b)(2)	Yes	Except §63.3400(b)(1) requires submittal of initial notification for existing affected sources no later than 1 year before compliance date.
§63.9(b)(3)–(5)	Yes.	
§63.9(c)–(e)	Yes.	
§63.9(f)	No	Subpart JJJJ does not require opacity and visible emissions observations.
§63.9(g)	Yes	Provisions for COMS are not applicable.
§63.9(h)(1)–(3)	Yes.	
§63.9(h)(4)	No	Reserved.
§63.9(h)(5)–(6)	Yes.	
§63.9(i)	Yes.	
§63.9(j)	Yes.	
§63.10(a)	Yes.	
§63.10(b)(1)–(3)	Yes	§63.10(b)(2)(i) through (v) only apply if you use a capture and control system.
§63.10(c)(1)	Yes.	
§63.10(c)(2)–(4)	No	Reserved.
§63.10(c)(5)–(8)	Yes.	
§63.10(c)(9)	No	Reserved.
§63.10(c)(10)–(15)	Yes.	
§63.10(d)(1)–(2)	Yes.	
§63.10(d)(3)	No	Subpart JJJJ does not require opacity and visible emissions observations.
§63.10(d)(4)–(5)	Yes.	
§63.10(e)(1)–(2)	Yes	Provisions for COMS are not applicable.
§63.10(e)(3)–(4)	No.	

§63.10(f)	Yes.	
§63.11	No.	
§63.12	Yes.	
§63.13	Yes.	
§63.14	Yes	Subpart JJJJ includes provisions for alternative ASME test methods that are incorporated by reference.
§63.15	Yes.	

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APPENDIX K – NSPS IIII

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Electronic Code of Federal Regulations

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Title 40: Protection of Environment

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

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Subpart IIII—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

Source: 71 FR 39172, July 11, 2006, unless otherwise noted.

What This Subpart Covers

§ 60.4200 Am I subject to this subpart?

(a) The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary compression ignition (CI) internal combustion engines (ICE) and other persons as specified in paragraphs (a)(1) through (4) of this section. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator.

(1) Manufacturers of stationary CI ICE with a displacement of less than 30 liters per cylinder where the model year is:

(i) 2007 or later, for engines that are not fire pump engines;

(ii) The model year listed in Table 3 to this subpart or later model year, for fire pump engines.

(2) Owners and operators of stationary CI ICE that commence construction after July 11, 2005, where the stationary CI ICE are:

(i) Manufactured after April 1, 2006, and are not fire pump engines, or

(ii) Manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006.

(3) Owners and operators of any stationary CI ICE that are modified or reconstructed after July 11, 2005 and any person that modifies or reconstructs any stationary CI ICE after July 11, 2005.

(4) The provisions of §60.4208 of this subpart are applicable to all owners and operators of stationary CI ICE that commence construction after July 11, 2005.

(b) The provisions of this subpart are not applicable to stationary CI ICE being tested at a stationary CI ICE test cell/stand.

(c) If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the

provisions of this subpart applicable to area sources.

(d) Stationary CI ICE may be eligible for exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C (or the exemptions described in 40 CFR part 89, subpart J and 40 CFR part 94, subpart J, for engines that would need to be certified to standards in those parts), except that owners and operators, as well as manufacturers, may be eligible to request an exemption for national security.

(e) Owners and operators of facilities with CI ICE that are acting as temporary replacement units and that are located at a stationary source for less than 1 year and that have been properly certified as meeting the standards that would be applicable to such engine under the appropriate nonroad engine provisions, are not required to meet any other provisions under this subpart with regard to such engines.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37967, June 28, 2011]

Emission Standards for Manufacturers

§ 60.4201 What emission standards must I meet for non-emergency engines if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later non-emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 kilowatt (KW) (3,000 horsepower (HP)) and a displacement of less than 10 liters per cylinder to the certification emission standards for new nonroad CI engines in 40 CFR 89.112, 40 CFR 89.113, 40 CFR 1039.101, 40 CFR 1039.102, 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, and 40 CFR 1039.115, as applicable, for all pollutants, for the same model year and maximum engine power.

(b) Stationary CI internal combustion engine manufacturers must certify their 2007 through 2010 model year non-emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder to the emission standards in table 1 to this subpart, for all pollutants, for the same maximum engine power.

(c) Stationary CI internal combustion engine manufacturers must certify their 2011 model year and later non-emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder to the certification emission standards for new nonroad CI engines in 40 CFR 1039.101, 40 CFR 1039.102, 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, and 40 CFR 1039.115, as applicable, for all pollutants, for the same maximum engine power.

(d) Stationary CI internal combustion engine manufacturers must certify the following non-emergency stationary CI ICE to the certification emission standards for new marine CI engines in 40 CFR 94.8, as applicable, for all pollutants, for the same displacement and maximum engine power:

(1) Their 2007 model year through 2012 non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder;

(2) Their 2013 model year non-emergency stationary CI ICE with a maximum engine power greater than or equal to 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder; and

(3) Their 2013 model year non-emergency stationary CI ICE with a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder.

(e) Stationary CI internal combustion engine manufacturers must certify the following non-emergency stationary CI ICE to the certification emission standards and other requirements for new marine CI engines in 40 CFR 1042.101, 40 CFR 1042.107, 40 CFR 1042.110, 40 CFR 1042.115, 40 CFR 1042.120, and 40 CFR 1042.145, as applicable, for all pollutants, for the same displacement and maximum engine power:

(1) Their 2013 model year non-emergency stationary CI ICE with a maximum engine power less than 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder; and

(2) Their 2014 model year and later non-emergency stationary CI ICE with a displacement of greater

than or equal to 10 liters per cylinder and less than 30 liters per cylinder.

(f) Notwithstanding the requirements in paragraphs (a) through (c) of this section, stationary non-emergency CI ICE identified in paragraphs (a) and (c) may be certified to the provisions of 40 CFR part 94 or, if Table 1 to 40 CFR 1042.1 identifies 40 CFR part 1042 as being applicable, 40 CFR part 1042, if the engines will be used solely in either or both of the following locations:

(1) Areas of Alaska not accessible by the Federal Aid Highway System (FAHS); and

(2) Marine offshore installations.

(g) Notwithstanding the requirements in paragraphs (a) through (f) of this section, stationary CI internal combustion engine manufacturers are not required to certify reconstructed engines; however manufacturers may elect to do so. The reconstructed engine must be certified to the emission standards specified in paragraphs (a) through (e) of this section that are applicable to the model year, maximum engine power, and displacement of the reconstructed stationary CI ICE.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37967, June 28, 2011]

§ 60.4202 What emission standards must I meet for emergency engines if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in paragraphs (a)(1) through (2) of this section.

(1) For engines with a maximum engine power less than 37 KW (50 HP):

(i) The certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants for model year 2007 engines, and

(ii) The certification emission standards for new nonroad CI engines in 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, 40 CFR 1039.115, and table 2 to this subpart, for 2008 model year and later engines.

(2) For engines with a maximum engine power greater than or equal to 37 KW (50 HP), the certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants beginning in model year 2007.

(b) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in paragraphs (b)(1) through (2) of this section.

(1) For 2007 through 2010 model years, the emission standards in table 1 to this subpart, for all pollutants, for the same maximum engine power.

(2) For 2011 model year and later, the certification emission standards for new nonroad CI engines for engines of the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants.

(c) [Reserved]

(d) Beginning with the model years in table 3 to this subpart, stationary CI internal combustion engine manufacturers must certify their fire pump stationary CI ICE to the emission standards in table 4 to this subpart, for all pollutants, for the same model year and NFPA nameplate power.

(e) Stationary CI internal combustion engine manufacturers must certify the following emergency stationary CI ICE that are not fire pump engines to the certification emission standards for new marine CI engines in 40 CFR 94.8, as applicable, for all pollutants, for the same displacement and maximum

engine power:

- (1) Their 2007 model year through 2012 emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder;
 - (2) Their 2013 model year and later emergency stationary CI ICE with a maximum engine power greater than or equal to 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder;
 - (3) Their 2013 model year emergency stationary CI ICE with a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder; and
 - (4) Their 2014 model year and later emergency stationary CI ICE with a maximum engine power greater than or equal to 2,000 KW (2,682 HP) and a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder.
- (f) Stationary CI internal combustion engine manufacturers must certify the following emergency stationary CI ICE to the certification emission standards and other requirements applicable to Tier 3 new marine CI engines in 40 CFR 1042.101, 40 CFR 1042.107, 40 CFR 1042.115, 40 CFR 1042.120, and 40 CFR 1042.145, for all pollutants, for the same displacement and maximum engine power:
- (1) Their 2013 model year and later emergency stationary CI ICE with a maximum engine power less than 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder; and
 - (2) Their 2014 model year and later emergency stationary CI ICE with a maximum engine power less than 2,000 KW (2,682 HP) and a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder.
- (g) Notwithstanding the requirements in paragraphs (a) through (d) of this section, stationary emergency CI internal combustion engines identified in paragraphs (a) and (c) may be certified to the provisions of 40 CFR part 94 or, if Table 2 to 40 CFR 1042.101 identifies Tier 3 standards as being applicable, the requirements applicable to Tier 3 engines in 40 CFR part 1042, if the engines will be used solely in either or both of the following locations:
- (1) Areas of Alaska not accessible by the FAHS; and
 - (2) Marine offshore installations.
- (h) Notwithstanding the requirements in paragraphs (a) through (f) of this section, stationary CI internal combustion engine manufacturers are not required to certify reconstructed engines; however manufacturers may elect to do so. The reconstructed engine must be certified to the emission standards specified in paragraphs (a) through (f) of this section that are applicable to the model year, maximum engine power and displacement of the reconstructed emergency stationary CI ICE.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37968, June 28, 2011]

§ 60.4203 How long must my engines meet the emission standards if I am a manufacturer of stationary CI internal combustion engines?

Engines manufactured by stationary CI internal combustion engine manufacturers must meet the emission standards as required in §§60.4201 and 60.4202 during the certified emissions life of the engines.

[76 FR 37968, June 28, 2011]

Emission Standards for Owners and Operators

§ 60.4204 What emission standards must I meet for non-emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

- (a) Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement

of less than 10 liters per cylinder must comply with the emission standards in table 1 to this subpart. Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder must comply with the emission standards in 40 CFR 94.8(a)(1).

(b) Owners and operators of 2007 model year and later non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder must comply with the emission standards for new CI engines in §60.4201 for their 2007 model year and later stationary CI ICE, as applicable.

(c) Owners and operators of non-emergency stationary CI engines with a displacement of greater than or equal to 30 liters per cylinder must meet the following requirements:

(1) For engines installed prior to January 1, 2012, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 17.0 grams per kilowatt-hour (g/KW-hr) (12.7 grams per horsepower-hr (g/HP-hr)) when maximum engine speed is less than 130 revolutions per minute (rpm);

(ii) $45 \cdot n^{-0.2}$ g/KW-hr ($34 \cdot n^{-0.2}$ g/HP-hr) when maximum engine speed is 130 or more but less than 2,000 rpm, where n is maximum engine speed; and

(iii) 9.8 g/KW-hr (7.3 g/HP-hr) when maximum engine speed is 2,000 rpm or more.

(2) For engines installed on or after January 1, 2012 and before January 1, 2016, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 14.4 g/KW-hr (10.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $44 \cdot n^{-0.23}$ g/KW-hr ($33 \cdot n^{-0.23}$ g/HP-hr) when maximum engine speed is greater than or equal to 130 but less than 2,000 rpm and where n is maximum engine speed; and

(iii) 7.7 g/KW-hr (5.7 g/HP-hr) when maximum engine speed is greater than or equal to 2,000 rpm.

(3) For engines installed on or after January 1, 2016, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 3.4 g/KW-hr (2.5 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $9.0 \cdot n^{-0.20}$ g/KW-hr ($6.7 \cdot n^{-0.20}$ g/HP-hr) where n (maximum engine speed) is 130 or more but less than 2,000 rpm; and

(iii) 2.0 g/KW-hr (1.5 g/HP-hr) where maximum engine speed is greater than or equal to 2,000 rpm.

(4) Reduce particulate matter (PM) emissions by 60 percent or more, or limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.15 g/KW-hr (0.11 g/HP-hr).

(d) Owners and operators of non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests in-use must meet the not-to-exceed (NTE) standards as indicated in §60.4212.

(e) Owners and operators of any modified or reconstructed non-emergency stationary CI ICE subject to this subpart must meet the emission standards applicable to the model year, maximum engine power, and displacement of the modified or reconstructed non-emergency stationary CI ICE that are specified in paragraphs (a) through (d) of this section.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37968, June 28, 2011]

§ 60.4205 What emission standards must I meet for emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of pre-2007 model year emergency stationary CI ICE with a displacement of less than 10 liters per cylinder that are not fire pump engines must comply with the emission standards in Table 1 to this subpart. Owners and operators of pre-2007 model year emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards in 40 CFR 94.8(a)(1).

(b) Owners and operators of 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards for new nonroad CI engines in §60.4202, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE.

(c) Owners and operators of fire pump engines with a displacement of less than 30 liters per cylinder must comply with the emission standards in table 4 to this subpart, for all pollutants.

(d) Owners and operators of emergency stationary CI engines with a displacement of greater than or equal to 30 liters per cylinder must meet the requirements in this section.

(1) For engines installed prior to January 1, 2012, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 17.0 g/KW-hr (12.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $45 \cdot n^{-0.2}$ g/KW-hr ($34 \cdot n^{-0.2}$ g/HP-hr) when maximum engine speed is 130 or more but less than 2,000 rpm, where n is maximum engine speed; and

(iii) 9.8 g/KW-hr (7.3 g/HP-hr) when maximum engine speed is 2,000 rpm or more.

(2) For engines installed on or after January 1, 2012, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 14.4 g/KW-hr (10.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $44 \cdot n^{-0.23}$ g/KW-hr ($33 \cdot n^{-0.23}$ g/HP-hr) when maximum engine speed is greater than or equal to 130 but less than 2,000 rpm and where n is maximum engine speed; and

(iii) 7.7 g/KW-hr (5.7 g/HP-hr) when maximum engine speed is greater than or equal to 2,000 rpm.

(3) Limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.40 g/KW-hr (0.30 g/HP-hr).

(e) Owners and operators of emergency stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests in-use must meet the NTE standards as indicated in §60.4212.

(f) Owners and operators of any modified or reconstructed emergency stationary CI ICE subject to this subpart must meet the emission standards applicable to the model year, maximum engine power, and displacement of the modified or reconstructed CI ICE that are specified in paragraphs (a) through (e) of this section.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

§ 60.4206 How long must I meet the emission standards if I am an owner or operator of a stationary CI internal combustion engine?

Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in §§60.4204 and 60.4205 over the entire life of the engine.

[76 FR 37969, June 28, 2011]

Fuel Requirements for Owners and Operators

§ 60.4207 What fuel requirements must I meet if I am an owner or operator of a stationary CI internal combustion engine subject to this subpart?

- (a) Beginning October 1, 2007, owners and operators of stationary CI ICE subject to this subpart that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(a).
- (b) Beginning October 1, 2010, owners and operators of stationary CI ICE subject to this subpart with a displacement of less than 30 liters per cylinder that use diesel fuel must purchase diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel.
- (c) [Reserved]
- (d) Beginning June 1, 2012, owners and operators of stationary CI ICE subject to this subpart with a displacement of greater than or equal to 30 liters per cylinder are no longer subject to the requirements of paragraph (a) of this section, and must use fuel that meets a maximum per-gallon sulfur content of 1,000 parts per million (ppm).
- (e) Stationary CI ICE that have a national security exemption under §60.4200(d) are also exempt from the fuel requirements in this section.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

Other Requirements for Owners and Operators**§ 60.420 What is the deadline for importing or installing stationary CI ICE produced in previous model years?**

- (a) After December 31, 2008, owners and operators may not install stationary CI ICE (excluding fire pump engines) that do not meet the applicable requirements for 2007 model year engines.
- (b) After December 31, 2009, owners and operators may not install stationary CI ICE with a maximum engine power of less than 19 KW (25 HP) (excluding fire pump engines) that do not meet the applicable requirements for 2008 model year engines.
- (c) After December 31, 2014, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 19 KW (25 HP) and less than 56 KW (75 HP) that do not meet the applicable requirements for 2013 model year non-emergency engines.
- (d) After December 31, 2013, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 56 KW (75 HP) and less than 130 KW (175 HP) that do not meet the applicable requirements for 2012 model year non-emergency engines.
- (e) After December 31, 2012, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 130 KW (175 HP), including those above 560 KW (750 HP), that do not meet the applicable requirements for 2011 model year non-emergency engines.
- (f) After December 31, 2016, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 560 KW (750 HP) that do not meet the applicable requirements for 2015 model year non-emergency engines.
- (g) After December 31, 2018, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power greater than or equal to 600 KW (804 HP) and less than 2,000 KW (2,680 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that do not meet the applicable requirements for 2017 model year non-emergency engines.
- (h) In addition to the requirements specified in §§60.4201, 60.4202, 60.4204, and 60.4205, it is prohibited to import stationary CI ICE with a displacement of less than 30 liters per cylinder that do not meet the applicable requirements specified in paragraphs (a) through (g) of this section after the dates specified in paragraphs (a) through (g) of this section.
- (i) The requirements of this section do not apply to owners or operators of stationary CI ICE that have

been modified, reconstructed, and do not apply to engines that were removed from one existing location and reinstalled at a new location.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

§ 60.420 What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine?

If you are an owner or operator, you must meet the monitoring requirements of this section. In addition, you must also meet the monitoring requirements specified in §60.4211.

(a) If you are an owner or operator of an emergency stationary CI internal combustion engine that does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter prior to startup of the engine.

(b) If you are an owner or operator of a stationary CI internal combustion engine equipped with a diesel particulate filter to comply with the emission standards in §60.4204, the diesel particulate filter must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

Compliance Requirements

§ 60.4210 What are my compliance requirements if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their stationary CI ICE with a displacement of less than 10 liters per cylinder to the emission standards specified in §60.4201(a) through (c) and §60.4202(a), (b) and (d) using the certification procedures required in 40 CFR part 89, subpart B, or 40 CFR part 1039, subpart C, as applicable, and must test their engines as specified in those parts. For the purposes of this subpart, engines certified to the standards in table 1 to this subpart shall be subject to the same requirements as engines certified to the standards in 40 CFR part 89. For the purposes of this subpart, engines certified to the standards in table 4 to this subpart shall be subject to the same requirements as engines certified to the standards in 40 CFR part 89, except that engines with NFPA nameplate power of less than 37 KW (50 HP) certified to model year 2011 or later standards shall be subject to the same requirements as engines certified to the standards in 40 CFR part 1039.

(b) Stationary CI internal combustion engine manufacturers must certify their stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder to the emission standards specified in §60.4201(d) and (e) and §60.4202(e) and (f) using the certification procedures required in 40 CFR part 94, subpart C, or 40 CFR part 1042, subpart C, as applicable, and must test their engines as specified in 40 CFR part 94 or 1042, as applicable.

(c) Stationary CI internal combustion engine manufacturers must meet the requirements of 40 CFR 1039.120, 1039.125, 1039.130, and 1039.135, and 40 CFR part 1068 for engines that are certified to the emission standards in 40 CFR part 1039. Stationary CI internal combustion engine manufacturers must meet the corresponding provisions of 40 CFR part 89, 40 CFR part 94 or 40 CFR part 1042 for engines that would be covered by that part if they were nonroad (including marine) engines. Labels on such engines must refer to stationary engines, rather than or in addition to nonroad or marine engines, as appropriate. Stationary CI internal combustion engine manufacturers must label their engines according to paragraphs (c)(1) through (3) of this section.

(1) Stationary CI internal combustion engines manufactured from January 1, 2006 to March 31, 2006 (January 1, 2006 to June 30, 2006 for fire pump engines), other than those that are part of certified engine families under the nonroad CI engine regulations, must be labeled according to 40 CFR 1039.20.

(2) Stationary CI internal combustion engines manufactured from April 1, 2006 to December 31, 2006 (or, for fire pump engines, July 1, 2006 to December 31 of the year preceding the year listed in table 3 to this subpart) must be labeled according to paragraphs (c)(2)(i) through (iii) of this section:

(i) Stationary CI internal combustion engines that are part of certified engine families under the nonroad regulations must meet the labeling requirements for nonroad CI engines, but do not have to meet the

labeling requirements in 40 CFR 1039.20.

(ii) Stationary CI internal combustion engines that meet Tier 1 requirements (or requirements for fire pumps) under this subpart, but do not meet the requirements applicable to nonroad CI engines must be labeled according to 40 CFR 1039.20. The engine manufacturer may add language to the label clarifying that the engine meets Tier 1 requirements (or requirements for fire pumps) of this subpart.

(iii) Stationary CI internal combustion engines manufactured after April 1, 2006 that do not meet Tier 1 requirements of this subpart, or fire pumps engines manufactured after July 1, 2006 that do not meet the requirements for fire pumps under this subpart, may not be used in the U.S. If any such engines are manufactured in the U.S. after April 1, 2006 (July 1, 2006 for fire pump engines), they must be exported or must be brought into compliance with the appropriate standards prior to initial operation. The export provisions of 40 CFR 1068.230 would apply to engines for export and the manufacturers must label such engines according to 40 CFR 1068.230.

(3) Stationary CI internal combustion engines manufactured after January 1, 2007 (for fire pump engines, after January 1 of the year listed in table 3 to this subpart, as applicable) must be labeled according to paragraphs (c)(3)(i) through (iii) of this section.

(i) Stationary CI internal combustion engines that meet the requirements of this subpart and the corresponding requirements for nonroad (including marine) engines of the same model year and HP must be labeled according to the provisions in 40 CFR parts 89, 94, 1039 or 1042, as appropriate.

(ii) Stationary CI internal combustion engines that meet the requirements of this subpart, but are not certified to the standards applicable to nonroad (including marine) engines of the same model year and HP must be labeled according to the provisions in 40 CFR parts 89, 94, 1039 or 1042, as appropriate, but the words "stationary" must be included instead of "nonroad" or "marine" on the label. In addition, such engines must be labeled according to 40 CFR 1039.20.

(iii) Stationary CI internal combustion engines that do not meet the requirements of this subpart must be labeled according to 40 CFR 1068.230 and must be exported under the provisions of 40 CFR 1068.230.

(d) An engine manufacturer certifying an engine family or families to standards under this subpart that are identical to standards applicable under 40 CFR parts 89, 94, 1039 or 1042 for that model year may certify any such family that contains both nonroad (including marine) and stationary engines as a single engine family and/or may include any such family containing stationary engines in the averaging, banking and trading provisions applicable for such engines under those parts.

(e) Manufacturers of engine families discussed in paragraph (d) of this section may meet the labeling requirements referred to in paragraph (c) of this section for stationary CI ICE by either adding a separate label containing the information required in paragraph (c) of this section or by adding the words "and stationary" after the word "nonroad" or "marine," as appropriate, to the label.

(f) Starting with the model years shown in table 5 to this subpart, stationary CI internal combustion engine manufacturers must add a permanent label stating that the engine is for stationary emergency use only to each new emergency stationary CI internal combustion engine greater than or equal to 19 KW (25 HP) that meets all the emission standards for emergency engines in §60.4202 but does not meet all the emission standards for non-emergency engines in §60.4201. The label must be added according to the labeling requirements specified in 40 CFR 1039.135(b). Engine manufacturers must specify in the owner's manual that operation of emergency engines is limited to emergency operations and required maintenance and testing.

(g) Manufacturers of fire pump engines may use the test cycle in table 6 to this subpart for testing fire pump engines and may test at the NFPA certified nameplate HP, provided that the engine is labeled as "Fire Pump Applications Only".

(h) Engine manufacturers, including importers, may introduce into commerce uncertified engines or engines certified to earlier standards that were manufactured before the new or changed standards took effect until inventories are depleted, as long as such engines are part of normal inventory. For example, if the engine manufacturers' normal industry practice is to keep on hand a one-month supply of engines based on its projected sales, and a new tier of standards starts to apply for the 2009 model year, the engine manufacturer may manufacture engines based on the normal inventory requirements late in the 2008 model year, and sell those engines for installation. The engine manufacturer may not circumvent the provisions of §§60.4201 or 60.4202 by stockpiling engines that are built before new or changed standards take effect. Stockpiling of such engines beyond normal industry practice is a violation of this

subpart.

(i) The replacement engine provisions of 40 CFR 89.1003(b)(7), 40 CFR 94.1103(b)(3), 40 CFR 94.1103(b)(4) and 40 CFR 1068.240 are applicable to stationary CI engines replacing existing equipment that is less than 15 years old.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

§ 60.4211 What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?

(a) If you are an owner or operator and must comply with the emission standards specified in this subpart, you must do all of the following, except as permitted under paragraph (g) of this section:

(1) Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions;

(2) Change only those emission-related settings that are permitted by the manufacturer; and

(3) Meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply to you.

(b) If you are an owner or operator of a pre-2007 model year stationary CI internal combustion engine and must comply with the emission standards specified in §§60.4204(a) or 60.4205(a), or if you are an owner or operator of a CI fire pump engine that is manufactured prior to the model years in table 3 to this subpart and must comply with the emission standards specified in §60.4205(c), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) through (5) of this section.

(1) Purchasing an engine certified according to 40 CFR part 89 or 40 CFR part 94, as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications.

(2) Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this subpart and these methods must have been followed correctly.

(3) Keeping records of engine manufacturer data indicating compliance with the standards.

(4) Keeping records of control device vendor data indicating compliance with the standards.

(5) Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in §60.4212, as applicable.

(c) If you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in §60.4204(b) or §60.4205(b), or if you are an owner or operator of a CI fire pump engine that is manufactured during or after the model year that applies to your fire pump engine power rating in table 3 to this subpart and must comply with the emission standards specified in §60.4205(c), you must comply by purchasing an engine certified to the emission standards in §60.4204(b), or §60.4205(b) or (c), as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in paragraph (g) of this section.

(d) If you are an owner or operator and must comply with the emission standards specified in §60.4204(c) or §60.4205(d), you must demonstrate compliance according to the requirements specified in paragraphs (d)(1) through (3) of this section.

(1) Conducting an initial performance test to demonstrate initial compliance with the emission standards as specified in §60.4213.

(2) Establishing operating parameters to be monitored continuously to ensure the stationary internal combustion engine continues to meet the emission standards. The owner or operator must petition the Administrator for approval of operating parameters to be monitored continuously. The petition must

include the information described in paragraphs (d)(2)(i) through (v) of this section.

- (i) Identification of the specific parameters you propose to monitor continuously;
- (ii) A discussion of the relationship between these parameters and NO_x and PM emissions, identifying how the emissions of these pollutants change with changes in these parameters, and how limitations on these parameters will serve to limit NO_x and PM emissions;
- (iii) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;
- (iv) A discussion identifying the methods and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and
- (v) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(3) For non-emergency engines with a displacement of greater than or equal to 30 liters per cylinder, conducting annual performance tests to demonstrate continuous compliance with the emission standards as specified in §60.4213.

(e) If you are an owner or operator of a modified or reconstructed stationary CI internal combustion engine and must comply with the emission standards specified in §60.4204(e) or §60.4205(f), you must demonstrate compliance according to one of the methods specified in paragraphs (e)(1) or (2) of this section.

(1) Purchasing, or otherwise owning or operating, an engine certified to the emission standards in §60.4204(e) or §60.4205(f), as applicable.

(2) Conducting a performance test to demonstrate initial compliance with the emission standards according to the requirements specified in §60.4212 or §60.4213, as appropriate. The test must be conducted within 60 days after the engine commences operation after the modification or reconstruction.

(f) Emergency stationary ICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary ICE in emergency situations. The owner or operator 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 owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. Emergency stationary ICE may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. 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 non-emergency power as part of a financial arrangement with another entity. For owners and operators of emergency engines, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in this section, is prohibited.

(g) If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must demonstrate compliance as follows:

(1) If you are an owner or operator of a stationary CI internal combustion engine with maximum engine power less than 100 HP, you must keep a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, if you do not install and configure the engine and control device according to the manufacturer's emission-related written instructions, or you change the emission-related settings in a way that is not permitted by the manufacturer, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of such action.

(2) If you are an owner or operator of a stationary CI internal combustion engine greater than or equal to 100 HP and less than or equal to 500 HP, you must keep a maintenance plan and records of conducted

maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer.

(3) If you are an owner or operator of a stationary CI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. You must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37970, June 28, 2011]

Testing Requirements for Owners and Operators

§ 60.4212 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of less than 30 liters per cylinder?

Owners and operators of stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests pursuant to this subpart must do so according to paragraphs (a) through (e) of this section.

(a) The performance test must be conducted according to the in-use testing procedures in 40 CFR part 1039, subpart F, for stationary CI ICE with a displacement of less than 10 liters per cylinder, and according to 40 CFR part 1042, subpart F, for stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder.

(b) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1039 must not exceed the not-to-exceed (NTE) standards for the same model year and maximum engine power as required in 40 CFR 1039.101(e) and 40 CFR 1039.102(g)(1), except as specified in 40 CFR 1039.104(d). This requirement starts when NTE requirements take effect for nonroad diesel engines under 40 CFR part 1039.

(c) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8, as applicable, must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in 40 CFR 89.112 or 40 CFR 94.8, as applicable, determined from the following equation:

$$\text{NTE requirement for each pollutant} = (1.25) \times (\text{STD}) \quad (\text{Eq. 1})$$

Where:

STD = The standard specified for that pollutant in 40 CFR 89.112 or 40 CFR 94.8, as applicable.

Alternatively, stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8 may follow the testing procedures specified in §60.4213 of this subpart, as appropriate.

(d) Exhaust emissions from stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in §60.4204(a), §60.4205(a), or §60.4205(c) must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in §60.4204(a), §60.4205(a), or §60.4205(c), determined from the equation in paragraph (c) of this section.

Where:

STD = The standard specified for that pollutant in §60.4204(a), §60.4205(a), or §60.4205(c).

Alternatively, stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in §60.4204(a), §60.4205(a), or §60.4205(c) may follow the testing procedures specified in §60.4213, as appropriate.

(e) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1042 must not exceed the NTE standards for the same model year and maximum engine power as required in 40 CFR 1042.101(c).

[71 FR 39172, July 11, 2006, as amended at 76 FR 37971, June 28, 2011]

§ 60.4213 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of greater than or equal to 30 liters per cylinder?

Owners and operators of stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder must conduct performance tests according to paragraphs (a) through (f) of this section.

(a) Each performance test must be conducted according to the requirements in §60.8 and under the specific conditions that this subpart specifies in table 7. The test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load.

(b) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in §60.8(c).

(c) You must conduct three separate test runs for each performance test required in this section, as specified in §60.8(f). Each test run must last at least 1 hour.

(d) To determine compliance with the percent reduction requirement, you must follow the requirements as specified in paragraphs (d)(1) through (3) of this section.

(1) You must use Equation 2 of this section to determine compliance with the percent reduction requirement:

$$\frac{C_i - C_o}{C_i} \times 100 = R \quad (\text{Eq. 2})$$

Where:

C_i = concentration of NO_x or PM at the control device inlet,

C_o = concentration of NO_x or PM at the control device outlet, and

R = percent reduction of NO_x or PM emissions.

(2) You must normalize the NO_x or PM concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen (O_2) using Equation 3 of this section, or an equivalent percent carbon dioxide (CO_2) using the procedures described in paragraph (d)(3) of this section.

$$C_{\text{adj}} = C_i \frac{5.9}{20.9 - \% \text{O}_2} \quad (\text{Eq. 3})$$

Where:

C_{adj} = Calculated NO_x or PM concentration adjusted to 15 percent O_2 .

C_d = Measured concentration of NO_x or PM, uncorrected.

5.9 = 20.9 percent O_2 - 15 percent O_2 , the defined O_2 correction value, percent.

% O_2 = Measured O_2 concentration, dry basis, percent.

(3) If pollutant concentrations are to be corrected to 15 percent O_2 and CO_2 concentration is measured in lieu of O_2 concentration measurement, a CO_2 correction factor is needed. Calculate the CO_2 correction factor as described in paragraphs (d)(3)(i) through (iii) of this section.

(i) Calculate the fuel-specific F_o value for the fuel burned during the test using values obtained from Method 19, Section 5.2, and the following equation:

$$F_o = \frac{0.209}{F_c} \quad (\text{Eq. 4})$$

Where:

F_o = Fuel factor based on the ratio of O_2 volume to the ultimate CO_2 volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is O_2 , percent/100.

F_d = Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19, dm^3/J ($dscf/10^6$ Btu).

F_c = Ratio of the volume of CO_2 produced to the gross calorific value of the fuel from Method 19, dm^3/J ($dscf/10^6$ Btu).

(ii) Calculate the CO_2 correction factor for correcting measurement data to 15 percent O_2 , as follows:

$$X_{CO_2} = \frac{5.9}{F_o} \quad (\text{Eq. 5})$$

Where:

X_{CO_2} = CO_2 correction factor, percent.

5.9 = 20.9 percent O_2 - 15 percent O_2 , the defined O_2 correction value, percent.

(iii) Calculate the NO_x and PM gas concentrations adjusted to 15 percent O_2 using CO_2 as follows:

$$C_{adj} = C_d \frac{X_{CO_2}}{\%CO_2} \quad (\text{Eq. 6})$$

Where:

C_{adj} = Calculated NO_x or PM concentration adjusted to 15 percent O_2 .

C_d = Measured concentration of NO_x or PM, uncorrected.

% CO_2 = Measured CO_2 concentration, dry basis, percent.

(e) To determine compliance with the NO_x mass per unit output emission limitation, convert the concentration of NO_x in the engine exhaust using Equation 7 of this section:

$$\text{ER} = \frac{C_d \times 1.912 \times 10^{-3} \times Q \times T}{\text{KW-hour}} \quad (\text{Eq. 7})$$

Where:

ER = Emission rate in grams per KW-hour.

C_d = Measured NO_x concentration in ppm.

1.912×10^{-3} = Conversion constant for ppm NO_x to grams per standard cubic meter at 25 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meter per hour.

T = Time of test run, in hours.

KW-hour = Brake work of the engine, in KW-hour.

(f) To determine compliance with the PM mass per unit output emission limitation, convert the concentration of PM in the engine exhaust using Equation 8 of this section:

$$\text{ER} = \frac{C_{adj} \times Q \times T}{\text{KW-hour}} \quad (\text{Eq. 8})$$

Where:

ER = Emission rate in grams per KW-hour.

C_{adj} = Calculated PM concentration in grams per standard cubic meter.

Q = Stack gas volumetric flow rate, in standard cubic meter per hour.

T = Time of test run, in hours.

KW-hour = Energy output of the engine, in KW.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37971, June 28, 2011]

Notification, Reports, and Records for Owners and Operators

§ 60.4214 What are my notification, reporting, and record keeping requirements if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of non-emergency stationary CI ICE that are greater than 2,237 KW (3,000 HP), or have a displacement of greater than or equal to 10 liters per cylinder, or are pre-2007 model year engines that are greater than 130 KW (175 HP) and not certified, must meet the requirements of paragraphs (a)(1) and (2) of this section.

(1) Submit an initial notification as required in §60.7(a)(1). The notification must include the information in paragraphs (a)(1)(i) through (v) of this section.

(i) Name and address of the owner or operator;

(ii) The address of the affected source;

(iii) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;

(iv) Emission control equipment; and

(v) Fuel used.

(2) Keep records of the information in paragraphs (a)(2)(i) through (iv) of this section.

(i) All notifications submitted to comply with this subpart and all documentation supporting any notification.

(ii) Maintenance conducted on the engine.

(iii) If the stationary CI internal combustion is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards.

(iv) If the stationary CI internal combustion is not a certified engine, documentation that the engine meets the emission standards.

(b) If the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the owner or operator is not required to submit an initial notification. Starting with the model years in table 5 to this subpart, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the owner or operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time.

(c) If the stationary CI internal combustion engine is equipped with a diesel particulate filter, the owner or operator must keep records of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit of the engine is approached.

Special Requirements

§ 60.4215 What requirements must I meet for engines used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands?

(a) Stationary CI ICE with a displacement of less than 30 liters per cylinder that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are required to meet the applicable emission standards in §§60.4202 and 60.4205.

(b) Stationary CI ICE that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are not required to meet the fuel requirements in §60.4207.

(c) Stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are required to meet the following emission standards:

(1) For engines installed prior to January 1, 2012, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 17.0 g/KW-hr (12.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $45 \cdot n^{-0.2}$ g/KW-hr ($34 \cdot n^{-0.2}$ g/HP-hr) when maximum engine speed is 130 or more but less than

2,000 rpm, where n is maximum engine speed; and

(iii) 9.8 g/KW-hr (7.3 g/HP-hr) when maximum engine speed is 2,000 rpm or more.

(2) For engines installed on or after January 1, 2012, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 14.4 g/KW-hr (10.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $44 \cdot n^{-0.23}$ g/KW-hr ($33 \cdot n^{-0.23}$ g/HP-hr) when maximum engine speed is greater than or equal to 130 but less than 2,000 rpm and where n is maximum engine speed; and

(iii) 7.7 g/KW-hr (5.7 g/HP-hr) when maximum engine speed is greater than or equal to 2,000 rpm.

(3) Limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.40 g/KW-hr (0.30 g/HP-hr).

[71 FR 39172, July 11, 2006, as amended at 76 FR 37971, June 28, 2011]

§ 60.4216 What requirements must I meet for engines used in Alaska?

(a) Prior to December 1, 2010, owners and operators of stationary CI ICE with a displacement of less than 30 liters per cylinder located in areas of Alaska not accessible by the FAHS should refer to 40 CFR part 69 to determine the diesel fuel requirements applicable to such engines.

(b) Except as indicated in paragraph (c) of this section, manufacturers, owners and operators of stationary CI ICE with a displacement of less than 10 liters per cylinder located in areas of Alaska not accessible by the FAHS may meet the requirements of this subpart by manufacturing and installing engines meeting the requirements of 40 CFR parts 94 or 1042, as appropriate, rather than the otherwise applicable requirements of 40 CFR parts 89 and 1039, as indicated in sections §§60.4201(f) and 60.4202(g) of this subpart.

(c) Manufacturers, owners and operators of stationary CI ICE that are located in areas of Alaska not accessible by the FAHS may choose to meet the applicable emission standards for emergency engines in §60.4202 and §60.4205, and not those for non-emergency engines in §60.4201 and §60.4204, except that for 2014 model year and later non-emergency CI ICE, the owner or operator of any such engine that was not certified as meeting Tier 4 PM standards, must meet the applicable requirements for PM in §60.4201 and §60.4204 or install a PM emission control device that achieves PM emission reductions of 85 percent, or 60 percent for engines with a displacement of greater than or equal to 30 liters per cylinder, compared to engine-out emissions.

(d) The provisions of §60.4207 do not apply to owners and operators of pre-2014 model year stationary CI ICE subject to this subpart that are located in areas of Alaska not accessible by the FAHS.

(e) The provisions of §60.4208(a) do not apply to owners and operators of stationary CI ICE subject to this subpart that are located in areas of Alaska not accessible by the FAHS until after December 31, 2009.

(f) The provisions of this section and §60.4207 do not prevent owners and operators of stationary CI ICE subject to this subpart that are located in areas of Alaska not accessible by the FAHS from using fuels mixed with used lubricating oil, in volumes of up to 1.75 percent of the total fuel. The sulfur content of the used lubricating oil must be less than 200 parts per million. The used lubricating oil must meet the on-specification levels and properties for used oil in 40 CFR 279.11.

[76 FR 37971, June 28, 2011]

§ 60.4217 What emission standards must I meet if I am an owner or operator of a stationary internal combustion engine using special fuels?

Owners and operators of stationary CI ICE that do not use diesel fuel may petition the Administrator for approval of alternative emission standards, if they can demonstrate that they use a fuel that is not the fuel on which the manufacturer of the engine certified the engine and that the engine cannot meet the

applicable standards required in §60.4204 or §60.4205 using such fuels and that use of such fuel is appropriate and reasonably necessary, considering cost, energy, technical feasibility, human health and environmental, and other factors, for the operation of the engine.

[76 FR 37972, June 28, 2011]

General Provisions

§ 60.421 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§60.1 through 60.19 apply to you.

Definitions

§ 60.421 What definitions apply to this subpart?

As used in this subpart, all terms not defined herein shall have the meaning given them in the CAA and in subpart A of this part.

Certified emissions life means the period during which the engine is designed to properly function in terms of reliability and fuel consumption, without being remanufactured, specified as a number of hours of operation or calendar years, whichever comes first. The values for certified emissions life for stationary CI ICE with a displacement of less than 10 liters per cylinder are given in 40 CFR 1039.101 (g). The values for certified emissions life for stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder are given in 40 CFR 94.9(a).

Combustion turbine means all equipment, including but not limited to the turbine, the fuel, air, lubrication and exhaust gas systems, control systems (except emissions control equipment), and any ancillary components and sub-components comprising any simple cycle combustion turbine, any regenerative/recuperative cycle combustion turbine, the combustion turbine portion of any cogeneration cycle combustion system, or the combustion turbine portion of any combined cycle steam/electric generating system.

Compression ignition means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

Date of manufacture means one of the following things:

- (1) For freshly manufactured engines and modified engines, date of manufacture means the date the engine is originally produced.
- (2) For reconstructed engines, date of manufacture means the date the engine was originally produced, except as specified in paragraph (3) of this definition.
- (3) Reconstructed engines are assigned a new date of manufacture if the fixed capital cost of the new and refurbished components exceeds 75 percent of the fixed capital cost of a comparable entirely new facility. An engine that is produced from a previously used engine block does not retain the date of manufacture of the engine in which the engine block was previously used if the engine is produced using all new components except for the engine block. In these cases, the date of manufacture is the date of reconstruction or the date the new engine is produced.

Diesel fuel means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is number 2 distillate oil.

Diesel particulate filter means an emission control technology that reduces PM emissions by trapping the particles in a flow filter substrate and periodically removes the collected particles by either physical action or by oxidizing (burning off) the particles in a process called regeneration.

Emergency stationary internal combustion engine means any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary ICE used to produce power for critical networks or equipment (including power

supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary ICE used to pump water in the case of fire or flood, etc. Stationary CI ICE used to supply power to an electric grid or that supply power as part of a financial arrangement with another entity are not considered to be emergency engines.

Engine manufacturer means the manufacturer of the engine. See the definition of "manufacturer" in this section.

Fire pump engine means an emergency stationary internal combustion engine certified to NFPA requirements that is used to provide power to pump water for fire suppression or protection.

Freshly manufactured engine means an engine that has not been placed into service. An engine becomes freshly manufactured when it is originally produced.

Installed means the engine is placed and secured at the location where it is intended to be operated.

Manufacturer has the meaning given in section 216(1) of the Act. In general, this term includes any person who manufactures a stationary engine for sale in the United States or otherwise introduces a new stationary engine into commerce in the United States. This includes importers who import stationary engines for sale or resale.

Maximum engine power means maximum engine power as defined in 40 CFR 1039.801.

Model year means the calendar year in which an engine is manufactured (see "date of manufacture"), except as follows:

(1) Model year means the annual new model production period of the engine manufacturer in which an engine is manufactured (see "date of manufacture"), if the annual new model production period is different than the calendar year and includes January 1 of the calendar year for which the model year is named. It may not begin before January 2 of the previous calendar year and it must end by December 31 of the named calendar year.

(2) For an engine that is converted to a stationary engine after being placed into service as a nonroad or other non-stationary engine, model year means the calendar year or new model production period in which the engine was manufactured (see "date of manufacture").

Other internal combustion engine means any internal combustion engine, except combustion turbines, which is not a reciprocating internal combustion engine or rotary internal combustion engine.

Reciprocating internal combustion engine means any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work.

Rotary internal combustion engine means any internal combustion engine which uses rotary motion to convert heat energy into mechanical work.

Spark ignition means relating to a gasoline, natural gas, or liquefied petroleum gas fueled engine or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for CI and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

Stationary internal combustion engine means any internal combustion engine, except combustion turbines, that converts heat energy into mechanical work and is not mobile. Stationary ICE differ from mobile ICE in that a stationary internal combustion engine is not a nonroad engine as defined at 40 CFR 1068.30 (excluding paragraph (2)(ii) of that definition), and is not used to propel a motor vehicle, aircraft, or a vehicle used solely for competition. Stationary ICE include reciprocating ICE, rotary ICE, and other ICE, except combustion turbines.

Subpart means 40 CFR part 60, subpart IIII.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37972, June 28, 2011]

Table 1 to Subpart III of Part 60—Emission Standards for Stationary Pre-2007 Model Year Engines With a Displacement of 10 liters per Cylinder and 2007-2010 Model Year Engines 2,237 W 3,000 HP and With a Displacement of 10 liters per Cylinder

[As stated in §§60.4201(b), 60.4202(b), 60.4204(a), and 60.4205(a), you must comply with the following emission standards]

Maximum engine power	Emission standards for stationary pre-2007 model year engines with a displacement of 10 liters per cylinder and 2007-2010 model year engines 2,237 W 3,000 HP and with a displacement of 10 liters per cylinder in g W-hr g HP-hr					
	MHC	O	HC	O	CO	PM
KW<8 (HP<11)	10.5 (7.8)				8.0 (6.0)	1.0 (0.75)
8≤KW<19 (11≤HP<25)	9.5 (7.1)				6.6 (4.9)	0.80 (0.60)
19≤KW<37 (25≤HP<50)	9.5 (7.1)				5.5 (4.1)	0.80 (0.60)
37≤KW<56 (50≤HP<75)				9.2 (6.9)		
56≤KW<75 (75≤HP<100)				9.2 (6.9)		
75≤KW<130 (100≤HP<175)				9.2 (6.9)		
130≤KW<225 (175≤HP<300)			1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
225≤KW<450 (300≤HP<600)			1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
450≤KW≤560 (600≤HP≤750)			1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
KW>560 (HP>750)			1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)

Table 2 to Subpart III of Part 60—Emission Standards for 200 Model Year and Later Emergency Stationary CI ICE 37 W 50 HP With a Displacement of 10 liters per Cylinder

[As stated in §60.4202(a)(1), you must comply with the following emission standards]

Engine power	Emission standards for 200 model year and later emergency stationary CI ICE 37 W 50 HP with a displacement of 10 liters per cylinder in g W-hr g HP-hr				
	Model year s	O	MHC	CO	PM
KW<8 (HP<11)	2008+		7.5 (5.6)	8.0 (6.0)	0.40 (0.30)
8≤KW<19 (11≤HP<25)	2008+		7.5 (5.6)	6.6 (4.9)	0.40 (0.30)

19≤KW<37 (25≤HP<50)	2008+	7.5 (5.6)	5.5 (4.1)	0.30 (0.22)
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Table 3 to Subpart IIII of Part 60—Certification Requirements for Stationary Fire Pump Engines

Table 3 to Subpart IIII of Part 60—Certification Requirements for Stationary Fire Pump Engines

As stated in §60.4202(d), you must certify new stationary fire pump engines beginning with the following model years:

Engine power	Starting model year engine manufacturers must certify new stationary fire pump engines according to §60.4202 d ¹
KW<75 (HP<100)	2011
75≤KW<130 (100≤HP<175)	2010
130≤KW≤560 (175≤HP≤750)	2009
KW>560 (HP>750)	2008

¹Manufacturers of fire pump stationary CI ICE with a maximum engine power greater than or equal to 37 kW (50 HP) and less than 450 kW (600 HP) and a rated speed of greater than 2,650 revolutions per minute (rpm) are not required to certify such engines until three model years following the model year indicated in this Table 3 for engines in the applicable engine power category.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37972, June 28, 2011]

Table 4 to Subpart IIII of Part 60—Emission Standards for Stationary Fire Pump Engines

[As stated in §§60.4202(d) and 60.4205(c), you must comply with the following emission standards for stationary fire pump engines]

Maximum engine power	Model years	MHC O	CO	PM
KW<8 (HP<11)	2010 and earlier	10.5 (7.8)	8.0 (6.0)	1.0 (0.75)
	2011+	7.5 (5.6)		0.40 (0.30)
8≤KW<19 (11≤HP<25)	2010 and earlier	9.5 (7.1)	6.6 (4.9)	0.80 (0.60)
	2011+	7.5 (5.6)		0.40 (0.30)

19≤KW<37 (25≤HP<50)	2010 and earlier	9.5 (7.1)	5.5 (4.1)	0.80 (0.60)
	2011+	7.5 (5.6)		0.30 (0.22)
37≤KW<56 (50≤HP<75)	2010 and earlier	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)
	2011+ ¹	4.7 (3.5)		0.40 (0.30)
56≤KW<75 (75≤HP<100)	2010 and earlier	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)
	2011+ ¹	4.7 (3.5)		0.40 (0.30)
75≤KW<130 (100≤HP<175)	2009 and earlier	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)
	2010+ ²	4.0 (3.0)		0.30 (0.22)
130≤KW<225 (175≤HP<300)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2009+ ³	4.0 (3.0)		0.20 (0.15)
225≤KW<450 (300≤HP<600)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2009+ ³	4.0 (3.0)		0.20 (0.15)
450≤KW≤560 (600≤HP≤750)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2009+	4.0 (3.0)		0.20 (0.15)
KW>560 (HP>750)	2007 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2008+	6.4 (4.8)		0.20 (0.15)

¹For model years 2011–2013, manufacturers, owners and operators of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 revolutions per minute (rpm) may comply with the emission limitations for 2010 model year engines.

²For model years 2010–2012, manufacturers, owners and operators of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 rpm may comply with the emission limitations for 2009 model year engines.

³In model years 2009–2011, manufacturers of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 rpm may comply with the emission limitations for 2008 model year engines.

Table 5 to Subpart IIII of Part 60— Labeling and Record keeping Requirements for New Stationary Emergency Engines

[You must comply with the labeling requirements in §60.4210(f) and the recordkeeping requirements in §60.4214(b) for new emergency stationary CI ICE beginning in the following model years:]

Engine power	Starting model year
19≤KW<56 (25≤HP<75)	2013
56≤KW<130 (75≤HP<175)	2012
KW≥130 (HP≥175)	2011

Table 6 to Subpart IIII of Part 60—Optional 3-Mode Test Cycle for Stationary Fire Pump Engines

[As stated in §60.4210(g), manufacturers of fire pump engines may use the following test cycle for testing fire pump engines:]

Mode o.	Engine speed ¹	Torque percent ²	Weighting factors
1	Rated	100	0.30
2	Rated	75	0.50
3	Rated	50	0.20

¹Engine speed: ±2 percent of point.

²Torque: NFPA certified nameplate HP for 100 percent point. All points should be ±2 percent of engine percent load value.

Table 7 to Subpart IIII of Part 60—Requirements for Performance Tests for Stationary CI ICE With a Displacement of ≥30 liters per Cylinder

[As stated in §60.4213, you must comply with the following requirements for performance tests for stationary CI ICE with a displacement of ≥30 liters per cylinder:]

For each	Complying with the requirement to	You must	Do the following	According to the following requirements
1. Stationary CI internal combustion engine with a displacement of ≥30 liters per cylinder	a. Reduce NO _x emissions by 90 percent or more	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A	(a) Sampling sites must be located at the inlet and outlet of the control device.
		ii. Measure O ₂ at the inlet and outlet of the control device;	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A	(b) Measurements to determine O ₂ concentration must be made at the same time as the measurements for NO _x concentration.
		iii. If necessary, measure	(3) Method 4 of 40 CFR	(c) Measurements to determine

		moisture content at the inlet and outlet of the control device; and,	part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see §60.17)	moisture content must be made at the same time as the measurements for NO _x concentration.
		iv. Measure NO _x at the inlet and outlet of the control device	(4) Method 7E of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see §60.17)	(d) NO _x concentration must be at 15 percent O ₂ , dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
	b. Limit the concentration of NO _x in the stationary CI internal combustion engine exhaust.	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A	(a) If using a control device, the sampling site must be located at the outlet of the control device.
		ii. Determine the O ₂ concentration of the stationary internal combustion engine exhaust at the sampling port location; and,	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A	(b) Measurements to determine O ₂ concentration must be made at the same time as the measurement for NO _x concentration.
		iii. If necessary, measure moisture content of the stationary internal combustion engine exhaust	(3) Method 4 of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A,	(c) Measurements to determine moisture content must be made at the same time as the measurement for NO _x concentration.

		at the sampling port location; and,	or ASTM D 6348–03 (incorporated by reference, see §60.17)	
		iv. Measure NO _x at the exhaust of the stationary internal combustion engine	(4) Method 7E of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348–03 (incorporated by reference, see §60.17)	(d) NO _x concentration must be at 15 percent O ₂ , dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
	c. Reduce PM emissions by 60 percent or more	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A	(a) Sampling sites must be located at the inlet and outlet of the control device.
		ii. Measure O ₂ at the inlet and outlet of the control device;	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A	(b) Measurements to determine O ₂ concentration must be made at the same time as the measurements for PM concentration.
		iii. If necessary, measure moisture content at the inlet and outlet of the control device; and	(3) Method 4 of 40 CFR part 60, appendix A	(c) Measurements to determine and moisture content must be made at the same time as the measurements for PM concentration.
		iv. Measure PM at the inlet and outlet of the control device	(4) Method 5 of 40 CFR part 60, appendix A	(d) PM concentration must be at 15 percent O ₂ , dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
	d. Limit the concentration	i. Select the sampling port	(1) Method 1 or 1A of 40	(a) If using a control device, the

	of PM in the stationary CI internal combustion engine exhaust	location and the number of traverse points;	CFR part 60, appendix A	sampling site must be located at the outlet of the control device.
		ii. Determine the O ₂ concentration of the stationary internal combustion engine exhaust at the sampling port location; and	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A	(b) Measurements to determine O ₂ concentration must be made at the same time as the measurements for PM concentration.
		iii. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and	(3) Method 4 of 40 CFR part 60, appendix A	(c) Measurements to determine moisture content must be made at the same time as the measurements for PM concentration.
		iv. Measure PM at the exhaust of the stationary internal combustion engine	(4) Method 5 of 40 CFR part 60, appendix A	(d) PM concentration must be at 15 percent O ₂ , dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

Table to Subpart IIII of Part 60—Applicability of General Provisions to Subpart IIII

[As stated in §60.4218, you must comply with the following applicable General Provisions:]

General Provisions citation	Subject of citation	Applies to subpart	Explanation
§60.1	General applicability of the General Provisions	Yes	
§60.2	Definitions	Yes	Additional terms defined in §60.4219.

§60.3	Units and abbreviations	Yes	
§60.4	Address	Yes	
§60.5	Determination of construction or modification	Yes	
§60.6	Review of plans	Yes	
§60.7	Notification and Recordkeeping	Yes	Except that §60.7 only applies as specified in §60.4214(a).
§60.8	Performance tests	Yes	Except that §60.8 only applies to stationary CI ICE with a displacement of (≥30 liters per cylinder and engines that are not certified.
§60.9	Availability of information	Yes	
§60.10	State Authority	Yes	
§60.11	Compliance with standards and maintenance requirements	No	Requirements are specified in subpart IIII.
§60.12	Circumvention	Yes	
§60.13	Monitoring requirements	Yes	Except that §60.13 only applies to stationary CI ICE with a displacement of (≥30 liters per cylinder.
§60.14	Modification	Yes	
§60.15	Reconstruction	Yes	
§60.16	Priority list	Yes	
§60.17	Incorporations by reference	Yes	
§60.18	General control device requirements	No	
§60.19	General notification and reporting requirements	Yes	

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APPENDIX L – NESHAP ZZZZ

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Title 40: Protection of Environment

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES (CONTINUED)

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Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Source: 69 FR 33506, June 15, 2004, unless otherwise noted.

What This Subpart Covers

§ 63.6580 What is the purpose of subpart ZZZZ?

Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations.

[73 FR 3603, Jan. 18, 2008]

§ 63.6585 Am I subject to this subpart?

You are subject to this subpart if you own or operate a stationary RICE at a major or area source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand.

(a) A stationary RICE is any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

(b) A major source of HAP emissions is a plant site that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year, except that for oil and gas production facilities, a major source of HAP emissions is determined for each surface site.

(c) An area source of HAP emissions is a source that is not a major source.

(d) If you are an owner or operator of an area source subject to this subpart, your status as an entity subject to a standard or other requirements under this subpart does not subject you to the obligation to obtain a permit under 40 CFR part 70 or 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart as applicable.

(e) If you are an owner or operator of a stationary RICE used for national security purposes, you may be eligible to request an exemption from the requirements of this subpart as described in 40 CFR part 1068,

subpart C.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3603, Jan. 18, 2008]

§ 63.6590 What parts of my plant does this subpart cover?

This subpart applies to each affected source.

(a) *Affected source.* An affected source is any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand.

(1) Existing stationary RICE.

(i) For stationary RICE with a site rating of more than 500 brake horsepower (HP) located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before December 19, 2002.

(ii) For stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iii) For stationary RICE located at an area source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iv) A change in ownership of an existing stationary RICE does not make that stationary RICE a new or reconstructed stationary RICE.

(2) *New stationary RICE.* (i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(3) *Reconstructed stationary RICE.* (i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after June 12, 2006.

(b) *Stationary RICE subject to limited requirements.* (1) An affected source which meets either of the criteria in paragraphs (b)(1)(i) through (ii) of this section does not have to meet the requirements of this subpart and of subpart A of this part except for the initial notification requirements of §63.6645(f).

(i) The stationary RICE is a new or reconstructed emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(ii) The stationary RICE is a new or reconstructed limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(2) A new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis must meet the initial notification requirements of §63.6645(f).

and the requirements of §§63.6625(c), 63.6650(g), and 63.6655(c). These stationary RICE do not have to meet the emission limitations and operating limitations of this subpart.

(3) The following stationary RICE do not have to meet the requirements of this subpart and of subpart A of this part, including initial notification requirements:

- (i) Existing spark ignition 2 stroke lean burn (2SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;
- (ii) Existing spark ignition 4 stroke lean burn (4SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;
- (iii) Existing emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;
- (iv) Existing limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;
- (v) Existing stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;
- (vi) Existing residential emergency stationary RICE located at an area source of HAP emissions;
- (vii) Existing commercial emergency stationary RICE located at an area source of HAP emissions; or
- (viii) Existing institutional emergency stationary RICE located at an area source of HAP emissions.

(c) *Stationary RICE subject to Regulations under 40 CFR Part 60.* An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.

- (1) A new or reconstructed stationary RICE located at an area source;
- (2) A new or reconstructed 2SLB stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;
- (3) A new or reconstructed 4SLB stationary RICE with a site rating of less than 250 brake HP located at a major source of HAP emissions;
- (4) A new or reconstructed spark ignition 4 stroke rich burn (4SRB) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;
- (5) A new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;
- (6) A new or reconstructed emergency or limited use stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;
- (7) A new or reconstructed compression ignition (CI) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008; 75 FR 9674, Mar. 3, 2010; 75 FR 37733, June 30, 2010; 75 FR 51588, Aug. 20, 2010]

§ 63.6595 When do I have to comply with this subpart?

- (a) *Affected sources.* (1) If you have an existing stationary RICE, excluding existing non-emergency CI

stationary RICE, with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than June 15, 2007. If you have an existing non-emergency CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, an existing stationary CI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary CI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than May 3, 2013. If you have an existing stationary SI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary SI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than October 19, 2013.

(2) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart no later than August 16, 2004.

(3) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions after August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(4) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(5) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(6) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(7) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(b) *Area sources that become major sources.* If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, the compliance dates in paragraphs (b) (1) and (2) of this section apply to you.

(1) Any stationary RICE for which construction or reconstruction is commenced after the date when your area source becomes a major source of HAP must be in compliance with this subpart upon startup of your affected source.

(2) Any stationary RICE for which construction or reconstruction is commenced before your area source becomes a major source of HAP must be in compliance with the provisions of this subpart that are applicable to RICE located at major sources within 3 years after your area source becomes a major source of HAP.

(c) If you own or operate an affected source, you must meet the applicable notification requirements in §63.6645 and in 40 CFR part 63, subpart A.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008; 75 FR 9675, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010]

Emission and Operating Limitations

§ 63.6600 What emission limitations and operating limitations must I meet if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

(a) If you own or operate an existing, new, or reconstructed spark ignition 4SRB stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 1a to this subpart and the operating limitations in Table 1b to this subpart which apply to you.

(b) If you own or operate a new or reconstructed 2SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, a new or reconstructed 4SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, or a new or reconstructed CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

(c) If you own or operate any of the following stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the emission limitations in Tables 1a, 2a, 2c, and 2d to this subpart or operating limitations in Tables 1b and 2b to this subpart: an existing 2SLB stationary RICE; an existing 4SLB stationary RICE; a stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis; an emergency stationary RICE; or a limited use stationary RICE.

(d) If you own or operate an existing non-emergency stationary CI RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2c to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 9675, Mar. 3, 2010]

§ 63.6601 What emission limitations must I meet if I own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP and less than or equal to 500 brake HP located at a major source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart. If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at major source of HAP emissions manufactured on or after January 1, 2008, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 9675, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010]

§ 63.6602 What emission limitations must I meet if I own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions?

If you own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations 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 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

[75 FR 51589, Aug. 20, 2010]

§ 63.6603 What emission limitations and operating limitations must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

(a) If you own or operate an existing stationary RICE located at an area source of HAP emissions, you must comply with the requirements in Table 2d to this subpart and the operating limitations in Table 1b and Table 2b to this subpart that apply to you.

(b) If you own or operate an existing stationary non-emergency CI RICE greater than 300 HP located at area sources in areas of Alaska not accessible by the Federal Aid Highway System (FAHS) you do not have to meet the numerical CO emission limitations specified in Table 2d to this subpart. Existing stationary non-emergency CI RICE greater than 300 HP located at area sources in areas of Alaska not accessible by the FAHS must meet the management practices that are shown for stationary non-emergency CI RICE less than or equal to 300 HP in Table 2d to this subpart.

[75 FR 9675, Mar. 3, 2010, as amended at 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011]

§ 63.6604 What fuel requirements must I meet if I own or operate an existing stationary CI RICE?

If you own or operate an existing non-emergency, non-black start CI stationary RICE with a site rating of more than 300 brake HP with a displacement of less than 30 liters per cylinder that uses diesel fuel, you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel. Existing non-emergency CI stationary RICE located in Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, or at area sources in areas of Alaska not accessible by the FAHS are exempt from the requirements of this section.

[75 FR 51589, Aug. 20, 2010]

General Compliance Requirements

§ 63.6605 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations and operating limitations in this subpart that apply to you at all times.

(b) At all times you 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.

[75 FR 9675, Mar. 3, 2010]

Testing and Initial Compliance Requirements

§ 63.6610 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

If you own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions you are subject to the requirements of this section.

(a) You must conduct the initial performance test or other initial compliance demonstrations in Table 4 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions in §63.7(a)(2).

(b) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must demonstrate initial compliance with either the proposed emission limitations or the promulgated emission limitations no later than February 10, 2005 or no later than 180 days after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(c) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, and you chose to comply with the proposed emission limitations when demonstrating initial compliance, you must conduct a second performance test to demonstrate compliance with the promulgated emission limitations by December 13, 2007 or after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(d) An owner or operator is not required to conduct an initial performance test on units for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (d)(1) through (5) of this section.

(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.

(3) The test must be reviewed and accepted by the Administrator.

(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

(5) The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3605, Jan. 18, 2008]

§ 63.6611 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a new or reconstructed 4SLB SI stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions?

If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must conduct an initial performance test within 240 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions specified in Table 4 to this subpart, as appropriate.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 51589, Aug. 20, 2010]

§ 63.6612 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions?

If you own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions you are subject to the requirements of this section.

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

(b) An owner or operator 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.

(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.

(3) The test must be reviewed and accepted by the Administrator.

(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

[75 FR 9676, Mar. 3, 2010, as amended at 75 FR 51589, Aug. 20, 2010]

§ 63.6615 When must I conduct subsequent performance tests?

If you must comply with the emission limitations and operating limitations, you must conduct subsequent performance tests as specified in Table 3 of this subpart.

§ 63.6620 What performance tests and other procedures must I use?

(a) You must conduct each performance test in Tables 3 and 4 of this subpart that applies to you.

(b) Each performance test must be conducted according to the requirements that this subpart specifies in Table 4 to this subpart. If you own or operate a non-operational stationary RICE that is subject to performance testing, you do not need to start up the engine solely to conduct the performance test. Owners and operators of a non-operational engine can conduct the performance test when the engine is started up again.

(c) [Reserved]

(d) You must conduct three separate test runs for each performance test required in this section, as specified in §63.7(e)(3). Each test run must last at least 1 hour.

(e)(1) You must use Equation 1 of this section to determine compliance with the percent reduction requirement:

$$\frac{C_i - C_o}{C_i} \times 100 = R \quad (\text{Eq. 1})$$

Where:

C_i = concentration of CO or formaldehyde at the control device inlet,

C_o = concentration of CO or formaldehyde at the control device outlet, and

R = percent reduction of CO or formaldehyde emissions.

(2) You must normalize the carbon monoxide (CO) or formaldehyde 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.

(i) Calculate the fuel-specific F_o value for the fuel burned during the test using values obtained from Method 19, section 5.2, and the following equation:

$$F_o = \frac{0.209 F_d}{F_c} \quad (\text{Eq. 2})$$

Where:

F_o = Fuel factor based on the ratio of oxygen volume to the ultimate CO_2 volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is oxygen, percent/100.

F_d = Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19, $ds m^3 / J$ ($dscf/10^6$ Btu).

F_c = Ratio of the volume of CO_2 produced to the gross calorific value of the fuel from Method 19, $ds m^3 / J$ ($dscf/10^6$ Btu).

(ii) Calculate the CO_2 correction factor for correcting measurement data to 15 percent oxygen, as follows:

$$X_{co_2} = \frac{5.9}{F_o} \quad (\text{Eq. 3})$$

Where:

X_{co_2} = CO_2 correction factor, percent.

5.9 = 20.9 percent O_2 - 15 percent O_2 , the defined O_2 correction value, percent.

(iii) Calculate the NO_x and SO_2 gas concentrations adjusted to 15 percent O_2 using CO_2 as follows:

$$C_{adj} = C_d \frac{X_{co_2}}{\% CO_2} \quad (\text{Eq. 4})$$

Where:

$\% CO_2$ = Measured CO_2 concentration measured, dry basis, percent.

(f) If you comply with the emission limitation to reduce CO and you are not using an oxidation catalyst, if you comply with the emission limitation to reduce formaldehyde and you are not using NSCR, or if you comply with the emission limitation to limit the concentration of formaldehyde in the stationary RICE exhaust and you are not using an oxidation catalyst or NSCR, you must petition the Administrator for operating limitations to be established during the initial performance test and continuously monitored thereafter; or for approval of no operating limitations. You must not conduct the initial performance test until after the petition has been approved by the Administrator.

(g) If you petition the Administrator for approval of operating limitations, your petition must include the information described in paragraphs (g)(1) through (5) of this section.

(1) Identification of the specific parameters you propose to use as operating limitations;

(2) A discussion of the relationship between these parameters and HAP emissions, identifying how HAP emissions change with changes in these parameters, and how limitations on these parameters will serve to limit HAP emissions;

(3) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;

(4) A discussion identifying the methods you will use to measure and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and

(5) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(h) If you petition the Administrator for approval of no operating limitations, your petition must include the information described in paragraphs (h)(1) through (7) of this section.

(1) Identification of the parameters associated with operation of the stationary RICE and any emission control device which could change intentionally (e.g. operator adjustment, automatic controller adjustment, etc.) or unintentionally (e.g. wear and tear, error, etc.) on a routine basis or over time;

(2) A discussion of the relationship, if any, between changes in the parameters and changes in HAP emissions;

(3) For the parameters which could change in such a way as to increase HAP emissions, a discussion of whether establishing limitations on the parameters would serve to limit HAP emissions;

(4) For the parameters which could change in such a way as to increase HAP emissions, a discussion of how you could establish upper and/or lower values for the parameters which would establish limits on the parameters in operating limitations;

(5) For the parameters, a discussion identifying the methods you could use to measure them and the instruments you could use to monitor them, as well as the relative accuracy and precision of the methods and instruments;

(6) For the parameters, a discussion identifying the frequency and methods for recalibrating the instruments you could use to monitor them; and

(7) A discussion of why, from your point of view, it is infeasible or unreasonable to adopt the parameters as operating limitations.

(i) The engine percent load during a performance test must be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load in a specific application. A written report of the average percent load determination must be included in the notification of compliance status. The following information must be included in the written report: the engine model number, the engine manufacturer, the year of purchase, the manufacturer's site-rated brake horsepower, the ambient temperature, pressure, and humidity during the performance test, and all assumptions that were made to estimate or calculate percent load during the performance test must be clearly explained. If measurement devices such as flow meters, kilowatt meters, beta analyzers, stain gauges, etc. are used, the model number of the measurement device, and an estimate of its accurate in percentage of true value must be provided.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9676, Mar. 3, 2010]

§ 63.6625 What are my monitoring, installation, collection, operation, and maintenance requirements?

(a) If you elect to install a CEMS as specified in Table 5 of this subpart, you must install, operate, and maintain a CEMS to monitor CO and either oxygen or CO₂ at both the inlet and the outlet of the control device according to the requirements in paragraphs (a)(1) through (4) of this section.

(1) Each CEMS must be installed, operated, and maintained according to the applicable performance specifications of 40 CFR part 60, appendix B.

(2) You must conduct an initial performance evaluation and an annual relative accuracy test audit (RATA) of each CEMS according to the requirements in §63.8 and according to the applicable performance specifications of 40 CFR part 60, appendix B as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.

(3) As specified in §63.8(c)(4)(ii), each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. You must have at least two data points, with each representing a different 15-minute period, to have a valid hour of data.

(4) The CEMS data must be reduced as specified in §63.8(g)(2) and recorded in parts per million or parts per billion (as appropriate for the applicable limitation) at 15 percent oxygen or the equivalent CO₂ concentration.

(b) If you are required to install a continuous parameter monitoring system (CPMS) as specified in Table 5 of this subpart, you must install, operate, and maintain each CPMS according to the requirements in paragraphs (b)(1) through (5) of this section. For an affected source that is complying with the emission limitations and operating limitations on March 9, 2011, the requirements in paragraph (b) of this section are applicable September 6, 2011.

(1) You must prepare a site-specific monitoring plan that addresses the monitoring system design, data collection, and the quality assurance and quality control elements outlined in paragraphs (b)(1)(i) through (v) of this section and in §63.8(d). As specified in §63.8(f)(4), you may request approval of monitoring system quality assurance and quality control procedures alternative to those specified in paragraphs (b)(1) through (5) of this section in your site-specific monitoring plan.

(i) The performance criteria and design specifications for the monitoring system equipment, including the sample interface, detector signal analyzer, and data acquisition and calculations;

(ii) Sampling interface (e.g. thermocouple) location such that the monitoring system will provide representative measurements;

(iii) Equipment performance evaluations, system accuracy audits, or other audit procedures;

(iv) Ongoing operation and maintenance procedures in accordance with provisions in §63.8(c)(1) and (c)(3); and

(v) Ongoing reporting and recordkeeping procedures in accordance with provisions in §63.10(c), (e)(1), and (e)(2)(i).

(2) You must install, operate, and maintain each CPMS in continuous operation according to the procedures in your site-specific monitoring plan.

(3) The CPMS must collect data at least once every 15 minutes (see also §63.6635).

(4) For a CPMS for measuring temperature range, the temperature sensor must have a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit) or 1 percent of the measurement range, whichever is larger.

(5) You must conduct the CPMS equipment performance evaluation, system accuracy audits, or other audit procedures specified in your site-specific monitoring plan at least annually.

(6) You must conduct a performance evaluation of each CPMS in accordance with your site-specific monitoring plan.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must monitor and record your fuel usage daily with separate fuel meters to measure the volumetric flow rate of each fuel. In addition, you must operate your stationary RICE in a manner which reasonably minimizes HAP emissions.

(d) If you are operating a new or reconstructed emergency 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must install a non-resettable hour meter prior to the startup of the engine.

(e) If you own or operate any of the following stationary RICE, you 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:

(1) An existing stationary RICE with a site rating of less than 100 HP located at a major source of HAP emissions;

- (2) An existing emergency or black start stationary RICE with a site rating of less than or equal to 500 HP located at a major source of HAP emissions;
- (3) An existing emergency or black start stationary RICE located at an area source of HAP emissions;
- (4) An existing non-emergency, non-black start stationary CI RICE with a site rating less than or equal to 300 HP located at an area source of HAP emissions;
- (5) An existing non-emergency, non-black start 2SLB stationary RICE located at an area source of HAP emissions;
- (6) An existing non-emergency, non-black start landfill or digester gas stationary RICE located at an area source of HAP emissions;
- (7) An existing non-emergency, non-black start 4SLB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;
- (8) An existing non-emergency, non-black start 4SRB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;
- (9) An existing, non-emergency, non-black start 4SLB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year; and
- (10) An existing, non-emergency, non-black start 4SRB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year.
- (f) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing emergency stationary RICE located at an area source of HAP emissions, you must install a non-resettable hour meter if one is not already installed.
- (g) If you own or operate an existing non-emergency, non-black start CI engine greater than or equal to 300 HP that is not equipped with a closed crankcase ventilation system, you must comply with either paragraph (g)(1) or paragraph (g)(2) of this section. Owners and operators must follow the manufacturer's specified maintenance requirements for operating and maintaining the open or closed crankcase ventilation systems and replacing the crankcase filters, or can request the Administrator to approve different maintenance requirements that are as protective as manufacturer requirements. Existing CI engines located at area sources in areas of Alaska not accessible by the FAHS do not have to meet the requirements of paragraph (g) of this section.
- (1) Install a closed crankcase ventilation system that prevents crankcase emissions from being emitted to the atmosphere, or
- (2) Install an open crankcase filtration emission control system that reduces emissions from the crankcase by filtering the exhaust stream to remove oil mist, particulates, and metals.
- (h) If you operate a new, reconstructed, or existing stationary engine, you 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 Tables 1a, 2a, 2c, and 2d to this subpart apply.
- (i) If you own or operate a stationary CI engine that is subject to the work, operation or management practices in items 1 or 2 of Table 2c to this subpart or in items 1 or 4 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before

commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

(j) If you own or operate a stationary SI engine that is subject to the work, operation or management practices in items 6, 7, or 8 of Table 2c to this subpart or in items 5, 6, 7, 9, or 11 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011]

§ 63.6630 How do I demonstrate initial compliance with the emission limitations and operating limitations?

(a) You must demonstrate initial compliance with each emission and operating limitation that applies to you according to Table 5 of this subpart.

(b) During the initial performance test, you must establish each operating limitation in Tables 1b and 2b of this subpart that applies to you.

(c) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.6645.

Continuous Compliance Requirements

§ 63.6635 How do I monitor and collect data to demonstrate continuous compliance?

(a) If you must comply with emission and operating limitations, you must monitor and collect data according to this section.

(b) Except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities, you 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.

(c) You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must, however, use all the valid data collected during all other periods.

[69 FR 33506, June 15, 2004, as amended at 76 FR 12867, Mar. 9, 2011]

§ 63.6640 How do I demonstrate continuous compliance with the emission limitations and operating limitations?

(a) You must demonstrate continuous compliance with each emission limitation and operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you according to methods specified in Table 6 to this subpart.

(b) You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d 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 §63.6650. If you change your catalyst, you must reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE.

(c) [Reserved]

(d) For new, reconstructed, and rebuilt stationary RICE, deviations from the emission or operating limitations that occur during the first 200 hours of operation from engine startup (engine burn-in period) are not violations. Rebuilt stationary RICE means a stationary RICE that has been rebuilt as that term is defined in 40 CFR 94.11(a).

(e) You must also report each instance in which you did not meet the requirements in Table 8 to this subpart that apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing emergency stationary RICE, an existing limited use stationary RICE, or an existing stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart, except for the initial notification requirements: a new or reconstructed stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new or reconstructed emergency stationary RICE, or a new or reconstructed limited use stationary RICE.

(f) *Requirements for emergency stationary RICE.* (1) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, a new or reconstructed emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that was installed on or after June 12, 2006, or an existing emergency stationary RICE located at an area source of HAP emissions, you must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1)(i) through (iii) of this section. Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1)(i) through (iii) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1)(i) through (iii) of this section, the engine will not be considered an emergency engine under this subpart and will need to meet all requirements for non-emergency engines.

(i) There is no time limit on the use of emergency stationary RICE in emergency situations.

(ii) You may operate your emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. The owner or operator 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 owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year.

(iii) You may operate your emergency stationary RICE up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. 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, except that owners and operators may operate the emergency engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level. The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified

that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for non-emergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by this paragraph (f)(1)(iii), as long as the power provided by the financial arrangement is limited to emergency power.

(2) If you own or operate an emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that was installed prior to June 12, 2006, you must operate the engine according to the conditions described in paragraphs (f)(2)(i) through (iii) of this section. If you do not operate the engine according to the requirements in paragraphs (f)(2)(i) through (iii) of this section, the engine will not be considered an emergency engine under this subpart and will need to meet all requirements for non-emergency engines.

(i) There is no time limit on the use of emergency stationary RICE in emergency situations.

(ii) You may operate your emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by the manufacturer, the vendor, or the insurance company associated with the engine. Required testing of such units should be minimized, but there is no time limit on the use of emergency stationary RICE in emergency situations and for routine testing and maintenance.

(iii) You may operate your emergency stationary RICE for an additional 50 hours per year in non-emergency situations. 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.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010]

Notifications, Reports, and Records

§ 63.6645 What notifications must I submit and when?

(a) You must submit all of the notifications in §§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 you by the dates specified if you own or operate any of the following:

(1) An existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

(2) An existing stationary RICE located at an area source of HAP emissions.

(3) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(4) A new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 HP located at a major source of HAP emissions.

(5) This requirement does not apply if you own or operate an existing stationary RICE less than 100 HP, an existing stationary emergency RICE, or an existing stationary RICE that is not subject to any numerical emission standards.

(b) As specified in §63.9(b)(2), if you start up your stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart, you must submit an Initial Notification not later than December 13, 2004.

(c) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions on or after August 16, 2004, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

(d) As specified in §63.9(b)(2), if you start up your stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart and you are required to submit an initial notification, you must submit an Initial Notification not later than July 16, 2008.

(e) If you start up your new or reconstructed stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions on or after March 18, 2008 and you are required to submit an initial notification, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

(f) If you are required to submit an Initial Notification but are otherwise not affected by the requirements of this subpart, in accordance with §63.6590(b), your notification should include the information in §63.9(b)(2)(i) through (v), and a statement that your stationary RICE has no additional requirements and explain the basis of the exclusion (for example, that it operates exclusively as an emergency stationary RICE if it has a site rating of more than 500 brake HP located at a major source of HAP emissions).

(g) If you are required to conduct a performance test, you 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 §63.7(b)(1).

(h) If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to this subpart, you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii).

(1) For each initial compliance demonstration required in Table 5 to this subpart that does not include a performance test, you must submit the Notification of Compliance Status before the close of business on the 30th day following the completion of the initial compliance demonstration.

(2) For each initial compliance demonstration required in Table 5 to this subpart that includes a performance test conducted according to the requirements in Table 3 to this subpart, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test according to §63.10(d)(2).

[73 FR 3606, Jan. 18, 2008, as amended at 75 FR 9677, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010]

§ 63.6650 What reports must I submit and when?

(a) You must submit each report in Table 7 of this subpart that applies to you.

(b) Unless the Administrator has approved a different schedule for submission of reports under §63.10(a), you 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.

(1) For semiannual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in §63.6595.

(2) For semiannual Compliance reports, the first Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in §63.6595.

(3) For semiannual Compliance reports, each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) For semiannual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(5) For each stationary RICE that is subject to permitting regulations pursuant to 40 CFR part 70 or 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6 (a)(3)(iii)(A), you may submit the first and subsequent Compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (b)(4) of this section.

(6) For annual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on December 31.

(7) For annual Compliance reports, the first Compliance report must be postmarked or delivered no later than January 31 following the end of the first calendar year after the compliance date that is specified for your affected source in §63.6595.

(8) For annual Compliance reports, each subsequent Compliance report must cover the annual reporting period from January 1 through December 31.

(9) For annual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than January 31.

(c) The Compliance report must contain the information in paragraphs (c)(1) through (6) of this section.

(1) Company name and address.

(2) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) If you had a malfunction during the reporting period, the compliance 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 an owner or operator during a malfunction of an affected source to minimize emissions in accordance with §63.6605(b), including actions taken to correct a malfunction.

(5) If there are no deviations from any emission or operating limitations that apply to you, a statement that there were no deviations from the emission or operating limitations during the reporting period.

(6) If there were no periods during which the continuous monitoring system (CMS), including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period.

(d) 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.

(1) The total operating time of the stationary RICE at which the deviation occurred during the reporting period.

(2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(e) For each deviation from an emission or operating limitation occurring for a stationary RICE where you are using a CMS to comply with the emission and operating limitations in this subpart, you must include information in paragraphs (c)(1) through (4) and (e)(1) through (12) of this section.

(1) The date and time that each malfunction started and stopped.

(2) The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out-of-control, including the information in §63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period.

(5) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the total operating time of the stationary RICE at which the CMS downtime occurred during that reporting period.

(8) An identification of each parameter and pollutant (CO or formaldehyde) that was monitored at the stationary RICE.

(9) A brief description of the stationary RICE.

(10) A brief description of the CMS.

(11) The date of the latest CMS certification or audit.

(12) A description of any changes in CMS, processes, or controls since the last reporting period.

(f) 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 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.

(g) If you are operating as a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must submit an annual report according to Table 7 of this subpart by the date specified unless the Administrator has approved a different schedule, according to the information described in paragraphs (b)(1) through (b)(5) of this section. You must report the data specified in (g)(1) through (g)(3) of this section.

(1) Fuel flow rate of each fuel and the heating values that were used in your calculations. You must also demonstrate that the percentage of heat input provided by landfill gas or digester gas is equivalent to 10 percent or more of the total fuel consumption on an annual basis.

(2) The operating limits provided in your federally enforceable permit, and any deviations from these limits.

(3) Any problems or errors suspected with the meters.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9677, Mar. 3, 2010]

§ 63.6655 What records must I keep?

(a) If you must comply with the emission and operating limitations, you must keep the records described in paragraphs (a)(1) through (a)(5), (b)(1) through (b)(3) and (c) of this section.

(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 §63.10(b)(2)(xiv).

(2) Records of the occurrence and duration of each malfunction of operation (i.e. process equipment) or the air pollution control and monitoring equipment.

(3) Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii).

(4) Records of all required maintenance performed on the air pollution control and monitoring equipment.

(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with §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.

(b) For each CEMS or CPMS, you must keep the records listed in paragraphs (b)(1) through (3) of this section.

(1) Records described in §63.10(b)(2)(vi) through (xi).

(2) Previous (*i.e.* superseded) versions of the performance evaluation plan as required in §63.8(d)(3).

(3) Requests for alternatives to the relative accuracy test for CEMS or CPMS as required in §63.8(f)(6) (i), if applicable.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must keep the records of your daily fuel usage monitors.

(d) You must keep the records required in Table 6 of this subpart to show continuous compliance with each emission or operating limitation that applies to you.

(e) You must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan if you own or operate any of the following stationary RICE;

(1) An existing stationary RICE with a site rating of less than 100 brake HP located at a major source of HAP emissions.

(2) An existing stationary emergency RICE.

(3) An existing stationary RICE located at an area source of HAP emissions subject to management practices as shown in Table 2d to this subpart.

(f) If you own or operate any of the stationary RICE in paragraphs (f)(1) or (2) of this section, you must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator 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 engines are used for demand response operation, the owner or operator must keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response.

(1) An existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions that does not meet the standards applicable to non-emergency engines.

(2) An existing emergency stationary RICE located at an area source of HAP emissions that does not meet the standards applicable to non-emergency engines.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010]

§ 63.6660 In what form and how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious review according to §63.10(b)(1).

(b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You 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 §63.10(b)(1).

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010]

Other Requirements and Information

§ 63.6665 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with any of the requirements of the General Provisions specified in Table 8: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing stationary RICE that combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, an existing emergency stationary RICE, or an existing limited use stationary RICE. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in the General Provisions specified in Table 8 except for the initial notification requirements: A new stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new emergency stationary RICE, or a new limited use stationary RICE.

[75 FR 9678, Mar. 3, 2010]

§ 63.6670 Who implements and enforces this subpart?

(a) This subpart is implemented and enforced by the U.S. EPA, or a delegated authority such as your State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the U.S. EPA) has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out whether this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are:

(1) Approval of alternatives to the non-opacity emission limitations and operating limitations in §63.6600 under §63.6(g).

(2) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f) and as defined in §63.90.

(3) Approval of major alternatives to monitoring under §63.8(f) and as defined in §63.90.

(4) Approval of major alternatives to recordkeeping and reporting under §63.10(f) and as defined in §63.90.

(5) Approval of a performance test which was conducted prior to the effective date of the rule, as specified in §63.6610(b).

§ 63.6675 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act (CAA); in 40 CFR 63.2, the General Provisions of this part; and in this section as follows:

Area source means any stationary source of HAP that is not a major source as defined in part 63.

Associated equipment as used in this subpart and as referred to in section 112(n)(4) of the CAA, means equipment associated with an oil or natural gas exploration or production well, and includes all equipment from the well bore to the point of custody transfer, except glycol dehydration units, storage vessels with potential for flash emissions, combustion turbines, and stationary RICE.

lac start engine means an engine whose only purpose is to start up a combustion turbine.

CAA means the Clean Air Act (42 U.S.C. 7401 *et seq.* as amended by Public Law 101–549, 104 Stat. 2399).

Commercial emergency stationary RICE means an emergency stationary RICE used in commercial establishments such as office buildings, hotels, stores, telecommunications facilities, restaurants, financial institutions such as banks, doctor's offices, and sports and performing arts facilities.

Com reSSION ignition means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

Custody transfer means the transfer of hydrocarbon liquids or natural gas: After processing and/or treatment in the producing operations, or from storage vessels or automatic transfer facilities or other such equipment, including product loading racks, to pipelines or any other forms of transportation. For the purposes of this subpart, the point at which such liquids or natural gas enters a natural gas processing plant is a point of custody transfer.

e iation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation or operating limitation;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limitation or operating limitation in this subpart during malfunction, regardless of whether or not such failure is permitted by this subpart.

(4) Fails to satisfy the general duty to minimize emissions established by §63.6(e)(1)(i).

iesel engine means any stationary RICE in which a high boiling point liquid fuel injected into the combustion chamber ignites when the air charge has been compressed to a temperature sufficiently high for auto-ignition. This process is also known as compression ignition.

iesel fuel means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is fuel oil number 2. Diesel fuel also includes any non-distillate fuel with comparable physical and chemical properties (*e.g.* biodiesel) that is suitable for use in compression ignition engines.

igester gas means any gaseous by-product of wastewater treatment typically formed through the anaerobic decomposition of organic waste materials and composed principally of methane and CO₂.

ual fuel engine means any stationary RICE in which a liquid fuel (typically diesel fuel) is used for compression ignition and gaseous fuel (typically natural gas) is used as the primary fuel.

Emergency stationary RICE means any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary RICE used to pump water in the case of fire or flood, *etc.* Stationary RICE used for peak shaving are not considered emergency stationary RICE. Stationary RICE used to supply power to an electric grid or that supply non-emergency power as part of a financial arrangement with another entity are not considered to be emergency engines, except as permitted under §63.6640(f). All emergency stationary RICE must comply with the requirements specified in §63.6640(f) in order to be considered emergency stationary RICE. If the engine does not comply with the requirements specified in §63.6640(f), then it is not considered to be an emergency stationary RICE under this subpart.

Engine startu means the time from initial start until applied load and engine and associated equipment reaches steady state or normal operation. For stationary engine with catalytic controls, engine startup

means the time from initial start until applied load and engine and associated equipment, including the catalyst, reaches steady state or normal operation.

Four stroke engine means any type of engine which completes the power cycle in two crankshaft revolutions, with intake and compression strokes in the first revolution and power and exhaust strokes in the second revolution.

Gaseous fuel means a material used for combustion which is in the gaseous state at standard atmospheric temperature and pressure conditions.

Gasoline means any fuel sold in any State for use in motor vehicles and motor vehicle engines, or nonroad or stationary engines, and commonly or commercially known or sold as gasoline.

Glycol dehydration unit means a device in which a liquid glycol (including, but not limited to, ethylene glycol, diethylene glycol, or triethylene glycol) absorbent directly contacts a natural gas stream and absorbs water in a contact tower or absorption column (absorber). The glycol contacts and absorbs water vapor and other gas stream constituents from the natural gas and becomes "rich" glycol. This glycol is then regenerated in the glycol dehydration unit reboiler. The "lean" glycol is then recycled.

Any hazardous air pollutants (AP) means any air pollutants listed in or pursuant to section 112(b) of the CAA.

Institutional emergency stationary RICE means an emergency stationary RICE used in institutional establishments such as medical centers, nursing homes, research centers, institutions of higher education, correctional facilities, elementary and secondary schools, libraries, religious establishments, police stations, and fire stations.

ISO standard day conditions means 288 degrees Kelvin (15 degrees Celsius), 60 percent relative humidity and 101.3 kilopascals pressure.

Landfill gas means a gaseous by-product of the land application of municipal refuse typically formed through the anaerobic decomposition of waste materials and composed principally of methane and CO₂.

Lean burn engine means any two-stroke or four-stroke spark ignited engine that does not meet the definition of a rich burn engine.

Limited use stationary RICE means any stationary RICE that operates less than 100 hours per year.

Liquefied petroleum gas means any liquefied hydrocarbon gas obtained as a by-product in petroleum refining or natural gas production.

Liquid fuel means any fuel in liquid form at standard temperature and pressure, including but not limited to diesel, residual/crude oil, kerosene/naphtha (jet fuel), and gasoline.

Major Source as used in this subpart, shall have the same meaning as in §63.2, except that:

(1) Emissions from any oil or gas exploration or production well (with its associated equipment (as defined in this section)) and emissions from any pipeline compressor station or pump station shall not be aggregated with emissions from other similar units, to determine whether such emission points or stations are major sources, even when emission points are in a contiguous area or under common control;

(2) For oil and gas production facilities, emissions from processes, operations, or equipment that are not part of the same oil and gas production facility, as defined in §63.1271 of subpart HHH of this part, shall not be aggregated;

(3) For production field facilities, only HAP emissions from glycol dehydration units, storage vessel with the potential for flash emissions, combustion turbines and reciprocating internal combustion engines shall be aggregated for a major source determination; and

(4) Emissions from processes, operations, and equipment that are not part of the same natural gas transmission and storage facility, as defined in §63.1271 of subpart HHH of this part, shall not be

aggregated.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

Natural gas means a naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in geologic formations beneath the Earth's surface, of which the principal constituent is methane. Natural gas may be field or pipeline quality.

Non selective catalytic reduction NSCR means an add-on catalytic nitrogen oxides (NO_x) control device for rich burn engines that, in a two-step reaction, promotes the conversion of excess oxygen, NO_x, CO, and volatile organic compounds (VOC) into CO₂, nitrogen, and water.

Oil and gas production facility as used in this subpart means any grouping of equipment where hydrocarbon liquids are processed, upgraded (i.e. remove impurities or other constituents to meet contract specifications), or stored prior to the point of custody transfer; or where natural gas is processed, upgraded, or stored prior to entering the natural gas transmission and storage source category. For purposes of a major source determination, facility (including a building, structure, or installation) means oil and natural gas production and processing equipment that is located within the boundaries of an individual surface site as defined in this section. Equipment that is part of a facility will typically be located within close proximity to other equipment located at the same facility. Pieces of production equipment or groupings of equipment located on different oil and gas leases, mineral fee tracts, lease tracts, subsurface or surface unit areas, surface fee tracts, surface lease tracts, or separate surface sites, whether or not connected by a road, waterway, power line or pipeline, shall not be considered part of the same facility. Examples of facilities in the oil and natural gas production source category include, but are not limited to, well sites, satellite tank batteries, central tank batteries, a compressor station that transports natural gas to a natural gas processing plant, and natural gas processing plants.

Oxidation catalyst means an add-on catalytic control device that controls CO and VOC by oxidation.

Peaking unit or engine means any standby engine intended for use during periods of high demand that are not emergencies.

Percent load means the fractional power of an engine compared to its maximum manufacturer's design capacity at engine site conditions. Percent load may range between 0 percent to above 100 percent.

Potential to emit means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. For oil and natural gas production facilities subject to subpart HH of this part, the potential to emit provisions in §63.760(a) may be used. For natural gas transmission and storage facilities subject to subpart HHH of this part, the maximum annual facility gas throughput for storage facilities may be determined according to §63.1270(a)(1) and the maximum annual throughput for transmission facilities may be determined according to §63.1270(a)(2).

Production field facility means those oil and gas production facilities located prior to the point of custody transfer.

Production well means any hole drilled in the earth from which crude oil, condensate, or field natural gas is extracted.

Propane means a colorless gas derived from petroleum and natural gas, with the molecular structure C₃H₈.

Residential emergency stationary RICE means an emergency stationary RICE used in residential establishments such as homes or apartment buildings.

Responsible official means responsible official as defined in 40 CFR 70.2.

Rich burn engine means any four-stroke spark ignited engine where the manufacturer's recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio at full load conditions is less than or equal to 1.1. Engines originally manufactured as rich burn engines, but modified prior to December 19, 2002 with passive emission control technology for NO_x (such as pre-combustion chambers) will be considered lean burn engines. Also, existing engines where there are no manufacturer's recommendations regarding air/fuel ratio will be considered a rich burn engine if the excess oxygen content of the exhaust at full load conditions is less than or equal to 2 percent.

Site rated P means the maximum manufacturer's design capacity at engine site conditions.

Spark ignition means relating to either: A gasoline-fueled engine; or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for CI and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

Stationary reciprocating internal combustion engine RICE means any reciprocating internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

Stationary RICE test cell stand means an engine test cell/stand, as defined in subpart P of this part, that tests stationary RICE.

Stoichiometric means the theoretical air-to-fuel ratio required for complete combustion.

Storage vessel with the potential for flash emissions means any storage vessel that contains a hydrocarbon liquid with a stock tank gas-to-oil ratio equal to or greater than 0.31 cubic meters per liter and an American Petroleum Institute gravity equal to or greater than 40 degrees and an actual annual average hydrocarbon liquid throughput equal to or greater than 79,500 liters per day. Flash emissions occur when dissolved hydrocarbons in the fluid evolve from solution when the fluid pressure is reduced.

Subpart means 40 CFR part 63, subpart ZZZZ.

Surface site means any combination of one or more graded pad sites, gravel pad sites, foundations, platforms, or the immediate physical location upon which equipment is physically affixed.

Two stroke engine means a type of engine which completes the power cycle in single crankshaft revolution by combining the intake and compression operations into one stroke and the power and exhaust operations into a second stroke. This system requires auxiliary scavenging and inherently runs lean of stoichiometric.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3607, Jan. 18, 2008; 75 FR 9679, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010; 76 FR 12867, Mar. 9, 2011]

Table 1 to Subpart ZZZZ of Part 63—Emission Limitations for Existing, New, and Reconstructed Spark Ignition, 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600 and 63.6640, you must comply with the following emission limitations at 100 percent load plus or minus 10 percent for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions:

For each . . .	you must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
1. 4SRB stationary	a. Reduce formaldehyde emissions by 76 percent or more.	Minimize the engine's time spent at idle and minimize the

RICE	If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may reduce formaldehyde emissions by 75 percent or more until June 15, 2007 or	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. ¹
	b. Limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O ₂	

¹Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 9679, Mar. 3, 2010, as amended at 75 FR 51592, Aug. 20, 2010]

Table 1bto Subpart ZZZZ of Part 63—Operating Limitations for Existing, New, and Reconstructed Spark Ignition 4SRB Stationary RICE 500 HP Located at a Major Source of HAP Emissions and Existing Spark Ignition 4SRB Stationary RICE 500 HP Located at an Area Source of HAP Emissions

As stated in §§63.6600, 63.6603, 63.6630 and 63.6640, you must comply with the following operating limitations for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions and existing 4SRB stationary RICE >500 HP located at an area source of HAP emissions that operate more than 24 hours per calendar year:

For each . . .	ou must meet the following operating limitation . . .
1. 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and using NSCR; or 4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O ₂ and using NSCR; or 4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 2.7 ppmvd or less at 15 percent O ₂ and using NSCR.	a. Maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst measured during the initial performance test; and b. Maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 750 °F and less than or equal to 1250 °F.
2. 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and	Comply with any operating limitations approved by the Administrator.

not using NSCR; or 4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O ₂ and not using NSCR; or 4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 2.7 ppmvd or less at 15 percent O ₂ and not using NSCR.	
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[76 FR 12867, Mar. 9, 2011]

Table 2ato Subpart ZZZZ of Part 63—Emission Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE 500 HP and New and Reconstructed 4SLB Stationary RICE 250 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600 and 63.6640, you must comply with the following emission limitations for new and reconstructed lean burn and new and reconstructed compression ignition stationary RICE at 100 percent load plus or minus 10 percent:

For each . . .	ou must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
1. 2SLB stationary RICE	a. Reduce CO emissions by 58 percent or more; or b. Limit concentration of formaldehyde in the stationary RICE exhaust to 12 ppmvd or less at 15 percent O ₂ . If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may limit concentration of formaldehyde to 17 ppmvd or less at 15 percent O ₂ until June 15, 2007	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. ¹
2. 4SLB stationary RICE	a. Reduce CO emissions by 93 percent or more; or	
	b. Limit concentration of formaldehyde in the stationary RICE exhaust to 14 ppmvd or less at 15 percent O ₂	
3. CI stationary RICE	a. Reduce CO emissions by 70 percent or more; or	
	b. Limit concentration of	

	formaldehyde in the stationary RICE exhaust to 580 ppbvd or less at 15 percent O ₂	
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¹Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 9680, Mar. 3, 2010]

Table 2bto Subpart ZZZZ of Part 63— Operating Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE 500 HP Located at a Major Source of HAP Emissions, New and Reconstructed 4SLB Stationary RICE 250 HP Located at a Major Source of HAP Emissions, Existing Compression Ignition Stationary RICE 500 HP, and Existing 4SLB Stationary RICE 500 HP Located at an Area Source of HAP Emissions

As stated in §§63.6600, 63.6601, 63.6603, 63.6630, and 63.6640, you must comply with the following operating limitations for new and reconstructed 2SLB and compression ignition stationary RICE located at a major source of HAP emissions; new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions; existing compression ignition stationary RICE >500 HP; and existing 4SLB stationary RICE >500 HP located at an area source of HAP emissions that operate more than 24 hours per calendar year:

For each . . .	ou must meet the following operating limitation . . .
1. 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to reduce CO emissions and using an oxidation catalyst; or 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and using an oxidation catalyst; or 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of CO in the stationary RICE exhaust and using an oxidation catalyst	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F. ¹
2. 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to reduce CO emissions and not using an oxidation catalyst; or 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and not using an oxidation catalyst; or 4SLB stationary RICE and CI stationary RICE complying with the	Comply with any operating limitations approved by the Administrator.

requirement to limit the concentration of CO in the stationary RICE exhaust and not using an oxidation catalyst	
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¹ Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(g) for a different temperature range.

[75 FR 51593, Aug. 20, 2010, as amended at 76 FR 12867, Mar. 9, 2011]

Table 2cto Subpart ZZZZ of Part 63—Requirements for Existing Compression Ignition Stationary RICE Located at a Major Source of HAP Emissions and Existing Spark Ignition Stationary RICE ≤500 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600, 63.6602, and 63.6640, you must comply with the following requirements for existing compression ignition stationary RICE located at a major source of HAP emissions and existing spark ignition stationary RICE ≤500 HP located at a major source of HAP emissions:

For each . . .	ou must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
1. Emergency stationary CI RICE and black start stationary CI RICE. ¹	a. Change oil and filter every 500 hours of operation or annually, whichever comes first; ² b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. ³	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. ³
2. Non-Emergency, non-black start stationary CI RICE <100 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first; ²	
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first;	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. ³	
3. Non-Emergency,	Limit concentration of	

non-black start CI stationary RICE 100≤HP≤300 HP	CO in the stationary RICE exhaust to 230 ppmvd or less at 15 percent O ₂	
4. Non-Emergency, non-black start CI stationary RICE 300<HP≤500	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd or less at 15 percent O ₂ ; or	
	b. Reduce CO emissions by 70 percent or more.	
5. Non-Emergency, non-black start stationary CI RICE >500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd or less at 15 percent O ₂ ; or	
	b. Reduce CO emissions by 70 percent or more.	
6. Emergency stationary SI RICE and black start stationary SI RICE. ¹	a. Change oil and filter every 500 hours of operation or annually, whichever comes first; ²	
	b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first;	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. ³	
7. Non-Emergency, non-black start stationary SI RICE <100 HP that are not 2SLB stationary RICE	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; ²	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first;	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever	

	comes first, and replace as necessary. ³	
8. Non-Emergency, non-black start 2SLB stationary SI RICE <100 HP	a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first; ²	
	b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first;	
	c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary. ³	
9. Non-emergency, non-black start 2SLB stationary RICE 100≤HP≤500	Limit concentration of CO in the stationary RICE exhaust to 225 ppmvd or less at 15 percent O ₂	
10. Non-emergency, non-black start 4SLB stationary RICE 100≤HP≤500	Limit concentration of CO in the stationary RICE exhaust to 47 ppmvd or less at 15 percent O ₂	
11. Non-emergency, non-black start 4SRB stationary RICE 100≤HP≤500	Limit concentration of formaldehyde in the stationary RICE exhaust to 10.3 ppmvd or less at 15 percent O ₂	
12. Non-emergency, non-black start landfill or digester gas-fired stationary RICE 100≤HP≤500	Limit concentration of CO in the stationary RICE exhaust to 177 ppmvd or less at 15 percent O ₂	

¹If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in Table 2c of this subpart, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable.

²Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement in Table 2c of this subpart.

³Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 51593, Aug. 20, 2010]

Table 2d to Subpart ZZZZ of Part 63— Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions

As stated in §§63.6603 and 63.6640, you must comply with the following requirements for existing stationary RICE located at area sources of HAP emissions:

For each . . .	ou must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
1. Non-Emergency, non-black start CI stationary RICE ≤300 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first; ¹	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.
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	
2. Non-Emergency, non-black start CI stationary RICE 300<HP≤500	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd at 15 percent O ₂ ; or	
	b. Reduce CO emissions by 70 percent or more.	
3. Non-Emergency, non-black	a. Limit	

start CI stationary RICE >500 HP	concentration of CO in the stationary RICE exhaust to 23 ppmvd at 15 percent O ₂ ; or	
	b. Reduce CO emissions by 70 percent or more.	
4. Emergency stationary CI RICE and black start stationary CI RICE. ²	a. Change oil and filter every 500 hours of operation or annually, whichever comes first; ¹	
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	
5. Emergency stationary SI RICE; black start stationary SI RICE; non-emergency, non-black start 4SLB stationary RICE >500 HP that operate 24 hours or less per calendar year; non-emergency, non-black start 4SRB stationary RICE >500 HP that operate 24 hours or less per calendar year. ²	a. Change oil and filter every 500 hours of operation or annually, whichever comes first; ¹ b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first; and c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	
6. Non-emergency, non-black start 2SLB stationary RICE	a. Change oil and filter every 4,320 hours of operation	

	or annually, whichever comes first; ¹	
	b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.	
7. Non-emergency, non-black start 4SLB stationary RICE ≤500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; ¹	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	
8. Non-emergency, non-black start 4SLB stationary RICE >500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 47 ppmvd at 15 percent O ₂ ; or	
	b. Reduce CO emissions by 93 percent or more.	
9. Non-emergency, non-black start 4SRB stationary RICE ≤500 HP	a. Change oil and filter every 1,440 hours of operation	

	or annually, whichever comes first; ¹	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	
10. Non-emergency, non-black start 4SRB stationary RICE >500 HP	a. Limit concentration of formaldehyde in the stationary RICE exhaust to 2.7 ppmvd at 15 percent O ₂ ; or	
	b. Reduce formaldehyde emissions by 76 percent or more.	
11. Non-emergency, non-black start landfill or digester gas-fired stationary RICE	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; ¹	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	

¹Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement in Table 2d of this subpart.

²If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable.

[75 FR 51595, Aug. 20, 2010]

Table 3 to Subpart ZZZZ of Part 63—Subsequent Performance Tests

As stated in §§63.6615 and 63.6620, you must comply with the following subsequent performance test requirements:

For each . . .	Complying with the requirement to . . .	you must . . .
1. New or reconstructed 2SLB stationary RICE with a brake horsepower >500 located at major sources; new or reconstructed 4SLB stationary RICE with a brake horsepower ≥250 located at major sources; and new or reconstructed CI stationary RICE with a brake horsepower >500 located at major sources	Reduce CO emissions and not using a CEMS	Conduct subsequent performance tests semiannually. ¹
2. 4SRB stationary RICE with a brake horsepower ≥5,000 located at major sources	Reduce formaldehyde emissions	Conduct subsequent performance tests semiannually. ¹
3. Stationary RICE with a brake horsepower >500 located at major sources and new or reconstructed 4SLB stationary RICE with a brake horsepower 250≤HP≤500 located at major sources	Limit the concentration of formaldehyde in the stationary RICE exhaust	Conduct subsequent performance tests semiannually. ¹
4. Existing non-emergency, non-black start CI stationary RICE with a brake horsepower >500 that are not limited use stationary RICE; existing non-emergency, non-black start 4SLB and 4SRB stationary RICE located at an area source of HAP emissions with a brake horsepower >500 that are operated more than 24 hours per calendar year that are not limited use stationary RICE	Limit or reduce CO or formaldehyde emissions	Conduct subsequent performance tests every 8,760 hrs. or 3 years, whichever comes first.

5. Existing non-emergency, non-black start CI stationary RICE with a brake horsepower >500 that are limited use stationary RICE; existing non-emergency, non-black start 4SLB and 4SRB stationary RICE located at an area source of HAP emissions with a brake horsepower >500 that are operated more than 24 hours per calendar year and are limited use stationary RICE	Limit or reduce CO or formaldehyde emissions	Conduct subsequent performance tests every 8,760 hrs. or 5 years, whichever comes first.
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¹After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

[75 FR 51596, Aug. 20, 2010]

Table 4 to Subpart ZZZZ of Part 63—Requirements for Performance Tests

As stated in §§63.6610, 63.6611, 63.6612, 63.6620, and 63.6640, you must comply with the following requirements for performance tests for stationary RICE:

For each ...	Complying with the requirement to ...	ou must ...	sing ...	According to the following requirements . . .
1. 2SLB, 4SLB, and CI stationary RICE	a. Reduce CO emissions	i. Measure the O ₂ at the inlet and outlet of the control device; and	(1) Portable CO and O ₂ analyzer	(a) Using ASTM D6522–00 (2005) ^a (incorporated by reference, see §63.14). Measurements to determine O ₂ must be made at the same time as the measurements for CO concentration.
		ii. Measure the CO at the inlet and the outlet of the control device	(1) Portable CO and O ₂ analyzer	(a) Using ASTM D6522–00 (2005) ^{ab} (incorporated by reference, see §63.14) or Method 10 of 40 CFR appendix A. The CO

				concentration must be at 15 percent O ₂ , dry basis.
2. 4SRB stationary RICE	a. Reduce formaldehyde emissions	i. Select the sampling port location and the number of traverse points; and	(1) Method 1 or 1A of 40 CFR part 60, appendix A §63.7(d)(1)(i)	(a) Sampling sites must be located at the inlet and outlet of the control device.
		ii. Measure O ₂ at the inlet and outlet of the control device; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A, or ASTM Method D6522-00m (2005)	(a) Measurements to determine O ₂ concentration must be made at the same time as the measurements for formaldehyde concentration.
		iii. Measure moisture content at the inlet and outlet of the control device; and	(1) Method 4 of 40 CFR part 60, appendix A, or Test Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03	(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde concentration.
		iv. Measure formaldehyde at the inlet and the outlet of the control device	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348-03, ^c provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130	(a) Formaldehyde concentration must be at 15 percent O ₂ , dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
3. Stationary RICE	a. Limit the concentration of formaldehyde	i. Select the sampling port location and the number of	(1) Method 1 or 1A of 40 CFR part 60, appendix A	(a) If using a control device, the sampling site must be located

	or CO in the stationary RICE exhaust	traverse points; and	§63.7(d)(1)(i)	at the outlet of the control device.
		ii. Determine the O ₂ concentration of the stationary RICE exhaust at the sampling port location; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A, or ASTM Method D6522-00 (2005)	(a) Measurements to determine O ₂ concentration must be made at the same time and location as the measurements for formaldehyde concentration.
		iii. Measure moisture content of the stationary RICE exhaust at the sampling port location; and	(1) Method 4 of 40 CFR part 60, appendix A, or Test Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03	(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde concentration.
		iv. Measure formaldehyde at the exhaust of the stationary RICE; or	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348-03, ^c provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130	(a) Formaldehyde concentration must be at 15 percent O ₂ , dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
		v. Measure CO at the exhaust of the stationary RICE	(1) Method 10 of 40 CFR part 60, appendix A, ASTM Method D6522-00 (2005), ^a Method 320 of 40 CFR part 63, appendix A, or ASTM D6348-	(a) CO Concentration must be at 15 percent O ₂ , dry basis. Results of this test consist of the average of the three 1-hour longer runs.

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^aYou may also use Methods 3A and 10 as options to ASTM-D6522-00 (2005). You may obtain a copy of ASTM-D6522-00 (2005) from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106. ASTM-D6522-00 (2005) may be used to test both CI and SI stationary RICE.

^bYou may also use Method 320 of 40 CFR part 63, appendix A, or ASTM D6348-03.

^cYou may obtain a copy of ASTM-D6348-03 from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

[75 FR 51597, Aug. 20, 2010]

Table 5 to Subpart ZZZZ of Part 63—Initial Compliance With Emission Limitations and Operating Limitations

As stated in §§63.6612, 63.6625 and 63.6630, you must initially comply with the emission and operating limitations as required by the following:

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Reduce CO emissions and using oxidation catalyst, and using a CPMS	i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
2. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per	a. Limit the concentration of CO, using oxidation catalyst, and using a CPMS	i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and ii. You have installed a CPMS to continuously monitor catalyst inlet

calendar year		temperature according to the requirements in §63.6625(b); and iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Reduce CO emissions and not using oxidation catalyst	i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and iii. You have recorded the approved operating parameters (if any) during the initial performance test.
4. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Limit the concentration of CO, and not using oxidation catalyst	i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and iii. You have recorded the approved operating parameters (if any) during the initial performance test.
5. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a	a. Reduce CO emissions, and using a CEMS	i. You have installed a CEMS to continuously monitor CO and either

major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥ 250 HP located at a major source of HAP, non-emergency stationary CI RICE > 500 HP located at a major source of HAP, existing non-emergency stationary CI RICE > 500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE > 500 HP located at an area source of HAP that are operated more than 24 hours per calendar year		O ₂ or CO ₂ at both the inlet and outlet of the oxidation catalyst according to the requirements in §63.6625(a); and ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and iii. The average reduction of CO calculated using §63.6620 equals or exceeds the required percent reduction. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average percent reduction achieved during the 4-hour period.
6. Non-emergency stationary CI RICE > 500 HP located at a major source of HAP, existing non-emergency stationary CI RICE > 500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE > 500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Limit the concentration of CO, and using a CEMS	i. You have installed a CEMS to continuously monitor CO and either O ₂ or CO ₂ at the outlet of the oxidation catalyst according to the requirements in §63.6625(a); and ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and
		iii. The average concentration of CO calculated using §63.6620 is less than or equal to the CO emission limitation. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average concentration measured during the 4-hour period.

7. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Reduce formaldehyde emissions and using NSCR	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
8. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Reduce formaldehyde emissions and not using NSCR	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
9. Existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Limit the concentration of formaldehyde and not using NSCR	i. The average formaldehyde concentration determined from the initial performance test is less than or equal to the formaldehyde emission limitation; and

		ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
10. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE $250 \leq \text{HP} \leq 500$ located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR	i. The average formaldehyde concentration, corrected to 15 percent O ₂ , dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
11. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE $250 \leq \text{HP} \leq 500$ located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	i. The average formaldehyde concentration, corrected to 15 percent O ₂ , dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating

		parameters (if any) during the initial performance test.
12. Existing non-emergency stationary RICE $100 \leq \text{HP} \leq 500$ located at a major source of HAP, and existing non-emergency stationary CI RICE $300 < \text{HP} \leq 500$ located at an area source of HAP	a. Reduce CO or formaldehyde emissions	i. The average reduction of emissions of CO or formaldehyde, as applicable determined from the initial performance test is equal to or greater than the required CO or formaldehyde, as applicable, percent reduction.
13. Existing non-emergency stationary RICE $100 \leq \text{HP} \leq 500$ located at a major source of HAP, and existing non-emergency stationary CI RICE $300 < \text{HP} \leq 500$ located at an area source of HAP	a. Limit the concentration of formaldehyde or CO in the stationary RICE exhaust	i. The average formaldehyde or CO concentration, as applicable, corrected to 15 percent O_2 , dry basis, from the three test runs is less than or equal to the formaldehyde or CO emission limitation, as applicable.

[76 FR 12867, Mar. 9, 2011]

Table 6 to Subpart ZZZZ of Part 63—Continuous Compliance With Emission Limitations, Operating Limitations, Work Practices, and Management Practices

As stated in §63.6640, you must continuously comply with the emissions and operating limitations and work or management practices as required by the following:

For each . . .	Complying with the requirement to . . .	ou must demonstrate continuous compliance by . . .
1. New or reconstructed non-emergency 2SLB stationary RICE > 500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥ 250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE > 500 HP located at a major source of HAP	a. Reduce CO emissions and using an oxidation catalyst, and using a CPMS	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved; ^a and ii. Collecting the catalyst inlet temperature data according to §63.6625 (b); and iii. Reducing these data to 4-hour rolling

		averages; and iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
2. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE \geq 250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE >500 HP located at a major source of HAP	a. Reduce CO emissions and not using an oxidation catalyst, and using a CPMS	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved; ^a and ii. Collecting the approved operating parameter (if any) data according to §63.6625 (b); and iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE \geq 250 HP located at a major source of HAP, new or reconstructed non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP,	a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and using a CEMS	i. Collecting the monitoring data according to §63.6625 (a), reducing the measurements to 1-hour averages, calculating the percent reduction or concentration of CO emissions according to §63.6620; and

existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year		<ul style="list-style-type: none"> ii. Demonstrating that the catalyst achieves the required percent reduction of CO emissions over the 4-hour averaging period, or that the emission remain at or below the CO concentration limit; and iii. Conducting an annual RATA of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B, as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.
4. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and using NSCR	i. Collecting the catalyst inlet temperature data according to §63.6625 (b); and
		ii. Reducing these data to 4-hour rolling averages; and
		iii. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		iv. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
5. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and not using NSCR	<ul style="list-style-type: none"> i. Collecting the approved operating parameter (if any) data according to §63.6625 (b); and ii. Reducing these data

		to 4-hour rolling averages; and
		iii. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
6. Non-emergency 4SRB stationary RICE with a brake HP $\geq 5,000$ located at a major source of HAP	a. Reduce formaldehyde emissions	Conducting semiannual performance tests for formaldehyde to demonstrate that the required formaldehyde percent reduction is achieved. ^a
7. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE $250 \leq \text{HP} \leq 500$ located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit; ^a and ii. Collecting the catalyst inlet temperature data according to §63.6625 (b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the

		performance test.
8. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250 ≤HP≤500 located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit; ^a and ii. Collecting the approved operating parameter (if any) data according to §63.6625 (b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
9. Existing emergency and black start stationary RICE ≤500 HP located at a major source of HAP, existing non-emergency stationary RICE <100 HP located at a major source of HAP, existing emergency and black start stationary RICE located at an area source of HAP, existing non-emergency stationary CI RICE ≤300 HP located at an area source of HAP, existing non-emergency 2SLB stationary RICE located at an area source of HAP, existing non-emergency landfill or digester gas stationary SI RICE located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE ≤500 HP located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate 24 hours or less per	a. Work or Management practices	i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or ii. Develop and follow 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.

calendar year		
10. Existing stationary CI RICE >500 HP that are not limited use stationary RICE, and existing 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year and are not limited use stationary RICE	a. Reduce CO or formaldehyde emissions, or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and using oxidation catalyst or NSCR	i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the catalyst inlet temperature data according to §63.6625 (b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
11. Existing stationary CI RICE >500 HP that are not limited use stationary RICE, and existing 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year and are not limited use stationary RICE	a. Reduce CO or formaldehyde emissions, or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and not	i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or

	using oxidation catalyst or NSCR	formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the approved operating parameter (if any) data according to §63.6625 (b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
12. Existing limited use CI stationary RICE >500 HP and existing limited use 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year	a. Reduce CO or formaldehyde emissions or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and using an oxidation catalyst or NSCR	i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the catalyst inlet temperature data according to §63.6625 (b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the

		catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
13. Existing limited use CI stationary RICE >500 HP and existing limited use 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year	a. Reduce CO or formaldehyde emissions or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and not using an oxidation catalyst or NSCR	i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the approved operating parameter (if any) data according to §63.6625 (b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.

^aAfter you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

[76 FR 12870, Mar. 9, 2011]

Table 7 to Subpart ZZZZ of Part 63—Requirements for Reports

As stated in §63.6650, you must comply with the following requirements for reports:

For each ...	ou must submit a ...	The report must contain ...	ou must submit the report ...
1. Existing non-emergency, non-black start stationary RICE $100 \leq \text{HP} \leq 500$ located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE >500 HP located at a major source of HAP; existing non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE >300 HP located at an area source of HAP; existing non-emergency, non-black start 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP and operated more than 24 hours per calendar year; new or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP; and new or reconstructed non-emergency 4SLB stationary RICE $250 \leq \text{HP} \leq 500$ located at a major source of HAP	Compliance report	a. If there are no deviations from any emission limitations or operating limitations that apply to you, a statement that there were no deviations from the emission limitations or operating limitations during the reporting period. If there were no periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were not periods during which the CMS was out-of-control during the reporting period; or b. If you had a deviation from any emission limitation or operating limitation during the reporting period, the information in §63.6650(d). If there were periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), the information in §63.6650(e); or c. If you had a malfunction during the reporting period, the information in §63.6650(c)(4)	

		<p>i. Semiannually according to the requirements in §63.6650(b)(1)–(5) for engines that are not limited use stationary RICE subject to numerical emission limitations; and</p> <p>ii. Annually according to the requirements in §63.6650(b)(6)–(9) for engines that are limited use stationary RICE subject to numerical emission limitations.</p> <p>i. Semiannually according to the requirements in §63.6650(b).</p> <p>i. Semiannually according to the requirements in §63.6650(b).</p>
2. New or reconstructed non-emergency stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	Report	<p>a. The fuel flow rate of each fuel and the heating values that were used in your calculations, and you must demonstrate that the percentage of heat input provided by landfill gas or digester gas, is equivalent to 10 percent or more of the gross heat input on an annual basis; and</p> <p>i. Annually, according to the requirements in §63.6650.</p>
		<p>b. The operating limits provided in your federally enforceable permit, and any deviations from these limits; and</p> <p>i. See item 2.a.i.</p>
		<p>c. Any problems or errors suspected with the meters.</p>

		i. See item 2.a.i.	
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[75 FR 51603, Aug. 20, 2010]

Table 8 to Subpart ZZZZ of Part 63—Applicability of General Provisions to Subpart ZZZZ.

As stated in §63.6665, you must comply with the following applicable general provisions.

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.1	General applicability of the General Provisions	Yes.	
§63.2	Definitions	Yes	Additional terms defined in §63.6675.
§63.3	Units and abbreviations	Yes.	
§63.4	Prohibited activities and circumvention	Yes.	
§63.5	Construction and reconstruction	Yes.	
§63.6(a)	Applicability	Yes.	
§63.6(b)(1)–(4)	Compliance dates for new and reconstructed sources	Yes.	
§63.6(b)(5)	Notification	Yes.	
§63.6(b)(6)	[Reserved]		
§63.6(b)(7)	Compliance dates for new and reconstructed area sources that become major sources	Yes.	
§63.6(c)(1)–(2)	Compliance dates for existing sources	Yes.	
§63.6(c)(3)–(4)	[Reserved]		
§63.6(c)(5)	Compliance dates for existing area sources that become major sources	Yes.	
§63.6(d)	[Reserved]		
§63.6(e)	Operation and maintenance	No.	
§63.6(f)(1)	Applicability of standards	No.	
§63.6(f)(2)	Methods for determining compliance	Yes.	
§63.6(f)(3)	Finding of compliance	Yes.	
§63.6(g)(1)–(3)	Use of alternate standard	Yes.	
§63.6(h)	Opacity and visible	No	Subpart ZZZZ does

	emission standards		not contain opacity or visible emission standards.
§63.6(i)	Compliance extension procedures and criteria	Yes.	
§63.6(j)	Presidential compliance exemption	Yes.	
§63.7(a)(1)–(2)	Performance test dates	Yes	Subpart ZZZZ contains performance test dates at §§63.6610, 63.6611, and 63.6612.
§63.7(a)(3)	CAA section 114 authority	Yes.	
§63.7(b)(1)	Notification of performance test	Yes	Except that §63.7(b)(1) only applies as specified in §63.6645.
§63.7(b)(2)	Notification of rescheduling	Yes	Except that §63.7(b)(2) only applies as specified in §63.6645.
§63.7(c)	Quality assurance/test plan	Yes	Except that §63.7(c) only applies as specified in §63.6645.
§63.7(d)	Testing facilities	Yes.	
§63.7(e)(1)	Conditions for conducting performance tests	No.	Subpart ZZZZ specifies conditions for conducting performance tests at §63.6620.
§63.7(e)(2)	Conduct of performance tests and reduction of data	Yes	Subpart ZZZZ specifies test methods at §63.6620.
§63.7(e)(3)	Test run duration	Yes.	
§63.7(e)(4)	Administrator may require other testing under section 114 of the CAA	Yes.	
§63.7(f)	Alternative test method provisions	Yes.	
§63.7(g)	Performance test data analysis, recordkeeping, and reporting	Yes.	
§63.7(h)	Waiver of tests	Yes.	
§63.8(a)(1)	Applicability of monitoring requirements	Yes	Subpart ZZZZ contains specific requirements for monitoring at §63.6625.
§63.8(a)(2)	Performance specifications	Yes.	
§63.8(a)(3)	[Reserved]		

§63.8(a)(4)	Monitoring for control devices	No.	
§63.8(b)(1)	Monitoring	Yes.	
§63.8(b)(2)–(3)	Multiple effluents and multiple monitoring systems	Yes.	
§63.8(c)(1)	Monitoring system operation and maintenance	Yes.	
§63.8(c)(1)(i)	Routine and predictable SSM	Yes.	
§63.8(c)(1)(ii)	SSM not in Startup Shutdown Malfunction Plan	Yes.	
§63.8(c)(1)(iii)	Compliance with operation and maintenance requirements	Yes.	
§63.8(c)(2)–(3)	Monitoring system installation	Yes.	
§63.8(c)(4)	Continuous monitoring system (CMS) requirements	Yes	Except that subpart ZZZZ does not require Continuous Opacity Monitoring System (COMS).
§63.8(c)(5)	COMS minimum procedures	No	Subpart ZZZZ does not require COMS.
§63.8(c)(6)–(8)	CMS requirements	Yes	Except that subpart ZZZZ does not require COMS.
§63.8(d)	CMS quality control	Yes.	
§63.8(e)	CMS performance evaluation	Yes	Except for §63.8(e)(5)(ii), which applies to COMS.
		Except that §63.8(e) only applies as specified in §63.6645.	
§63.8(f)(1)–(5)	Alternative monitoring method	Yes	Except that §63.8(f)(4) only applies as specified in §63.6645.
§63.8(f)(6)	Alternative to relative accuracy test	Yes	Except that §63.8(f)(6) only applies as specified in §63.6645.
§63.8(g)	Data reduction	Yes	Except that provisions for COMS are not applicable. Averaging periods for demonstrating compliance are

			specified at §§63.6635 and 63.6640.
§63.9(a)	Applicability and State delegation of notification requirements	Yes.	
§63.9(b)(1)–(5)	Initial notifications	Yes	Except that §63.9(b)(3) is reserved.
		Except that §63.9(b) only applies as specified in §63.6645.	
§63.9(c)	Request for compliance extension	Yes	Except that §63.9(c) only applies as specified in §63.6645.
§63.9(d)	Notification of special compliance requirements for new sources	Yes	Except that §63.9(d) only applies as specified in §63.6645.
§63.9(e)	Notification of performance test	Yes	Except that §63.9(e) only applies as specified in §63.6645.
§63.9(f)	Notification of visible emission (VE)/opacity test	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.9(g)(1)	Notification of performance evaluation	Yes	Except that §63.9(g) only applies as specified in §63.6645.
§63.9(g)(2)	Notification of use of COMS data	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.9(g)(3)	Notification that criterion for alternative to RATA is exceeded	Yes	If alternative is in use.
		Except that §63.9(g) only applies as specified in §63.6645.	
§63.9(h)(1)–(6)	Notification of compliance status	Yes	Except that notifications for sources using a CEMS are due 30 days after completion of performance evaluations. §63.9(h)(4) is reserved.
			Except that §63.9(h) only applies as

			specified in §63.6645.
§63.9(i)	Adjustment of submittal deadlines	Yes.	
§63.9(j)	Change in previous information	Yes.	
§63.10(a)	Administrative provisions for recordkeeping/reporting	Yes.	
§63.10(b)(1)	Record retention	Yes.	
§63.10(b)(2)(i)–(v)	Records related to SSM	No.	
§63.10(b)(2)(vi)–(xi)	Records	Yes.	
§63.10(b)(2)(xii)	Record when under waiver	Yes.	
§63.10(b)(2)(xiii)	Records when using alternative to RATA	Yes	For CO standard if using RATA alternative.
§63.10(b)(2)(xiv)	Records of supporting documentation	Yes.	
§63.10(b)(3)	Records of applicability determination	Yes.	
§63.10(c)	Additional records for sources using CEMS	Yes	Except that §63.10(c)(2)–(4) and (9) are reserved.
§63.10(d)(1)	General reporting requirements	Yes.	
§63.10(d)(2)	Report of performance test results	Yes.	
§63.10(d)(3)	Reporting opacity or VE observations	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.10(d)(4)	Progress reports	Yes.	
§63.10(d)(5)	Startup, shutdown, and malfunction reports	No.	
§63.10(e)(1) and (2)(i)	Additional CMS Reports	Yes.	
§63.10(e)(2)(ii)	COMS-related report	No	Subpart ZZZZ does not require COMS.
§63.10(e)(3)	Excess emission and parameter exceedances reports	Yes.	Except that §63.10(e)(3)(i) (C) is reserved.
§63.10(e)(4)	Reporting COMS data	No	Subpart ZZZZ does not require COMS.
§63.10(f)	Waiver for recordkeeping/reporting	Yes.	
§63.11	Flares	No.	

§63.12	State authority and delegations	Yes.	
§63.13	Addresses	Yes.	
§63.14	Incorporation by reference	Yes.	
§63.15	Availability of information	Yes.	

[75 FR 9688, Mar. 3, 2010]

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Georgia-Pacific LLC
Consumer Products

[Crossett Paper Operations](#)
[100 Mill Supply Road](#)
[P.O. Box 3333](#)
[Crossett, AR 71635](#)
[\(870\) 567-8000](#)
[\(870\) 364-9076 \(fax\)](#)
www.gp.com

April 1, 2013

Ms. Mary Pettyjohn, Epidemiologist
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118

Re: Georgia-Pacific LLC Crossett Paper Operations
Best Available Retrofit Technology-Request for Exemption from Five Factor Analysis
AFIN: 02-00013 Title V Permit No. 0597-AOP-R14

Dear Ms. Pettyjohn:

This letter is being submitted pursuant to a teleconference call on March 20, 2013, between a number of people from the Arkansas Department of Environmental Quality, the Region 6 Office of the U.S. Environmental Protection Agency, Jim Cutbirth of Georgia Pacific Crossett Paper Operations, and Wayne Galler from Georgia-Pacific's Air Permitting Group in Atlanta, GA. The persons on the teleconference call are listed below:

Arkansas DEQ (ADEQ)

Mary Pettyjohn-Epidemiologist
Stuart Spencer-Attorney Specialist
Derek Brown-Permitting Engineer

Region 6 Office of US EPA

Guy Donaldson-Chief of Air Planning Section
Dayana Medina-Lead Arkansas Regional Haze Coordinator, Air Planning Section
Joe Kordzi-Overall Region 6 Haze Coordinator, Air Planning Section
Michael Feldman, Ph.D.-Regional Haze Modeler, Air Planning Section

Georgia-Pacific (GP)

Jim Cutbirth-Superintendent, Environmental Services, Crossett Paper Operations
Wayne Galler, Director, Air Permitting, Corporate Environmental Affairs Department, Atlanta, GA

The conference call was in response to ADEQ's recent request for additional information¹ to support our

¹ See attached e-mails from Dayan Medina of EPA Region 6, dated Feb. 12 and March 4, 2013

position that the Nos. 6A (SN-19) and 9A (SN-22) Boilers at the Crossett Paper Operations should be “screened out” of the BART requirements. The authority to exempt a source from a “five-factor” analysis, is conditioned on a source’s ability to meet the state’s criteria conforming to Section III of 40 CFR Part 51 Appendix Y and showing through dispersion modeling.

GP submitted the required dispersion modeling to ADEQ for these two boilers in December 2011². The CALPUFF modeling for the three pollutants of concern (sulfur dioxide-SO₂, nitrogen oxides-NO_x, and particulate matter with an aerodynamic particle size less than 10 microns in diameter-PM₁₀), showed that the total impact from both boilers on five different Class I Areas were all below the 0.5 deciview (dv) screening threshold, with the highest impact value of 0.36 dv shown to occur at the Caney Creek AR National Wilderness Area. A copy of the results of the 2011 CALPUFF modeling analysis was submitted to Mary Pettyjohn on May 18, 2012 and is also attached to this letter.

Wayne Galler explained that the May 18, 2012 CALPUFF modeling submitted to ADEQ was the second time that GP had conducted this work, with the first CALPUFF modeling submitted to the ADEQ in 2007. As part of the Title V Renewal application we prepared in 2008, we used a more conservative NO_x emission factor for natural gas combustion in 6A Boiler. Thus, we prepared a second submittal with CALPUFF modeling to reflect the higher NO_x emission rate from the 6A Boiler to reflect the use of a higher emission factor for natural gas combustion and to also run the CALPUFF model using a lower SO₂ emission rate from the 9A Boiler.

Since the 6A Boiler was originally constructed in approximately 1962, well before the issuance of the New Source Performance Standard (NSPS) at 40 CFR 60 Subpart D, GP should have used a NO_x emission factor of 280 lbs/MM ft³ natural gas burned for boilers with a heat input rating greater than 250 MM Btu/hr to calculate the NO_x emission rate (see Table 1.4-1 of AP-42). However, GP inadvertently used an emission factor of 100 lbs/MM ft³ natural gas burned, which is applicable for large natural gas-fired boilers that use flue gas recirculation to reduce NO_x emissions.³ The 6A Boiler does not have a flue gas recirculation system in place to reduce NO_x emissions.

Mr. Galler then pointed out that the 9A Boiler primarily burns bark and natural gas, but is also permitted to burn tire-derived fuel (TDF) and on-specification grade fuel oil. The 9A Boiler is permitted to burn a number of additional fuels that were not specifically discussed during the call, but include non-condensable gases (NCGs) from the pulp mill operations, agricultural derived fuel (ADF), refuse-derived fuel (RDF), wastewater treatment sludge, paper pellets, used oil absorbent material, and creosote treated railroad ties. The TDF contains sulfur in quantities of approximately 1.0% (wt.). The NCGs contain less than 0.1% (wt.) sulfur content. ADF and the other fuels other than TDF, on-specification oil, and used oil absorbent material, contain negligible quantities of sulfur.

GP determined that the SO₂ emission rate from the 9A Boiler would need to be lower than the existing Title V Permit limit of 502.5 lbs/hr to satisfy the exemption criteria using a screening approach and a revised baseline NO_x emission rate. After reviewing the operation of the 9A Boiler and the fuels burned, and conducting stack testing for SO₂ emissions when TDF and fuel oil were being fired in combination with bark, GP determined that it could operate the 9A Boiler at a lower SO₂ emission rate by reducing the quantity of on-specification grade fuel oil burned in the unit. In addition, the inherent

² Section 169A(c) of the Clean Air Act allows sources to be screened out of the BART five-factor analysis requirements if the source will not emit any air pollutant which may reasonably be anticipated to cause or contribute to a significant impairment of visibility in any mandatory Class I Federal area.

³ The Crossett Mill decided to voluntarily remove on-specification fuel oil as an allowable fuel to be burned in the 6A Boiler as part of Revision R-13 to its Title V Permit.

nature of burning bark in combination with other sulfur-bearing fuels, such as TDF and non-condensable gases (NCGs) from the pulp mill, plus the use of a slightly caustic solution in the wet venturi scrubber, results in the removal of a significant portion of SO₂ emissions generated inside of the boiler. GP requested the ADEQ to reduce the permitted quantity of on-specification grade fuel oil fired in the 9A Boiler from 249.0 MM Btu/hr to 40.9 MM Btu/hr. GP made this request as part of Revision R-13 to its Title V Permit, which was issued by ADEQ on August 4, 2011.

Guy Donaldson of the Region 6 Office pointed out that GP needs to provide EPA and ADEQ detailed information to verify that the actual SO₂ emissions, as well as PM₁₀ and NO_x emissions, from the two boilers during the three baseline years of 2001, 2002, and 2003, were below the Title V permit limits for each boiler and the values used in the CALPUFF modeling. Guy also stated that GP needed to explain how the maximum 24-hour emission rate values for the baseline years were calculated. Wayne Galler explained to the group of people on the conference call that the maximum 24-hour average emission rates for the baseline years were based on either stack test results (for PM₁₀ emissions only for the 9A Boiler), or published EPA emission factors from AP-42, multiplied by the maximum 24-hour fuel usage for the other pollutants for both boilers.

An Excel spreadsheet that summarizes the 24-hour maximum emission rates for each of the three pollutants used as part of the Class I modeling for both the 6A and 9A Boilers is attached as Table 1. Table 1 also contains a summary of most recent Title V permit limits for SO₂, PM₁₀, and NO_x emissions for each of the boilers⁴ which can be compared to the CALPUFF modeled emission rates. Table 1 also contains individual worksheet for each of the three baseline years which list of the daily fuel firing rates for each boiler and the calculated SO₂, PM₁₀, and NO_x emission rates for each day of the year. The details of how the emission rates were calculated for each of the baseline years are more fully explained in Attachment 1 to this letter.

Wayne Galler briefly explained that the daily average emission rates for the three pollutants of concern during the baseline years were all below their respective Title V Permit limits, as shown in Table 1 and summarized below, with the baseline SO₂ emission rates for the 9A Boiler much lower than the Title V Permit limits.

⁴ The most recent Title V Permit (R-14) for the Crossett Paper Operations was issued on May 23, 2012.

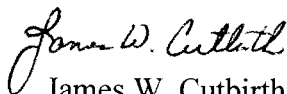
<u>6A Boiler</u>	SO₂	NO_x	PM₁₀
Maximum Baseline Emissions (lbs/hr)	0.2	90.7	2.5
Modeled Emission Rate (lbs/hr)	0.3	120.0	3.3
Title V Permit Limit (lbs/hr)	0.3	120.0	3.3

<u>9A Boiler</u>	SO₂	NO_x	PM₁₀
Maximum Baseline Emissions (lbs/hr)	17.9	174.1	72.0
Modeled Emission Rate (lbs/hr)	200.0	218.0	75.8
Title V Permit Limit (lbs/hr)	199.8	196.0	77.4

A question was raised from EPA during the call as to why the SO₂ Title V Permit limit for the 9A Boiler was so much higher than the maximum baseline emission rate (TV Permit limit of 199.8 lbs/hr vs. maximum baseline emission rate of 17.8 lbs/hr). Jim Cutbirth explained that the main reason for the large difference between the Title V SO₂ Permit limit and the maximum baseline SO₂ emission rate for the 9A Boiler is due to the Mill's need to preserve a higher SO₂ emission rate for those times when on-specification fuel oil is burned with other fuels in the 9A Boiler. If oil is burned in the 9A Boiler, the hourly SO₂ emission rate will be higher than the maximum baseline emission rate as on-specification fuel oil and TDF were not burned anytime during the three baseline years (2001 through 2003). Some quantity of used oil absorbent material may have been burned with bark and natural gas during the baseline years, but not in amounts sufficient to affect the hourly SO₂ emissions⁵.

GP understands that once all of this information is provided to both the ADEQ and to EPA's Region 6 Office, and there has been sufficient time for both agencies to review the data, a decision regarding our request to be formally "screened out" of the BART five-factor requirement will be made by Region 6 and ADEQ. If you have any further requests for information, or if you have any questions that require further explanation of the data being submitted, please do not hesitate to contact me at your earliest convenience at 870-567-8144.

Sincerely,



James W. Cutbirth, Superintendent, Environmental Services

JWC/wjg

Enclosures

⁵ The Mill's Title V Permit (R-14) restricts the amount of oil absorbent material that can be burned in the 9A Boiler to 200 tons per month (see Condition No. 50)

ATTACHMENT 1

EXPLANATION OF 24-HR POLLUTANT BASELINE EMISSION CALCULATIONS FOR BART CALPUFF MODELING 2001-2002-2003

Calculation of Pollutant Emission Rates Emissions for 6A Boiler:

The pollutant emission rate calculations for each baseline year were conducted by taking the daily fuel usage of natural gas fired in the boiler and multiplied by the following emission factors taken from Table 1.4-1 of AP-42 and converting the factors so they are in the same units of measure as the Mill's fuel usage recordkeeping system:

<u>Pollutant</u>	AP-42 Emission Factor	Emission Factor (converted units of gas usage at Mill)
	<u>lb/MM ft³</u>	<u>lb/M ft³</u>
PM ₁₀	7.6	0.0076
SO ₂	0.6	0.0006
NO _x	280	0.28

Example calculation:

Jan 1, 2001 Gas usage for 24-hour period = 459 M ft³

Daily gas usage values were taken from the Mill's Utility Department electronic recording and recordkeeping system (see "2001 TOTAL FUELS TO BOILERS" tab on attached spreadsheet)

$$\text{PM}_{10} \text{ (lbs/hr)} = 459 \text{ M ft}^3 / 24 \text{ hr} \times 0.0076 \text{ lbs/M ft}^3 = 0.145 \text{ lbs PM}_{10} / \text{hr}$$

$$\text{SO}_2 \text{ (lbs/hr)} = 459 \text{ ft}^3 / 24 \text{ hr} \times 0.0006 \text{ lbs/M ft}^3 = 0.0115 \text{ lbs SO}_2 / \text{hr}$$

$$\text{NO}_x \text{ (lbs/hr)} = 459 \text{ ft}^3 / 24 \text{ hr} \times 0.28 \text{ lbs/M ft}^3 = 5.355 \text{ lbs SO}_2 / \text{hr}$$

After calculating the hourly pollutant emission rate for each day of the year, the maximum daily emission rate was determined using the "max" function of Excel. For each of the baseline years, the maximum daily emission rates were as follows:

2001 Baseline Year

$$\text{PM}_{10} \text{ (May 12)} = 2.46 \sim 2.5 \text{ lbs/hr}$$

$$\text{SO}_2 \text{ (May 12)} = 0.19 \sim 0.2 \text{ lbs/hr}$$

$$\text{NO}_x \text{ (May 12)} = 90.67 \sim 90.7 \text{ lbs/hr}$$

A similar process for 2002 and 2003 was used to determine the maximum hourly emission rates which are summarized below:

2002 Baseline Year

$$\text{PM}_{10} \text{ (March 22)} = 1.8 \text{ lbs/hr}$$

SO₂ (March 22) = 0.14 ~ 0.1 lbs/hr

NO_x (March 22) = 66.3 lbs/hr

2003 Baseline Year

PM₁₀ (December 2) = 1.6 lbs/hr

SO₂ (December 2) = 0.13 ~ 0.1 lbs/hr

NO_x (December 2) = 58.8 lbs/hr

Calculation of Pollutant Emission Rates Emissions for 9A Boiler:

The only fuels burned in the 9A Boiler during the baseline years were natural gas and bark. No TDF or on-specification grade fuel oil was burned, or any other permitted fuels during the period of 2001 through 2003.

The emission rate calculations for SO₂ and NO_x for each baseline year were conducted by taking the daily fuel usage of natural gas and bark fired in the boiler and multiplied by the following emission factors taken from Table 1.6-2 of AP-42 and converting the factors so they are in the same units of measure as the Mill's fuel usage recordkeeping system:

<u>Pollutant</u>	Natural Gas Emission Factors <u>lb/M ft³</u>	Bark Emission Factors <u>lb/ton</u>
PM ₁₀	0.0076	0.594
SO ₂	0.0006	0.225
NO _x	0.28	1.98

To convert from the Mill's recordkeeping for bark usage in tons per day to MM Btu/day, the tons of bark fired was multiplied by the average heat content for bark of 4,500 Btu/lb:

1 tons of bark = 2,000 lbs

Btu/ton of bark = 2,000 lbs x 4,500 Btu/lb = 9,000,000

Therefore, there are 9.0 MM Btu/ton of bark fired

Calculations for bark emission factors:

PM₁₀ 0.066 lb/MM Btu (from Table 1.6-1 AP-42 for boiler with wet scrubber for PM control – assume PM₁₀ = PM filterable)
0.066 lb/MM Btu x 9 MM Btu/ton bark = 0.594 lb/ton bark
SO₂ 0.025 lb/MM Btu (from Table 1.6-2 AP-42 for wood-fired boiler)
0.025 lb/MM Btu x 9 MM Btu/ton bark = 0.225 lb/ton bark
NO_x 0.22 lb/MM Btu (from Table 1.6-2 AP-42 for wood-fired boiler)
0.22 lb/MM Btu x 9 MM Btu/ton bark = 1.98 lb/ton bark

Daily gas and bark usage values were taken from the Mill's Utility Department electronic recording and recordkeeping system

Jan 1, 2001 Bark usage for 24-hour period = 814 tons

$$\text{PM}_{10} \text{ (lbs/hr)} = 814 \text{ tons/24 hours} \times 0.0254 \text{ lb/ton bark} = 20.15 \text{ lbs/hr}$$

$$\text{SO}_2 \text{ (lbs/hr)} = (814 \text{ tons/24 hr} \times 0.0088 \text{ lbs/ton bark}) = 7.63 \text{ lbs/hr}$$

$$\text{NO}_x \text{ (lbs/hr)} = (814 \text{ tons/24 hr} \times 1.98 \text{ lbs/ton bark}) = 67.15 \text{ lbs/hr}$$

Jan 1, 2001 Gas usage for 24-hour period = 2,513 M ft³

$$\text{PM}_{10} \text{ (lbs/hr)} = 2,513 \text{ M ft}^3/24 \text{ hr} \times 0.0003 \text{ lbs/M ft}^3 = 0.8 \text{ lbs PM}_{10}/\text{hr}$$

$$\text{SO}_2 \text{ (lbs/hr)} = 2,513 \text{ ft}^3/24 \text{ hr} \times 0.0006 \text{ lbs/M ft}^3 = 0.063 \text{ lbs SO}_2/\text{hr}$$

$$\text{NO}_x \text{ (lbs/hr)} = 2,513 \text{ ft}^3/24 \text{ hr} \times 0.19 \text{ lbs/M ft}^3 = 19.9 \text{ lbs SO}_2/\text{hr}$$

$$\text{Total PM}_{10} = 20.15 + 0.8 = 20.95 \text{ lbs/hr}$$

$$\text{Total SO}_2 = 7.63 + 0.063 = 7.69 \text{ lbs/hr}$$

$$\text{Total NO}_x = 67.15 + 19.9 = 87.0 \text{ lbs/hr}$$

(The NO_x emission factor for 9A is 190 lb/MM ft³ gas from Table 1.4-1 of AP-42 for boilers constructed after 1971 (9A was constructed in 1975) and this emission factor converts to 0.19 lbs/M ft³ for the units of measure that the Mill's recordkeeping is based on.

For PM₁₀ emission calculations, the results from stack testing conducted by the Mill when the 9A Boiler was firing bark and gas was used, as these results were higher than the values calculated using AP-42 emission factors:

Total PM₁₀ emission from spreadsheet calculations:

2001: 43.4 lbs/hr

2002: 42.2 lbs/hr

2003: 48.4 lbs/hr

Total PM₁₀ emission from stack testing:

2001: 71.99 lbs/hr

2002: 61.0 lbs/hr

2003: 54.3 lbs/hr

Therefore, for the baseline years, we used the stack test results for the PM₁₀ emission rates.

The spreadsheet contains several additional worksheets that were used in some of the emission calculations:

6A EFs and 9A EFs-these two worksheets were taken from the Title V application emission calculations and used for the BART emission factor calculations for consistency.

Medina, Dayana

From: Pettyjohn, Mary <PETTYJOHN@adeq.state.ar.us>
Sent: Thursday, March 07, 2013 11:05 AM
To: Galler, Wayne J.
Subject: FW: Region 6 feedback on Georgia Pacific- 6A and 9A boilers

Hi Wayne,

Nice talking with you today.

This is the response from EPA on the 6A boiler. To be BART-eligible a unit has to be in operation between 07 Aug 1962 and 07 Aug 1977. If you can locate documentation showing the 6A boiler was in operation prior to 07 Aug 1962, then this unit would not be BART-eligible.

Another email will follow.

Have a great day,
Mary

From: Medina, Dayana [mailto:Medina.Dayana@epa.gov]
Sent: Monday, March 04, 2013 3:46 PM
To: Pettyjohn, Mary
Cc: Feldman, Michael; Donaldson, Guy
Subject: Region 6 feedback on Georgia Pacific- 6A and 9A boilers

Hi Mary,

One of the action items from our call with you last Thursday was for Region 6 to send an email with feedback concerning the 6A and 9A boilers at the Georgia-Pacific Crossett Mill.

In our action on the Arkansas RH SIP, we disapproved the finding that the 6A Boiler at the Georgia-Pacific Crossett Mill was not BART-eligible. Assuming no new information surfaces regarding boiler 6A, then we continue to believe that the 6A and 9A boilers are BART-eligible and visibility modeling should be performed to determine whether the *combined* visibility impacts from the BART-eligible units at the facility are greater than the 0.5 dv threshold, therefore making the units subject-to-BART. As we previously discussed, we believe the best approach is for Georgia Pacific to use data on production rates, fuel usage, heat capacity, etc., to provide some kind of technical support that would demonstrate that the maximum 24-hr emissions during the 2001-2003 baseline period from the 9A boiler are less than or equal to the new permit limit used in the modeling. We do not believe that relying on the maximum permit allowable without documentation of the baseline period emissions is a good option. Maximum 24-hr emissions from the baseline period from the 6A boiler should be estimated based on available data and also included in the modeling. Should revised modeling demonstrate that the visibility impacts from the source fall below the 0.5 dv threshold at all impacted Class I areas, this would support a determination that the source (6A and 9A boilers) was never subject to BART and no five factor BART analysis is necessary.

Please let me know if you have any questions regarding this issue.

Thank you,

Dayana Medina
U.S. Environmental Protection Agency, Region 6
Multimedia Planning and Permitting Division

Air Planning Section (6PD-L)
214-665-7241
medina.dayana@epa.gov

Medina, Dayana

From: Pettyjohn, Mary <PETTYJOHN@adeq.state.ar.us>
Sent: Thursday, March 07, 2013 11:07 AM
To: Galler, Wayne J.
Subject: FW: Georgia Pacific

Wayne,

Here is the comment on the 9A boiler.

Mary

From: Medina.Dayana@epamail.epa.gov [mailto:Medina.Dayana@epamail.epa.gov]
Sent: Wednesday, February 06, 2013 1:32 PM
To: Pettyjohn, Mary
Cc: Donaldson.Guy@epamail.epa.gov; Feldman.Michael@epamail.epa.gov
Subject: Re: Georgia Pacific

Hi Mary,

When we discussed this issue with you and others from ADEQ in July, we communicated to you that Georgia Pacific wouldn't have to do a BART analysis for the 9A Boiler, but that they would have to use data on production rates, fuel usage, heat capacity, etc., to provide some kind of technical support that would demonstrate that the 2001-2003 baseline emissions from the source are similar to the emissions expected to result from the new permit limit. The purpose of this would be to help support the claim that the boiler was never subject to BART.

Please let me know if you have any other questions about this.

Thank you,

Dayana Medina
U.S. Environmental Protection Agency, Region 6
Multimedia Planning and Permitting Division
Air Planning Section (6PD-L)
1445 Ross Avenue
Dallas, TX 75202
214-665-7241
medina.dayana@epa.gov

From: "Pettyjohn, Mary" <PETTYJOHN@adeq.state.ar.us>
To: Dayana Medina/R6/USEPA/US@EPA
Cc: Guy Donaldson/R6/USEPA/US@EPA
Date: 02/06/2013 11:43 AM
Subject: Georgia Pacific

Good morning, Dayana

I am writing to request confirmation on EPA's decision that Georgia Pacific's 9A boiler can be exempt from doing a BART analysis. This decision was based on 9A boiler's new SO2 permit limit.

Thank you,
Maru

Mary Pettyjohn
Epidemiologist
Arkansas Department of Environmental Quality
Air Division
5301 Northshore Drive
North Little Rock, AR 72118-5317
Phone: 501-682-0070
Email: pettyjohn@adeq.state.ar.us

[attachment "winmail.dat" deleted by Dayana Medina/R6/USEPA/US]

Table 1. Summary of 2001-2003 Actual Emissions, R-14 Permit Allowables and CALPUFF Model Results

	Daily Average lbs/hr Actual Emissions				Title V Permit Limit lbs/hr (R-14)
	2001	2002	2003	3-year Max.	
	6A Boiler				
Max PM ₁₀	2.5	1.8	1.6	2.5	3.3
Max SO ₂	0.2	0.1	0.1	0.2	0.3
Max NO _x (a)	90.7	66.3	58.8	90.7	120.0
	9A Boiler				
Max PM ₁₀ (b)	72.0	61.0	54.3	72.0	77.4
Max SO ₂ (c)	16.3	15.8	17.9	17.9	199.8
Max NO _x	171.4	174.1	190.1	190.1	196.0

(a) NO_x emissions in the 2009 CALPUFF modeling for the 6A Boiler were originally based on the use of an incorrect emission factor.

This error was discovered and the correct emission factor of 280 lbs NO_x/MM ft³ was used and the CALPUFF model was re-run.

(b) The greater of the annual PM stack test results (average of three, 1-hr runs) and the calculated daily emission rate was used.

For all three baseline years, the stack test results were used as the highest hourly and therefore the daily maximum.

(c) During 2001-2003, no on-specification fuel oil or tire-derived fuel was burned in the 9A Boiler. The Title V Permit allows for 199.8 lbs/hr.

(d) CALPUFF model for particulate matter conservatively treats all modeled particulate mass using a mean diameter of 1.0 µm.

2001

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CROSSETT PAPER OPERATIONS

P A P E R M I L L U T I L I T Y R E P O R T

Daily Meter Readings/Production Trends

6A Boiler						9A Boiler					
	Gas	Oil				Gas	TDF	Bark			
	Mcf	Bbls				Mcf	Tons	Tons			
PM ₁₀ EF	7.60E-03	NA				7.60E-03	5.64E+00	5.94E-01			
SO ₂ EF	6.00E-04	NA	Calculated lbs/hr			6.00E-04	3.08E+01	2.25E-01	Calculated lbs/hr		
NO _x EF	2.80E-01	NA	PM	SO ₂	NO _x	1.90E-01	1.98E+00	1.98E+00	PM	SO ₂	NO _x
31-Dec	3,649	0	1.16	0.09	42.57	2,831	0.0	1,284	32.68	12.11	128
01-Jan	459	0	0.145	0.0115	5.355	2,513	0.0	814	20.94	7.69	87.0
02-Jan	4,285	0	1.36	0.11	49.99	1,732	0.0	1,380	34.71	12.98	128
03-Jan	963	0	0.30	0.02	11.24	1,267	0.0	1,275	31.95	11.98	115
04-Jan	2,496	0	0.79	0.06	29.12	1,570	0.0	1,073	27.06	10.10	101
05-Jan	4,196	0	1.33	0.10	48.95	960	0.0	918	23.02	8.63	83
06-Jan	4,121	0	1.30	0.10	48.08	719	0.0	1,278	31.85	12.00	111
07-Jan	997	0	0.32	0.02	11.63	443	0.0	1,203	29.92	11.29	103
08-Jan	3,381	0	1.07	0.08	39.45	373	0.0	1,341	33.32	12.58	114
09-Jan	3,508	0	1.11	0.09	40.93	155	0.0	1,261	31.26	11.83	105
10-Jan	3,444	0	1.09	0.09	40.18	1,100	0.0	800	20.15	7.53	75
11-Jan	4,808	0	1.52	0.12	56.09	1,052	0.0	1,455	36.35	13.67	128
12-Jan	4,743	0	1.50	0.12	55.34	2,096	0.0	1,524	38.39	14.34	142
13-Jan	3,480	0	1.10	0.09	40.60	155	0.0	1,382	34.24	12.96	115
14-Jan	3,229	0	1.02	0.08	37.67	102	0.0	1,354	33.55	12.70	113
15-Jan	4,555	0	1.44	0.11	53.14	716	0.0	573	14.41	5.39	53
16-Jan	5,633	0	1.78	0.14	65.72	2,678	0.0	649	16.90	6.15	75
17-Jan	5,971	0	1.89	0.15	69.66	4,375	0.0	1,005	26.27	9.53	118
18-Jan	6,319	0	2.00	0.16	73.72	8,199	0.0	1,047	28.52	10.02	151
19-Jan	6,561	0	2.08	0.16	76.55	8,984	0.0	1,207	32.71	11.54	171

2001

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CROSSETT PAPER OPERATIONS

P A P E R M I L L U T I L I T Y R E P O R T

Daily Meter Readings/Production Trends

6A Boiler						9A Boiler					
	Gas	Oil				Gas	TDF	Bark			
	Mcf	Bbls				Mcf	Tons	Tons			
PM ₁₀ EF	7.60E-03	NA				7.60E-03	5.64E+00	5.94E-01			
SO ₂ EF	6.00E-04	NA	Calculated lbs/hr			6.00E-04	3.08E+01	2.25E-01	Calculated lbs/hr		
NO _x EF	2.80E-01	NA	PM	SO ₂	NO _x	1.90E-01	1.98E+00	1.98E+00	PM	SO ₂	NO _x
20-Jan	4,839	0	1.53	0.12	56.46	5,172	0.0	962	25.44	9.14	120
21-Jan	4,296	0	1.36	0.11	50.12	3,440	0.0	1,391	35.52	13.13	142
22-Jan	3,603	0	1.14	0.09	42.04	697	0.0	1,367	34.04	12.83	118
23-Jan	5,073	0	1.61	0.13	59.19	943	0.0	652	16.44	6.14	61
24-Jan	4,849	0	1.54	0.12	56.57	764	0.0	844	21.12	7.93	76
25-Jan	5,607	0	1.78	0.14	65.42	589	0.0	522	13.11	4.91	48
26-Jan	5,169	0	1.64	0.13	60.31	0	0.0	0	0.00	0.00	0
27-Jan	5,407	0	1.71	0.14	63.08	0	0.0	0	0.00	0.00	0
28-Jan	5,695	0	1.80	0.14	66.44	0	0.0	0	0.00	0.00	0
29-Jan	6,235	0	1.97	0.16	72.74	0	0.0	0	0.00	0.00	0
30-Jan	3,787	0	1.20	0.09	44.18	704	0.0	658	16.51	6.19	60
31-Jan	1,741	0	0.55	0.04	20.31	586	0.0	1,161	28.92	10.90	100
01-Feb	4,449	0	1.41	0.11	51.91	1,318	0.0	636	16.15	5.99	63
02-Feb	6,092	0	1.93	0.15	71.07	0	0.0	0	0.00	0.00	0
03-Feb	4,964	0	1.57	0.12	57.91	523	0.0	782	19.52	7.35	69
04-Feb	3,271	0	1.04	0.08	38.16	125	0.0	1,569	38.88	14.71	130
05-Feb	3,019	0	0.96	0.08	35.22	254	0.0	1,520	37.69	14.25	127
06-Feb	2,764	0	0.88	0.07	32.25	719	0.0	1,373	34.21	12.89	119
07-Feb	2,370	0	0.75	0.06	27.65	143	0.0	1,252	31.04	11.74	104
08-Feb	2,370	0	0.75	0.06	27.65	470	0.0	1,249	31.05	11.72	107
09-Feb	2,513	0	0.80	0.06	29.32	447	0.0	1,362	33.86	12.78	116

2001

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P A P E R M I L L U T I L I T Y R E P O R T

Daily Meter Readings/Production Trends

6A Boiler						9A Boiler					
	Gas	Oil				Gas	TDF	Bark			
	Mcf	Bbls				Mcf	Tons	Tons			
PM ₁₀ EF	7.60E-03	NA				7.60E-03	5.64E+00	5.94E-01			
SO ₂ EF	6.00E-04	NA	Calculated lbs/hr			6.00E-04	3.08E+01	2.25E-01	Calculated lbs/hr		
NO _x EF	2.80E-01	NA	PM	SO ₂	NO _x	1.90E-01	1.98E+00	1.98E+00	PM	SO ₂	NO _x
10-Feb	3,341	0	1.06	0.08	38.98	240	0.0	1,386	34.38	13.00	116
11-Feb	4,477	0	1.42	0.11	52.23	225	0.0	1,454	36.06	13.64	122
12-Feb	5,275	0	1.67	0.13	61.54	843	0.0	1,356	33.82	12.73	119
13-Feb	3,984	0	1.26	0.10	46.48	394	0.0	1,369	34.02	12.85	116
14-Feb	2,357	0	0.75	0.06	27.50	652	0.0	1,477	36.77	13.87	127
15-Feb	75	0	0.02	0.00	0.88	836	0.0	1,374	34.27	12.90	120
16-Feb	0	0	0.00	0.00	0.00	1,639	0.0	1,376	34.57	12.94	126
17-Feb	0	0	0.00	0.00	0.00	2,165	0.0	1,387	35.02	13.06	132
18-Feb	0	0	0.00	0.00	0.00	962	0.0	1,365	34.08	12.82	120
19-Feb	0	0	0.00	0.00	0.00	1,717	0.0	1,431	35.96	13.46	132
20-Feb	0	0	0.00	0.00	0.00	319	0.0	1,514	37.58	14.21	127
21-Feb	0	0	0.00	0.00	0.00	135	0.0	1,402	34.75	13.15	117
22-Feb	0	0	0.00	0.00	0.00	183	0.0	1,374	34.06	12.88	115
23-Feb	0	0	0.00	0.00	0.00	131	0.0	1,351	33.47	12.67	112
24-Feb	0	0	0.00	0.00	0.00	937	0.0	1,253	31.31	11.77	111
25-Feb	0	0	0.00	0.00	0.00	498	0.0	1,245	30.96	11.68	107
26-Feb	0	0	0.00	0.00	0.00	377	0.0	1,209	30.04	11.34	103
27-Feb	0	0	0.00	0.00	0.00	2,945	0.0	1,347	34.28	12.71	134
28-Feb	1,657	0	0.52	0.04	19.33	3,150	0.0	1,394	35.51	13.15	140
01-Mar	4,889	0	1.55	0.12	57.04	3,769	0.0	1,312	33.66	12.39	138
02-Mar	5,781	0	1.83	0.14	67.45	4,750	0.0	1,284	33.28	12.16	144

2001

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CROSSETT PAPER OPERATIONS

P A P E R M I L L U T I L I T Y R E P O R T

Daily Meter Readings/Production Trends

6A Boiler						9A Boiler					
	Gas	Oil				Gas	TDF	Bark			
	Mcf	Bbls				Mcf	Tons	Tons			
PM ₁₀ EF	7.60E-03	NA				7.60E-03	5.64E+00	5.94E-01			
SO ₂ EF	6.00E-04	NA	Calculated lbs/hr			6.00E-04	3.08E+01	2.25E-01	Calculated lbs/hr		
NO _x EF	2.80E-01	NA	PM	SO ₂	NO _x	1.90E-01	1.98E+00	1.98E+00	PM	SO ₂	NO _x
03-Mar	5,632	0	1.78	0.14	65.71	4,705	0.0	1,273	33.00	12.05	142
04-Mar	5,371	0	1.70	0.13	62.66	5,247	0.0	1,401	36.34	13.27	157
05-Mar	5,367	0	1.70	0.13	62.62	4,147	0.0	1,484	38.05	14.02	155
06-Mar	5,304	0	1.68	0.13	61.88	4,741	0.0	1,568	40.32	14.82	167
07-Mar	5,187	0	1.64	0.13	60.52	5,229	0.0	1,110	29.12	10.53	133
08-Mar	4,470	0	1.42	0.11	52.15	3,255	0.0	1,458	37.11	13.75	146
09-Mar	5,305	0	1.68	0.13	61.89	4,596	0.0	1,531	39.35	14.47	163
10-Mar	6,032	0	1.91	0.15	70.37	3,852	0.0	1,554	39.67	14.66	159
11-Mar	5,909	0	1.87	0.15	68.94	4,255	0.0	1,480	37.97	13.98	156
12-Mar	5,940	0	1.88	0.15	69.30	4,593	0.0	1,564	40.16	14.78	165
13-Mar	5,475	0	1.73	0.14	63.88	4,533	0.0	1,611	41.31	15.22	169
14-Mar	4,124	0	1.31	0.10	48.11	2,996	0.0	1,379	35.07	13.00	137
15-Mar	4,293	0	1.36	0.11	50.09	3,779	0.0	1,362	34.92	12.87	142
16-Mar	965	0	0.31	0.02	11.26	3,775	0.0	1,078	27.88	10.20	119
17-Mar	0	0	0.00	0.00	0.00	464	0.0	1,493	37.09	14.01	127
18-Mar	0	0	0.00	0.00	0.00	1,017	0.0	1,418	35.42	13.32	125
19-Mar	467	0	0.15	0.01	5.45	785	0.0	1,470	36.63	13.80	127
20-Mar	1,036	0	0.33	0.03	12.09	402	0.0	1,167	29.01	10.95	99
21-Mar	0	0	0.00	0.00	0.00	380	0.0	1,342	33.33	12.59	114
22-Mar	0	0	0.00	0.00	0.00	340	0.0	1,455	36.13	13.65	123
23-Mar	0	0	0.00	0.00	0.00	342	0.0	1,288	31.98	12.08	109

GEORGIA-PACIFIC CORPORATION
SOUTHERN PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

P A P E R M I L L U T I L I T Y R E P O R T

Daily Meter Readings/Production Trends

6A Boiler						9A Boiler				*			
-----						*	-----				*		
	Gas	Oil				*	Gas	TDF	Bark	*			
	Mcf	Bbls				*	Mcf	Tons	Tons	*			
PM ₁₀ EF	7.60E-03	NA					7.60E-03	5.64E+00	5.94E-01				
SO ₂ EF	6.00E-04	NA	Calculated lbs/hr				6.00E-04	3.08E+01	2.25E-01	Calculated lbs/hr			
NO _x EF	2.80E-01	NA	PM	SO ₂	NO _x		1.90E-01	1.98E+00	1.98E+00	PM SO ₂ NO _x			
24-Mar	2,143	0	0.68	0.05	25.00	*	3,602	0.0	926	*	24.05	8.77	105
25-Mar	5,249	0	1.66	0.13	61.24	*	5,623	0.0	319	*	9.68	3.13	71
26-Mar	5,432	0	1.72	0.14	63.37	*	0	0.0	0	*	0.00	0.00	0
27-Mar	5,791	0	1.83	0.14	67.56	*	0	0.0	0	*	0.00	0.00	0
28-Mar	5,556	0	1.76	0.14	64.82	*	0	0.0	0	*	0.00	0.00	0
29-Mar	4,473	0	1.42	0.11	52.19	*	0	0.0	0	*	0.00	0.00	0
30-Mar	3,929	0	1.24	0.10	45.84	*	0	0.0	0	*	0.00	0.00	0
31-Mar	3,093	0	0.98	0.08	36.09	*	0	0.0	0	*	0.00	0.00	0
01-Apr	5,185	0	1.64	0.13	60.49	*	0	0.0	0	*	0.00	0.00	0
02-Apr	5,375	0	1.70	0.13	62.71	*	0	0.0	0	*	0.00	0.00	0
03-Apr	4,365	0	1.38	0.11	50.93	*	0	0.0	0	*	0.00	0.00	0
04-Apr	3,192	0	1.01	0.08	37.24	*	0	0.0	0	*	0.00	0.00	0
05-Apr	4,124	0	1.31	0.10	48.11	*	0	0.0	0	*	0.00	0.00	0
06-Apr	4,425	0	1.40	0.11	51.63	*	0	0.0	0	*	0.00	0.00	0
07-Apr	4,535	0	1.44	0.11	52.91	*	0	0.0	0	*	0.00	0.00	0
08-Apr	4,935	0	1.56	0.12	57.58	*	0	0.0	0	*	0.00	0.00	0
09-Apr	5,416	0	1.72	0.14	63.19	*	0	0.0	0	*	0.00	0.00	0
10-Apr	5,179	0	1.64	0.13	60.42	*	0	0.0	0	*	0.00	0.00	0
11-Apr	2,244	0	0.71	0.06	26.18	*	0	0.0	0	*	0.00	0.00	0
12-Apr	4,363	0	1.38	0.11	50.90	*	0	0.0	0	*	0.00	0.00	0
13-Apr	4,033	0	1.28	0.10	47.05	*	0	0.0	0	*	0.00	0.00	0

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SOUTHERN PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

P A P E R M I L L U T I L I T Y R E P O R T

Daily Meter Readings/Production Trends

6A Boiler						9A Boiler				*			
						*					*		
	Gas	Oil				*	Gas	TDF	Bark	*			
	Mcf	Bbls				*	Mcf	Tons	Tons	*			
PM ₁₀ EF	7.60E-03	NA					7.60E-03	5.64E+00	5.94E-01				
SO ₂ EF	6.00E-04	NA	Calculated lbs/hr				6.00E-04	3.08E+01	2.25E-01	Calculated lbs/hr			
NO _x EF	2.80E-01	NA	PM	SO ₂	NO _x		1.90E-01	1.98E+00	1.98E+00	PM	SO ₂	NO _x	
14-Apr	5,067	0	1.60	0.13	59.12	*	233	0.0	0	*	0.07	0.01	2
15-Apr	2,572	0	0.81	0.06	30.01	*	5,681	0.0	373	*	11.02	3.64	76
16-Apr	3,633	0	1.15	0.09	42.39	*	1,957	0.0	969	*	24.61	9.13	95
17-Apr	3,341	0	1.06	0.08	38.98	*	611	0.0	1,268	*	31.58	11.91	109
18-Apr	4,088	0	1.29	0.10	47.69	*	2,025	0.0	1,047	*	26.55	9.87	102
19-Apr	2,657	0	0.84	0.07	31.00	*	565	0.0	1,021	*	25.45	9.59	89
20-Apr	328	0	0.10	0.01	3.83	*	207	0.0	1,447	*	35.88	13.57	121
21-Apr	0	0	0.00	0.00	0.00	*	240	0.0	1,244	*	30.87	11.67	105
22-Apr	0	0	0.00	0.00	0.00	*	412	0.0	1,209	*	30.05	11.34	103
23-Apr	0	0	0.00	0.00	0.00	*	290	0.0	1,093	*	27.14	10.25	92
24-Apr	0	0	0.00	0.00	0.00	*	969	0.0	1,347	*	33.65	12.65	119
25-Apr	0	0	0.00	0.00	0.00	*	196	0.0	1,204	*	29.87	11.30	101
26-Apr	0	0	0.00	0.00	0.00	*	211	0.0	1,161	*	28.81	10.89	97
27-Apr	0	0	0.00	0.00	0.00	*	459	0.0	1,083	*	26.94	10.16	93
28-Apr	0	0	0.00	0.00	0.00	*	302	0.0	1,077	*	26.76	10.11	91
29-Apr	0	0	0.00	0.00	0.00	*	225	0.0	1,084	*	26.90	10.17	91
30-Apr	0	0	0.00	0.00	0.00	*	1,952	0.0	968	*	24.58	9.13	95
01-May	0	0	0.00	0.00	0.00	*	219	0.0	1,478	*	36.66	13.86	124
02-May	0	0	0.00	0.00	0.00	*	205	0.0	1,496	*	37.10	14.03	125
03-May	0	0	0.00	0.00	0.00	*	201	0.0	1,504	*	37.29	14.10	126
04-May	0	0	0.00	0.00	0.00	*	203	0.0	1,519	*	37.66	14.24	127

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P A P E R M I L L U T I L I T Y R E P O R T

Daily Meter Readings/Production Trends

6A Boiler						9A Boiler					
	Gas	Oil				Gas	TDF	Bark			
	Mcf	Bbls				Mcf	Tons	Tons			
PM ₁₀ EF	7.60E-03	NA				7.60E-03	5.64E+00	5.94E-01			
SO ₂ EF	6.00E-04	NA	Calculated lbs/hr			6.00E-04	3.08E+01	2.25E-01	Calculated lbs/hr		
NO _x EF	2.80E-01	NA	PM	SO ₂	NO _x	1.90E-01	1.98E+00	1.98E+00	PM	SO ₂	NO _x
05-May	0	0	0.00	0.00	0.00	209	0.0	1,358	33.68	12.74	114
06-May	0	0	0.00	0.00	0.00	207	0.0	1,346	33.38	12.62	113
07-May	0	0	0.00	0.00	0.00	287	0.0	1,214	30.13	11.39	102
08-May	0	0	0.00	0.00	0.00	201	0.0	1,428	35.40	13.39	119
09-May	0	0	0.00	0.00	0.00	207	0.0	1,509	37.41	14.15	126
10-May	0	0	0.00	0.00	0.00	546	0.0	1,484	36.90	13.92	127
11-May	4,067	0	1.29	0.10	47.45	465	0.0	1,157	28.77	10.85	99
12-May	7,772	0	2.46	0.19	90.67	1,982	0.0	1,729	43.42	16.26	158
13-May	3,763	0	1.19	0.09	43.90	219	0.0	1,553	38.50	14.56	130
14-May	0	0	0.00	0.00	0.00	367	0.0	118	3.04	1.12	13
15-May	0	0	0.00	0.00	0.00	119	0.0	0	0.04	0.00	1
16-May	0	0	0.00	0.00	0.00	1,034	0.0	81	2.33	0.79	15
17-May	0	0	0.00	0.00	0.00	1,058	0.0	1,290	32.26	12.12	115
18-May	2,764	0	0.88	0.07	32.25	537	0.0	1,631	40.55	15.31	139
19-May	3,947	0	1.25	0.10	46.05	972	0.0	1,581	39.44	14.85	138
20-May	2,400	0	0.76	0.06	28.00	2,498	0.0	920	23.57	8.69	96
21-May	2,710	0	0.86	0.07	31.62	836	0.0	1,310	32.67	12.30	115
22-May	573	0	0.18	0.01	6.69	244	0.0	1,263	31.34	11.85	106
23-May	0	0	0.00	0.00	0.00	494	0.0	1,336	33.23	12.54	114
24-May	0	0	0.00	0.00	0.00	207	0.0	1,113	27.60	10.44	93
25-May	0	0	0.00	0.00	0.00	335	0.0	1,352	33.58	12.69	114

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CROSSETT PAPER OPERATIONS

P A P E R M I L L U T I L I T Y R E P O R T

Daily Meter Readings/Production Trends

6A Boiler						9A Boiler					
	Gas	Oil				Gas	TDF	Bark			
	Mcf	Bbls				Mcf	Tons	Tons			
PM ₁₀ EF	7.60E-03	NA				7.60E-03	5.64E+00	5.94E-01			
SO ₂ EF	6.00E-04	NA	Calculated lbs/hr			6.00E-04	3.08E+01	2.25E-01	Calculated lbs/hr		
NO _x EF	2.80E-01	NA	PM	SO ₂	NO _x	1.90E-01	1.98E+00	1.98E+00	PM	SO ₂	NO _x
26-May	0	0	0.00	0.00	0.00	359	0.0	1,111	27.62	10.43	95
27-May	0	0	0.00	0.00	0.00	209	0.0	1,131	28.05	10.61	95
28-May	2,187	0	0.69	0.05	25.52	586	0.0	440	11.06	4.13	41
29-May	3,199	0	1.01	0.08	37.32	0	0.0	0	0.00	0.00	0
30-May	2,658	0	0.84	0.07	31.01	0	0.0	0	0.00	0.00	0
31-May	3,459	0	1.10	0.09	40.36	465	0.0	190	4.85	1.79	19
01-Jun	225	0	0.07	0.01	2.63	339	0.0	1,398	34.72	13.12	118
02-Jun	0	0	0.00	0.00	0.00	1,021	0.0	1,356	33.89	12.74	120
03-Jun	0	0	0.00	0.00	0.00	440	0.0	1,302	32.37	12.22	111
04-Jun	0	0	0.00	0.00	0.00	987	0.0	1,168	29.22	10.98	104
05-Jun	3,303	0	1.05	0.08	38.54	784	0.0	147	3.88	1.39	18
06-Jun	0	0	0.00	0.00	0.00	198	0.0	1,087	26.97	10.20	91
07-Jun	0	0	0.00	0.00	0.00	203	0.0	1,067	26.46	10.00	90
08-Jun	0	0	0.00	0.00	0.00	206	0.0	1,300	32.24	12.19	109
09-Jun	0	0	0.00	0.00	0.00	213	0.0	1,287	31.91	12.07	108
10-Jun	0	0	0.00	0.00	0.00	214	0.0	1,236	30.65	11.59	104
11-Jun	0	0	0.00	0.00	0.00	223	0.0	1,229	30.49	11.53	103
12-Jun	0	0	0.00	0.00	0.00	217	0.0	1,115	27.67	10.46	94
13-Jun	0	0	0.00	0.00	0.00	359	0.0	860	21.41	8.08	74
14-Jun	0	0	0.00	0.00	0.00	394	0.0	902	22.46	8.47	78
15-Jun	0	0	0.00	0.00	0.00	222	0.0	1,035	25.67	9.70	87

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CROSSETT PAPER OPERATIONS

P A P E R M I L L U T I L I T Y R E P O R T

Daily Meter Readings/Production Trends

6A Boiler						9A Boiler					
	Gas	Oil				Gas	TDF	Bark			
	Mcf	Bbls				Mcf	Tons	Tons			
PM ₁₀ EF	7.60E-03	NA				7.60E-03	5.64E+00	5.94E-01			
SO ₂ EF	6.00E-04	NA	Calculated lbs/hr			6.00E-04	3.08E+01	2.25E-01	Calculated lbs/hr		
NO _x EF	2.80E-01	NA	PM	SO ₂	NO _x	1.90E-01	1.98E+00	1.98E+00	PM	SO ₂	NO _x
16-Jun	0	0	0.00	0.00	0.00	272	0.0	1,168	28.99	10.96	99
17-Jun	0	0	0.00	0.00	0.00	395	0.0	1,094	27.20	10.26	93
18-Jun	0	0	0.00	0.00	0.00	214	0.0	1,077	26.73	10.10	91
19-Jun	0	0	0.00	0.00	0.00	211	0.0	1,050	26.06	9.85	88
20-Jun	0	0	0.00	0.00	0.00	215	0.0	1,024	25.41	9.60	86
21-Jun	0	0	0.00	0.00	0.00	1,081	0.0	1,162	29.11	10.92	104
22-Jun	0	0	0.00	0.00	0.00	214	0.0	1,304	32.34	12.23	109
23-Jun	0	0	0.00	0.00	0.00	220	0.0	1,227	30.43	11.50	103
24-Jun	0	0	0.00	0.00	0.00	270	0.0	1,067	26.48	10.01	90
25-Jun	0	0	0.00	0.00	0.00	212	0.0	1,083	26.87	10.16	91
26-Jun	0	0	0.00	0.00	0.00	280	0.0	1,080	26.82	10.13	91
27-Jun	0	0	0.00	0.00	0.00	316	0.0	1,148	28.52	10.77	97
28-Jun	0	0	0.00	0.00	0.00	377	0.0	1,209	30.03	11.34	103
29-Jun	0	0	0.00	0.00	0.00	204	0.0	1,335	33.12	12.52	112
30-Jun	0	0	0.00	0.00	0.00	225	0.0	1,195	29.64	11.21	100
01-Jul	0	0	0.00	0.00	0.00	225	0.0	1,120	27.80	10.51	94
02-Jul	0	0	0.00	0.00	0.00	232	0.0	1,014	25.17	9.51	85
03-Jul	0	0	0.00	0.00	0.00	229	0.0	978	24.29	9.18	83
04-Jul	635	0	0.20	0.02	7.41	639	0.0	1,034	25.79	9.71	90
05-Jul	1,589	0	0.50	0.04	18.54	1,503	0.0	1,360	34.13	12.78	124
06-Jul	939	0	0.30	0.02	10.96	2,649	0.0	508	13.42	4.83	63

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CROSSETT PAPER OPERATIONS

P A P E R M I L L U T I L I T Y R E P O R T

Daily Meter Readings/Production Trends

6A Boiler						9A Boiler				*			
-----						*	-----				*		
	Gas	Oil				*	Gas	TDF	Bark	*			
	Mcf	Bbls				*	Mcf	Tons	Tons	*			
PM ₁₀ EF	7.60E-03	NA					7.60E-03	5.64E+00	5.94E-01				
SO ₂ EF	6.00E-04	NA	Calculated lbs/hr				6.00E-04	3.08E+01	2.25E-01	Calculated lbs/hr			
NO _x EF	2.80E-01	NA	PM	SO ₂	NO _x		1.90E-01	1.98E+00	1.98E+00	PM SO ₂ NO _x			
07-Jul	3,493	0	1.11	0.09	40.75	*	457	0.0	0	*	0.14	0.01	4
08-Jul	69	0	0.02	0.00	0.81	*	1,417	0.0	1,123	*	28.24	10.56	104
09-Jul	3,573	0	1.13	0.09	41.69	*	4,367	0.0	1,659	*	42.44	15.66	171
10-Jul	4,026	0	1.27	0.10	46.97	*	5,021	0.0	1,268	*	32.97	12.01	144
11-Jul	921	0	0.29	0.02	10.75	*	2,586	0.0	1,529	*	38.66	14.40	147
12-Jul	0	0	0.00	0.00	0.00	*	228	0.0	1,196	*	29.67	11.22	100
13-Jul	0	0	0.00	0.00	0.00	*	206	0.0	1,309	*	32.45	12.27	110
14-Jul	0	0	0.00	0.00	0.00	*	370	0.0	1,460	*	36.26	13.70	123
15-Jul	0	0	0.00	0.00	0.00	*	257	0.0	1,048	*	26.01	9.83	88
16-Jul	0	0	0.00	0.00	0.00	*	217	0.0	1,190	*	29.52	11.16	100
17-Jul	0	0	0.00	0.00	0.00	*	293	0.0	1,367	*	33.93	12.83	115
18-Jul	0	0	0.00	0.00	0.00	*	680	0.0	1,069	*	26.67	10.04	94
19-Jul	0	0	0.00	0.00	0.00	*	1,058	0.0	1,282	*	32.07	12.05	114
20-Jul	0	0	0.00	0.00	0.00	*	252	0.0	1,284	*	31.86	12.05	108
21-Jul	0	0	0.00	0.00	0.00	*	1,515	0.0	1,062	*	26.76	9.99	100
22-Jul	0	0	0.00	0.00	0.00	*	1,248	0.0	1,213	*	30.42	11.41	110
23-Jul	1,391	0	0.44	0.03	16.23	*	585	0.0	1,508	*	37.50	14.15	129
24-Jul	1,229	0	0.39	0.03	14.34	*	247	0.0	1,309	*	32.48	12.28	110
25-Jul	0	0	0.00	0.00	0.00	*	223	0.0	1,447	*	35.88	13.57	121
26-Jul	0	0	0.00	0.00	0.00	*	997	0.0	1,160	*	29.03	10.90	104
27-Jul	0	0	0.00	0.00	0.00	*	789	0.0	1,213	*	30.28	11.40	106

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GEORGIA-PACIFIC CORPORATION
SOUTHERN PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

P A P E R M I L L U T I L I T Y R E P O R T

Daily Meter Readings/Production Trends

6A Boiler						9A Boiler					
	Gas	Oil				Gas	TDF	Bark			
	Mcf	Bbls				Mcf	Tons	Tons			
PM ₁₀ EF	7.60E-03	NA				7.60E-03	5.64E+00	5.94E-01			
SO ₂ EF	6.00E-04	NA	Calculated lbs/hr			6.00E-04	3.08E+01	2.25E-01	Calculated lbs/hr		
NO _x EF	2.80E-01	NA	PM	SO ₂	NO _x	1.90E-01	1.98E+00	1.98E+00	PM	SO ₂	NO _x
28-Jul	0	0	0.00	0.00	0.00	230	0.0	922	22.88	8.65	78
29-Jul	0	0	0.00	0.00	0.00	230	0.0	902	22.39	8.46	76
30-Jul	0	0	0.00	0.00	0.00	360	0.0	1,403	34.84	13.16	119
31-Jul	0	0	0.00	0.00	0.00	294	0.0	1,166	28.95	10.94	99
01-Aug	0	0	0.00	0.00	0.00	230	0.0	1,397	34.65	13.10	117
02-Aug	796	0	0.25	0.02	9.29	1,776	0.0	1,474	37.05	13.86	136
03-Aug	0	0	0.00	0.00	0.00	342	0.0	1,292	32.09	12.12	109
04-Aug	4,704	0	1.49	0.12	54.88	1,231	0.0	1,550	38.76	14.57	138
05-Aug	1,546	0	0.49	0.04	18.04	1,172	0.0	1,352	33.84	12.71	121
06-Aug	0	0	0.00	0.00	0.00	215	0.0	1,186	29.42	11.13	100
07-Aug	0	0	0.00	0.00	0.00	237	0.0	980	24.32	9.19	83
08-Aug	0	0	0.00	0.00	0.00	351	0.0	880	21.90	8.26	75
09-Aug	0	0	0.00	0.00	0.00	230	0.0	1,232	30.55	11.55	103
10-Aug	0	0	0.00	0.00	0.00	508	0.0	1,034	25.76	9.71	89
11-Aug	0	0	0.00	0.00	0.00	299	0.0	1,146	28.46	10.75	97
12-Aug	0	0	0.00	0.00	0.00	215	0.0	1,144	28.37	10.73	96
13-Aug	0	0	0.00	0.00	0.00	218	0.0	1,169	29.00	10.96	98
14-Aug	0	0	0.00	0.00	0.00	250	0.0	1,229	30.49	11.53	103
15-Aug	0	0	0.00	0.00	0.00	308	0.0	1,123	27.89	10.53	95
16-Aug	0	0	0.00	0.00	0.00	255	0.0	1,286	31.91	12.06	108
17-Aug	3,174	0	1.01	0.08	37.03	245	0.0	179	4.50	1.68	17

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GEORGIA-PACIFIC CORPORATION
SOUTHERN PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

P A P E R M I L L U T I L I T Y R E P O R T

Daily Meter Readings/Production Trends

6A Boiler						9A Boiler					
	Gas	Oil				Gas	TDF	Bark			
	Mcf	Bbls				Mcf	Tons	Tons			
PM ₁₀ EF	7.60E-03	NA				7.60E-03	5.64E+00	5.94E-01			
SO ₂ EF	6.00E-04	NA	Calculated lbs/hr			6.00E-04	3.08E+01	2.25E-01	Calculated lbs/hr		
NO _x EF	2.80E-01	NA	PM	SO ₂	NO _x	1.90E-01	1.98E+00	1.98E+00	PM	SO ₂	NO _x
18-Aug	4,612	0	1.46	0.12	53.81	0	0.0	0	0.00	0.00	0
19-Aug	4,731	0	1.50	0.12	55.20	0	0.0	0	0.00	0.00	0
20-Aug	4,700	0	1.49	0.12	54.83	0	0.0	0	0.00	0.00	0
21-Aug	4,592	0	1.45	0.11	53.57	0	0.0	0	0.00	0.00	0
22-Aug	5,178	0	1.64	0.13	60.41	1,226	0.0	60	1.87	0.59	15
23-Aug	182	0	0.06	0.00	2.12	4,276	0.0	590	15.95	5.64	83
24-Aug	0	0	0.00	0.00	0.00	4,305	0.0	713	19.00	6.79	93
25-Aug	0	0	0.00	0.00	0.00	1,000	0.0	985	24.69	9.26	89
26-Aug	0	0	0.00	0.00	0.00	294	0.0	925	23.00	8.68	79
27-Aug	0	0	0.00	0.00	0.00	235	0.0	1,137	28.21	10.66	96
28-Aug	0	0	0.00	0.00	0.00	156	0.0	1,103	27.35	10.35	92
29-Aug	0	0	0.00	0.00	0.00	225	0.0	1,256	31.15	11.78	105
30-Aug	0	0	0.00	0.00	0.00	206	0.0	1,047	25.98	9.82	88
31-Aug	0	0	0.00	0.00	0.00	140	0.0	1,187	29.43	11.13	99
01-Sep	0	0	0.00	0.00	0.00	223	0.0	1,216	30.17	11.41	102
02-Sep	0	0	0.00	0.00	0.00	341	0.0	1,470	36.49	13.79	124
03-Sep	0	0	0.00	0.00	0.00	229	0.0	1,380	34.22	12.94	116
04-Sep	0	0	0.00	0.00	0.00	229	0.0	1,263	31.32	11.84	106
05-Sep	0	0	0.00	0.00	0.00	232	0.0	1,055	26.19	9.90	89
06-Sep	0	0	0.00	0.00	0.00	234	0.0	987	24.51	9.26	83
07-Sep	0	0	0.00	0.00	0.00	223	0.0	1,011	25.08	9.48	85

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SOUTHERN PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

P A P E R M I L L U T I L I T Y R E P O R T

Daily Meter Readings/Production Trends

6A Boiler						9A Boiler					
	Gas	Oil				Gas	TDF	Bark			
	Mcf	Bbls				Mcf	Tons	Tons			
PM ₁₀ EF	7.60E-03	NA				7.60E-03	5.64E+00	5.94E-01			
SO ₂ EF	6.00E-04	NA	Calculated lbs/hr			6.00E-04	3.08E+01	2.25E-01	Calculated lbs/hr		
NO _x EF	2.80E-01	NA	PM	SO ₂	NO _x	1.90E-01	1.98E+00	1.98E+00	PM	SO ₂	NO _x
08-Sep	0	0	0.00	0.00	0.00	229	0.0	1,239	30.74	11.62	104
09-Sep	0	0	0.00	0.00	0.00	832	0.0	1,308	32.63	12.28	114
10-Sep	0	0	0.00	0.00	0.00	211	0.0	1,072	26.61	10.06	90
11-Sep	0	0	0.00	0.00	0.00	655	0.0	1,268	31.60	11.91	110
12-Sep	0	0	0.00	0.00	0.00	1,165	0.0	1,056	26.49	9.92	96
13-Sep	1,201	0	0.38	0.03	14.01	2,638	0.0	1,090	27.80	10.28	111
14-Sep	0	0	0.00	0.00	0.00	727	0.0	949	23.73	8.92	84
15-Sep	0	0	0.00	0.00	0.00	814	0.0	962	24.08	9.04	86
16-Sep	0	0	0.00	0.00	0.00	1,202	0.0	842	21.23	7.93	79
17-Sep	0	0	0.00	0.00	0.00	1,084	0.0	897	22.53	8.43	83
18-Sep	0	0	0.00	0.00	0.00	1,243	0.0	976	24.54	9.18	90
19-Sep	0	0	0.00	0.00	0.00	636	0.0	878	21.92	8.24	77
20-Sep	0	0	0.00	0.00	0.00	1,173	0.0	1,172	29.37	11.01	106
21-Sep	0	0	0.00	0.00	0.00	1,554	0.0	881	22.31	8.30	85
22-Sep	0	0	0.00	0.00	0.00	1,201	0.0	895	22.52	8.42	83
23-Sep	0	0	0.00	0.00	0.00	586	0.0	937	23.37	8.80	82
24-Sep	0	0	0.00	0.00	0.00	2,200	0.0	1,283	32.45	12.08	123
25-Sep	0	0	0.00	0.00	0.00	1,232	0.0	1,123	28.18	10.56	102
26-Sep	0	0	0.00	0.00	0.00	1,207	0.0	902	22.70	8.48	84
27-Sep	0	0	0.00	0.00	0.00	626	0.0	488	12.29	4.60	45
28-Sep	0	0	0.00	0.00	0.00	697	0.0	675	16.92	6.34	61

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SOUTHERN PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

P A P E R M I L L U T I L I T Y R E P O R T

Daily Meter Readings/Production Trends

6A Boiler						9A Boiler					
	Gas	Oil				Gas	TDF	Bark			
	Mcf	Bbls				Mcf	Tons	Tons			
PM ₁₀ EF	7.60E-03	NA				7.60E-03	5.64E+00	5.94E-01			
SO ₂ EF	6.00E-04	NA	Calculated lbs/hr			6.00E-04	3.08E+01	2.25E-01	Calculated lbs/hr		
NO _x EF	2.80E-01	NA	PM	SO ₂	NO _x	1.90E-01	1.98E+00	1.98E+00	PM	SO ₂	NO _x
29-Sep	0	0	0.00	0.00	0.00	* 792	0.0	883	* 22.10	8.30	79
30-Sep	0	0	0.00	0.00	0.00	* 1,203	0.0	909	* 22.88	8.55	85
01-Oct	0	0	0.00	0.00	0.00	* 1,460	0.0	909	* 22.97	8.56	87
02-Oct	0	0	0.00	0.00	0.00	* 439	0.0	624	* 15.58	5.86	55
03-Oct	0	0	0.00	0.00	0.00	* 439	0.0	822	* 20.49	7.72	71
04-Oct	0	0	0.00	0.00	0.00	* 465	0.0	915	* 22.80	8.59	79
05-Oct	0	0	0.00	0.00	0.00	* 209	0.0	899	* 22.32	8.43	76
06-Oct	0	0	0.00	0.00	0.00	* 1,833	0.0	860	* 21.87	8.11	85
07-Oct	0	0	0.00	0.00	0.00	* 7,819	0.0	391	* 12.15	3.86	94
08-Oct	1,608	0	0.51	0.04	18.76	* 4,341	0.0	230	* 7.06	2.26	53
09-Oct	3,089	0	0.98	0.08	36.04	* 0	0.0	0	* 0.00	0.00	0
10-Oct	3,059	0	0.97	0.08	35.69	* 0	0.0	0	* 0.00	0.00	0
11-Oct	3,307	0	1.05	0.08	38.58	* 0	0.0	0	* 0.00	0.00	0
12-Oct	3,307	0	1.05	0.08	38.58	* 0	0.0	0	* 0.00	0.00	0
13-Oct	3,307	0	1.05	0.08	38.58	* 0	0.0	0	* 0.00	0.00	0
14-Oct	3,307	0	1.05	0.08	38.58	* 0	0.0	0	* 0.00	0.00	0
15-Oct	4,046	0	1.28	0.10	47.20	* 0	0.0	0	* 0.00	0.00	0
16-Oct	4,545	0	1.44	0.11	53.03	* 0	0.0	0	* 0.00	0.00	0
17-Oct	4,144	0	1.31	0.10	48.35	* 0	0.0	0	* 0.00	0.00	0
18-Oct	4,694	0	1.49	0.12	54.76	* 0	0.0	0	* 0.00	0.00	0
19-Oct	4,557	0	1.44	0.11	53.17	* 0	0.0	0	* 0.00	0.00	0

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GEORGIA-PACIFIC CORPORATION
SOUTHERN PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

P A P E R M I L L U T I L I T Y R E P O R T

Daily Meter Readings/Production Trends

6A Boiler						9A Boiler					
	Gas	Oil				Gas	TDF	Bark			
	Mcf	Bbls				Mcf	Tons	Tons			
PM ₁₀ EF	7.60E-03	NA				7.60E-03	5.64E+00	5.94E-01			
SO ₂ EF	6.00E-04	NA	Calculated lbs/hr			6.00E-04	3.08E+01	2.25E-01	Calculated lbs/hr		
NO _x EF	2.80E-01	NA	PM	SO ₂	NO _x	1.90E-01	1.98E+00	1.98E+00	PM	SO ₂	NO _x
20-Oct	3,459	0	1.10	0.09	40.36	0	0.0	0	0.00	0.00	0
21-Oct	3,203	0	1.01	0.08	37.37	0	0.0	0	0.00	0.00	0
22-Oct	5,023	0	1.59	0.13	58.60	0	0.0	0	0.00	0.00	0
23-Oct	4,811	0	1.52	0.12	56.13	0	0.0	0	0.00	0.00	0
24-Oct	4,257	0	1.35	0.11	49.67	0	0.0	0	0.00	0.00	0
25-Oct	316	0	0.10	0.01	3.69	1,284	0.0	1,001	25.17	9.41	93
26-Oct	226	0	0.07	0.01	2.64	401	0.0	1,156	28.73	10.84	99
27-Oct	0	0	0.00	0.00	0.00	251	0.0	1,268	31.47	11.90	107
28-Oct	0	0	0.00	0.00	0.00	199	0.0	1,357	33.66	12.73	114
29-Oct	0	0	0.00	0.00	0.00	485	0.0	1,349	33.54	12.66	115
30-Oct	0	0	0.00	0.00	0.00	278	0.0	1,063	26.40	9.97	90
31-Oct	0	0	0.00	0.00	0.00	199	0.0	1,080	26.80	10.13	91
01-Nov	0	0	0.00	0.00	0.00	208	0.0	869	21.56	8.15	73
02-Nov	0	0	0.00	0.00	0.00	485	0.0	99	2.59	0.94	12
03-Nov	0	0	0.00	0.00	0.00	682	0.0	871	21.76	8.18	77
04-Nov	0	0	0.00	0.00	0.00	204	0.0	797	19.78	7.47	67
05-Nov	0	0	0.00	0.00	0.00	204	0.0	908	22.54	8.52	77
06-Nov	0	0	0.00	0.00	0.00	302	0.0	893	22.20	8.38	76
07-Nov	0	0	0.00	0.00	0.00	422	0.0	933	23.24	8.76	80
08-Nov	34	0	0.01	0.00	0.40	1,319	0.0	1,073	26.98	10.09	99
09-Nov	0	0	0.00	0.00	0.00	507	0.0	1,240	30.85	11.64	106

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GEORGIA-PACIFIC CORPORATION
SOUTHERN PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

P A P E R M I L L U T I L I T Y R E P O R T

Daily Meter Readings/Production Trends

6A Boiler						9A Boiler					
	Gas	Oil				Gas	TDF	Bark			
	Mcf	Bbls				Mcf	Tons	Tons			
PM ₁₀ EF	7.60E-03	NA				7.60E-03	5.64E+00	5.94E-01			
SO ₂ EF	6.00E-04	NA	Calculated lbs/hr			6.00E-04	3.08E+01	2.25E-01	Calculated lbs/hr		
NO _x EF	2.80E-01	NA	PM	SO ₂	NO _x	1.90E-01	1.98E+00	1.98E+00	PM	SO ₂	NO _x
10-Nov	0	0	0.00	0.00	0.00	* 637	0.0	1,186	* 29.56	11.14	103
11-Nov	1,289	0	0.41	0.03	15.04	* 733	0.0	1,365	* 34.03	12.82	118
12-Nov	1,795	0	0.57	0.04	20.94	* 365	0.0	1,038	* 25.80	9.74	89
13-Nov	345	0	0.11	0.01	4.03	* 482	0.0	1,212	* 30.16	11.38	104
14-Nov	0	0	0.00	0.00	0.00	* 218	0.0	1,137	* 28.20	10.66	96
15-Nov	0	0	0.00	0.00	0.00	* 212	0.0	1,140	* 28.27	10.69	96
16-Nov	0	0	0.00	0.00	0.00	* 207	0.0	1,065	* 26.41	9.99	89
17-Nov	0	0	0.00	0.00	0.00	* 242	0.0	1,174	* 29.12	11.01	99
18-Nov	0	0	0.00	0.00	0.00	* 216	0.0	1,056	* 26.21	9.91	89
19-Nov	0	0	0.00	0.00	0.00	* 554	0.0	1,162	* 28.93	10.91	100
20-Nov	0	0	0.00	0.00	0.00	* 264	0.0	1,362	* 33.80	12.78	114
21-Nov	0	0	0.00	0.00	0.00	* 1,237	0.0	1,367	* 34.22	12.85	123
22-Nov	0	0	0.00	0.00	0.00	* 1,241	0.0	959	* 24.12	9.02	89
23-Nov	0	0	0.00	0.00	0.00	* 1,113	0.0	973	* 24.43	9.15	89
24-Nov	0	0	0.00	0.00	0.00	* 901	0.0	917	* 22.98	8.62	83
25-Nov	0	0	0.00	0.00	0.00	* 632	0.0	923	* 23.05	8.67	81
26-Nov	0	0	0.00	0.00	0.00	* 2,252	0.0	995	* 25.34	9.38	100
27-Nov	0	0	0.00	0.00	0.00	* 1,001	0.0	1,033	* 25.87	9.71	93
28-Nov	0	0	0.00	0.00	0.00	* 3,577	0.0	915	* 23.77	8.66	104
29-Nov	582	0	0.18	0.01	6.79	* 10,093	0.0	532	* 16.37	5.24	124
30-Nov	2,989	0	0.95	0.07	34.87	* 2,188	0.0	651	* 16.80	6.15	71

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CROSSETT PAPER OPERATIONS

P A P E R M I L L U T I L I T Y R E P O R T

Daily Meter Readings/Production Trends

6A Boiler						9A Boiler					
	Gas	Oil				Gas	TDF	Bark			
	Mcf	Bbls				Mcf	Tons	Tons			
PM ₁₀ EF	7.60E-03	NA				7.60E-03	5.64E+00	5.94E-01			
SO ₂ EF	6.00E-04	NA	Calculated lbs/hr			6.00E-04	3.08E+01	2.25E-01	Calculated lbs/hr		
NO _x EF	2.80E-01	NA	PM	SO ₂	NO _x	1.90E-01	1.98E+00	1.98E+00	PM	SO ₂	NO _x
01-Dec	0	0	0.00	0.00	0.00	* 768	0.0	1,321	* 32.93	12.40	115
02-Dec	0	0	0.00	0.00	0.00	* 252	0.0	1,157	* 28.71	10.85	97
03-Dec	0	0	0.00	0.00	0.00	* 715	0.0	1,347	* 33.57	12.65	117
04-Dec	0	0	0.00	0.00	0.00	* 505	0.0	1,290	* 32.10	12.11	110
05-Dec	0	0	0.00	0.00	0.00	* 379	0.0	1,009	* 25.10	9.47	86
06-Dec	0	0	0.00	0.00	0.00	* 314	0.0	1,326	* 32.91	12.44	112
07-Dec	0	0	0.00	0.00	0.00	* 309	0.0	1,187	* 29.46	11.13	100
08-Dec	0	0	0.00	0.00	0.00	* 345	0.0	1,269	* 31.51	11.90	107
09-Dec	0	0	0.00	0.00	0.00	* 346	0.0	1,340	* 33.28	12.57	113
10-Dec	0	0	0.00	0.00	0.00	* 397	0.0	1,364	* 33.88	12.80	116
11-Dec	0	0	0.00	0.00	0.00	* 1,240	0.0	1,381	* 34.56	12.97	124
12-Dec	0	0	0.00	0.00	0.00	* 549	0.0	1,269	* 31.58	11.91	109
13-Dec	0	0	0.00	0.00	0.00	* 1,966	0.0	1,239	* 31.29	11.67	118
14-Dec	0	0	0.00	0.00	0.00	* 1,468	0.0	1,273	* 31.97	11.97	117
15-Dec	2,730	0	0.86	0.07	31.85	* 3,706	0.0	1,383	* 35.41	13.06	143
16-Dec	1,298	0	0.41	0.03	15.14	* 1,234	0.0	1,261	* 31.61	11.86	114
17-Dec	0	0	0.00	0.00	0.00	* 3,184	0.0	1,322	* 33.72	12.47	134
18-Dec	0	0	0.00	0.00	0.00	* 1,367	0.0	1,318	* 33.05	12.39	120
19-Dec	0	0	0.00	0.00	0.00	* 941	0.0	1,281	* 32.00	12.03	113
20-Dec	3,321	0	1.05	0.08	38.75	* 3,108	0.0	1,556	* 39.49	14.66	153
21-Dec	2,703	0	0.86	0.07	31.54	* 2,088	0.0	1,611	* 40.54	15.16	149

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GEORGIA-PACIFIC CORPORATION
SOUTHERN PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

P A P E R M I L L U T I L I T Y R E P O R T

Daily Meter Readings/Production Trends

6A Boiler						9A Boiler					
	Gas	Oil				Gas	TDF	Bark			
	Mcf	Bbls				Mcf	Tons	Tons			
PM ₁₀ EF	7.60E-03	NA				7.60E-03	5.64E+00	5.94E-01			
SO ₂ EF	6.00E-04	NA	Calculated lbs/hr			6.00E-04	3.08E+01	2.25E-01	Calculated lbs/hr		
NO _x EF	2.80E-01	NA	PM	SO ₂	NO _x	1.90E-01	1.98E+00	1.98E+00	PM	SO ₂	NO _x
22-Dec	0	0	0.00	0.00	0.00	2,404	0.0	1,526	38.52	14.36	145
23-Dec	0	0	0.00	0.00	0.00	1,509	0.0	1,499	37.57	14.09	136
24-Dec	0	0	0.00	0.00	0.00	957	0.0	1,323	33.05	12.43	117
25-Dec	0	0	0.00	0.00	0.00	186	0.0	1,023	25.39	9.60	86
26-Dec	0	0	0.00	0.00	0.00	236	0.0	1,128	27.99	10.58	95
27-Dec	54	0	0.02	0.00	0.63	2,248	0.0	1,234	31.25	11.62	120
28-Dec	4,321	0	1.37	0.11	50.41	2,640	0.0	1,477	37.40	13.92	143
29-Dec	2,718	0	0.86	0.07	31.71	946	0.0	1,447	36.10	13.58	127

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**GEORGIA-PACIFIC CORPORATION
PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS**

PAPER MILL UTILITY REPORT

<u>DATE</u>	Gas Mcf	Oil Bbls				*	Gas Mcf	TDF Tons	Bark Tons	*			
PM ₁₀ EF	7.60E-03	NA				*	7.60E-03	5.64	5.94E-01	*			
SO ₂ EF	6.00E-04	NA	Calculated lbs/hr				6.00E-04	30.80	2.25E-01		Calculated lbs/hr		
NOx EF	2.80E-01	NA	PM	SO ₂	NOx		1.90E-01	1.98	1.98E+00		PM	SO ₂	NOx
30-Dec	751	0	0.24	0.02	8.76	*	1,307	0.0	1,248	*	31.30	11.73	113
31-Dec	0	0	0.00	0.00	0.00	*	342	0.0	1,412	*	35.05	13.25	119
01-Jan	0	0	0.00	0.00	0.00	*	418	0.0	1,443	*	35.85	13.54	122
02-Jan	0	0	0.00	0.00	0.00	*	1,438	0.0	1,418	*	35.54	13.33	128
03-Jan	0	0	0.00	0.00	0.00	*	1,545	0.0	1,548	*	38.81	14.55	140
04-Jan	0	0	0.00	0.00	0.00	*	1,198	0.0	1,457	*	36.45	13.69	130
05-Jan	0	0	0.00	0.00	0.00	*	1,274	0.0	1,517	*	37.96	14.26	135
06-Jan	0	0	0.00	0.00	0.00	*	1,521	0.0	1,544	*	38.70	14.51	139
07-Jan	1,561	0	0.49	0.04	18.21	*	1,409	0.0	1,499	*	37.55	14.09	135
08-Jan	2,067	0	0.65	0.05	24.12	*	431	0.0	1,535	*	38.13	14.40	130
09-Jan	0	0	0.00	0.00	0.00	*	388	0.0	1,338	*	33.23	12.55	113
10-Jan	0	0	0.00	0.00	0.00	*	284	0.0	1,199	*	29.75	11.24	101
11-Jan	0	0	0.00	0.00	0.00	*	212	0.0	1,136	*	28.18	10.66	95
12-Jan	0	0	0.00	0.00	0.00	*	370	0.0	1,458	*	36.21	13.68	123
13-Jan	0	0	0.00	0.00	0.00	*	1,584	0.0	1,667	*	41.77	15.67	150
14-Jan	0	0	0.00	0.00	0.00	*	240	0.0	1,392	*	34.53	13.06	117
15-Jan	0	0	0.00	0.00	0.00	*	265	0.0	1,567	*	38.87	14.70	131
16-Jan	0	0	0.00	0.00	0.00	*	499	0.0	1,317	*	32.76	12.36	113
17-Jan	0	0	0.00	0.00	0.00	*	583	0.0	1,528	*	38.00	14.34	131
18-Jan	0	0	0.00	0.00	0.00	*	1,222	0.0	1,610	*	40.23	15.12	142
19-Jan	3,975	0	1.26	0.10	46.38	*	2,364	0.0	261	*	7.20	2.50	40
20-Jan	5,156	0	1.63	0.13	60.15	*	423	0.0	6	*	0.27	0.06	4
21-Jan	1,157	0	0.37	0.03	13.50	*	845	0.0	1,401	*	34.94	13.15	122
22-Jan	1,501	0	0.48	0.04	17.51	*	2,990	0.0	983	*	25.28	9.29	105
23-Jan	0	0	0.00	0.00	0.00	*	253	0.0	969	*	24.05	9.09	82
24-Jan	0	0	0.00	0.00	0.00	*	1,207	0.0	1,200	*	30.08	11.28	109
25-Jan	0	0	0.00	0.00	0.00	*	1,702	0.0	1,525	*	38.29	14.34	139

2002

GEORGIA-PACIFIC CORPORATION
PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

PAPER MILL UTILITY REPORT

<u>DATE</u>	Gas Mcf	Oil Bbls				*	Gas Mcf	TDF Tons	Bark Tons	*			
PM ₁₀ EF	7.60E-03	NA					7.60E-03	5.64	5.94E-01				
SO ₂ EF	6.00E-04	NA	Calculated lbs/hr				6.00E-04	30.80	2.25E-01		Calculated lbs/hr		
NO _x EF	2.80E-01	NA	PM	SO ₂	NO _x		1.90E-01	1.98	1.98E+00		PM	SO ₂	NO _x
26-Jan	0	0	0.00	0.00	0.00	*	582	0.0	1,539	*	38.28	14.45	132
27-Jan	211	0	0.07	0.01	2.46	*	287	0.0	1,378	*	34.20	12.93	116
28-Jan	2,609	0	0.83	0.07	30.44	*	485	0.0	1,255	*	31.21	11.78	107
29-Jan	0	0	0.00	0.00	0.00	*	446	0.0	1,179	*	29.32	11.07	101
30-Jan	0	0	0.00	0.00	0.00	*	230	0.0	1,216	*	30.18	11.41	102
31-Jan	0	0	0.00	0.00	0.00	*	1,152	0.0	1,422	*	35.57	13.36	126
01-Feb	1,782	0	0.56	0.04	20.79	*	2,650	0.0	1,652	*	41.74	15.56	157
02-Feb	0	0	0.00	0.00	0.00	*	1,133	0.0	1,639	*	40.93	15.39	144
03-Feb	0	0	0.00	0.00	0.00	*	1,594	0.0	1,549	*	38.84	14.56	140
04-Feb	0	0	0.00	0.00	0.00	*	955	0.0	1,435	*	35.81	13.47	126
05-Feb	0	0	0.00	0.00	0.00	*	1,515	0.0	1,363	*	34.21	12.81	124
06-Feb	2,576	0	0.82	0.06	30.05	*	2,371	0.0	1,524	*	38.46	14.34	144
07-Feb	2,419	0	0.77	0.06	28.22	*	2,035	0.0	1,438	*	36.24	13.54	135
08-Feb	0	0	0.00	0.00	0.00	*	2,694	0.0	1,326	*	33.67	12.50	131
09-Feb	0	0	0.00	0.00	0.00	*	771	0.0	1,546	*	38.52	14.52	134
10-Feb	0	0	0.00	0.00	0.00	*	705	0.0	1,604	*	39.93	15.06	138
11-Feb	0	0	0.00	0.00	0.00	*	4,523	0.0	1,308	*	33.81	12.38	144
12-Feb	0	0	0.00	0.00	0.00	*	1,107	0.0	1,247	*	31.22	11.72	112
13-Feb	881	0	0.28	0.02	10.28	*	2,189	0.0	1,187	*	30.07	11.18	115
14-Feb	787	0	0.25	0.02	9.18	*	1,165	0.0	1,352	*	33.84	12.71	121
15-Feb	0	0	0.00	0.00	0.00	*	925	0.0	1,475	*	36.81	13.86	129
16-Feb	0	0	0.00	0.00	0.00	*	1,369	0.0	1,425	*	35.71	13.40	128
17-Feb	0	0	0.00	0.00	0.00	*	1,962	0.0	1,559	*	39.20	14.66	144
18-Feb	0	0	0.00	0.00	0.00	*	2,158	0.0	1,473	*	37.15	13.87	139
19-Feb	0	0	0.00	0.00	0.00	*	2,497	0.0	1,451	*	36.70	13.66	139
20-Feb	0	0	0.00	0.00	0.00	*	1,265	0.0	1,183	*	29.69	11.13	108
21-Feb	0	0	0.00	0.00	0.00	*	4,102	0.0	1,370	*	35.20	12.94	145
22-Feb	0	0	0.00	0.00	0.00	*	2,520	0.0	1,603	*	40.47	15.09	152

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GEORGIA-PACIFIC CORPORATION
PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

PAPER MILL UTILITY REPORT

<u>DATE</u>	Gas Mcf	Oil Bbls				*	Gas Mcf	TDF Tons	Bark Tons	*			
PM ₁₀ EF	7.60E-03	NA					7.60E-03	5.64	5.94E-01				
SO ₂ EF	6.00E-04	NA	Calculated lbs/hr				6.00E-04	30.80	2.25E-01		Calculated lbs/hr		
NO _x EF	2.80E-01	NA	PM	SO ₂	NO _x		1.90E-01	1.98	1.98E+00		PM	SO ₂	NO _x
23-Feb	0	0	0.00	0.00	0.00	*	2,286	0.0	1,641	*	41.33	15.44	153
24-Feb	0	0	0.00	0.00	0.00	*	2,763	0.0	1,616	*	40.86	15.22	155
25-Feb	0	0	0.00	0.00	0.00	*	2,437	0.0	1,456	*	36.82	13.71	139
26-Feb	706	0	0.22	0.02	8.24	*	4,184	0.0	1,544	*	39.54	14.58	161
27-Feb	2,579	0	0.82	0.06	30.09	*	3,615	0.0	1,167	*	30.04	11.03	125
28-Feb	1,182	0	0.37	0.03	13.79	*	2,077	0.0	1,037	*	26.32	9.77	102
01-Mar	802	0	0.25	0.02	9.36	*	2,308	0.0	1,323	*	33.48	12.46	127
02-Mar	0	0	0.00	0.00	0.00	*	3,671	0.0	1,273	*	32.67	12.03	134
03-Mar	0	0	0.00	0.00	0.00	*	3,241	0.0	1,551	*	39.41	14.62	154
04-Mar	0	0	0.00	0.00	0.00	*	2,219	0.0	1,596	*	40.21	15.02	149
05-Mar	59	0	0.02	0.00	0.69	*	3,540	0.0	1,559	*	39.71	14.71	157
06-Mar	3,619	0	1.15	0.09	42.22	*	2,602	0.0	737	*	19.06	6.97	81
07-Mar	839	0	0.27	0.02	9.79	*	1,378	0.0	1,363	*	34.17	12.81	123
08-Mar	111	0	0.04	0.00	1.30	*	2,425	0.0	1,024	*	26.10	9.66	104
09-Mar	171	0	0.05	0.00	2.00	*	3,027	0.0	1,148	*	29.37	10.84	119
10-Mar	4,300	0	1.36	0.11	50.17	*	2,715	0.0	196	*	5.71	1.91	38
11-Mar	3,887	0	1.23	0.10	45.35	*	0	0.0	0	*	0.00	0.00	0
12-Mar	3,862	0	1.22	0.10	45.06	*	0	0.0	0	*	0.00	0.00	0
13-Mar	3,711	0	1.18	0.09	43.30	*	0	0.0	0	*	0.00	0.00	0
14-Mar	4,109	0	1.30	0.10	47.94	*	0	0.0	0	*	0.00	0.00	0
15-Mar	3,736	0	1.18	0.09	43.59	*	0	0.0	0	*	0.00	0.00	0
16-Mar	3,560	0	1.13	0.09	41.53	*	0	0.0	0	*	0.00	0.00	0
17-Mar	3,956	0	1.25	0.10	46.15	*	0	0.0	0	*	0.00	0.00	0
18-Mar	3,302	0	1.05	0.08	38.52	*	0	0.0	0	*	0.00	0.00	0
19-Mar	3,574	0	1.13	0.09	41.70	*	0	0.0	0	*	0.00	0.00	0
20-Mar	3,956	0	1.25	0.10	46.15	*	0	0.0	0	*	0.00	0.00	0
21-Mar	4,091	0	1.30	0.10	47.73	*	0	0.0	0	*	0.00	0.00	0
22-Mar	5,685	0	1.80	0.14	66.33	*	0	0.0	0	*	0.00	0.00	0

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**GEORGIA-PACIFIC CORPORATION
PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS**

PAPER MILL UTILITY REPORT

<u>DATE</u>	Gas Mcf	Oil Bbls				*	Gas Mcf	TDF Tons	Bark Tons	*			
PM ₁₀ EF	7.60E-03	NA					7.60E-03	5.64	5.94E-01				
SO ₂ EF	6.00E-04	NA	Calculated lbs/hr				6.00E-04	30.80	2.25E-01		Calculated lbs/hr		
NO _x EF	2.80E-01	NA	PM	SO ₂	NO _x		1.90E-01	1.98	1.98E+00		PM	SO ₂	NO _x
23-Mar	4,755	0	1.51	0.12	55.48	*	0	0.0	0	*	0.00	0.00	0
24-Mar	4,017	0	1.27	0.10	46.87	*	0	0.0	0	*	0.00	0.00	0
25-Mar	3,367	0	1.07	0.08	39.28	*	0	0.0	0	*	0.00	0.00	0
26-Mar	3,583	0	1.13	0.09	41.80	*	0	0.0	0	*	0.00	0.00	0
27-Mar	4,151	0	1.31	0.10	48.43	*	3,112	0.0	323	*	8.97	3.10	51
28-Mar	3,872	0	1.23	0.10	45.17	*	4,658	0.0	1,313	*	33.97	12.42	145
29-Mar	4,198	0	1.33	0.10	48.98	*	1,246	0.0	1,549	*	38.72	14.55	138
30-Mar	4,347	0	1.38	0.11	50.72	*	2,263	0.0	1,676	*	42.19	15.77	156
31-Mar	3,979	0	1.26	0.10	46.42	*	4,980	0.0	1,564	*	40.30	14.79	168
01-Apr	3,499	0	1.11	0.09	40.82	*	3,442	0.0	1,180	*	30.30	11.15	125
02-Apr	1,259	0	0.40	0.03	14.69	*	2,958	0.0	930	*	23.94	8.79	100
03-Apr	4,125	0	1.31	0.10	48.13	*	4,093	0.0	952	*	24.85	9.02	111
04-Apr	4,295	0	1.36	0.11	50.11	*	2,948	0.0	1,060	*	27.18	10.02	111
05-Apr	1,955	0	0.62	0.05	22.81	*	2,904	0.0	1,554	*	39.38	14.64	151
06-Apr	656	0	0.21	0.02	7.65	*	2,233	0.0	1,573	*	39.64	14.80	147
07-Apr	0	0	0.00	0.00	0.00	*	2,523	0.0	1,195	*	30.37	11.26	119
08-Apr	0	0	0.00	0.00	0.00	*	2,838	0.0	1,164	*	29.70	10.98	118
09-Apr	0	0	0.00	0.00	0.00	*	254	0.0	1,157	*	28.71	10.85	97
10-Apr	0	0	0.00	0.00	0.00	*	1,220	0.0	1,177	*	29.51	11.06	107
11-Apr	0	0	0.00	0.00	0.00	*	678	0.0	1,273	*	31.72	11.95	110
12-Apr	0	0	0.00	0.00	0.00	*	202	0.0	1,278	*	31.71	11.99	107
13-Apr	0	0	0.00	0.00	0.00	*	161	0.0	1,025	*	25.43	9.62	86
14-Apr	0	0	0.00	0.00	0.00	*	230	0.0	1,062	*	26.36	9.96	89
15-Apr	0	0	0.00	0.00	0.00	*	161	0.0	1,085	*	26.90	10.17	91
16-Apr	0	0	0.00	0.00	0.00	*	226	0.0	1,273	*	31.58	11.94	107
17-Apr	0	0	0.00	0.00	0.00	*	1,268	0.0	1,207	*	30.27	11.34	110
18-Apr	0	0	0.00	0.00	0.00	*	610	0.0	1,297	*	32.29	12.17	112
19-Apr	0	0	0.00	0.00	0.00	*	274	0.0	1,298	*	32.21	12.18	109

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GEORGIA-PACIFIC CORPORATION
PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

PAPER MILL UTILITY REPORT

<u>DATE</u>	Gas Mcf	Oil Bbls				*	Gas Mcf	TDF Tons	Bark Tons	*			
PM ₁₀ EF	7.60E-03	NA					7.60E-03	5.64	5.94E-01				
SO ₂ EF	6.00E-04	NA	Calculated lbs/hr				6.00E-04	30.80	2.25E-01		Calculated lbs/hr		
NO _x EF	2.80E-01	NA	PM	SO ₂	NO _x		1.90E-01	1.98	1.98E+00		PM	SO ₂	NO _x
20-Apr	0	0	0.00	0.00	0.00	*	247	0.0	1,194	*	29.63	11.20	100
21-Apr	0	0	0.00	0.00	0.00	*	280	0.0	1,226	*	30.42	11.50	103
22-Apr	0	0	0.00	0.00	0.00	*	354	0.0	1,082	*	26.89	10.15	92
23-Apr	0	0	0.00	0.00	0.00	*	127	0.0	1,182	*	29.29	11.08	98
24-Apr	0	0	0.00	0.00	0.00	*	200	0.0	1,203	*	29.84	11.28	101
25-Apr	0	0	0.00	0.00	0.00	*	221	0.0	1,047	*	25.99	9.82	88
26-Apr	0	0	0.00	0.00	0.00	*	280	0.0	1,263	*	31.35	11.85	106
27-Apr	0	0	0.00	0.00	0.00	*	155	0.0	1,137	*	28.18	10.66	95
28-Apr	0	0	0.00	0.00	0.00	*	182	0.0	1,183	*	29.34	11.10	99
29-Apr	0	0	0.00	0.00	0.00	*	305	0.0	1,359	*	33.74	12.75	115
30-Apr	0	0	0.00	0.00	0.00	*	560	0.0	1,178	*	29.33	11.06	102
01-May	0	0	0.00	0.00	0.00	*	372	0.0	1,176	*	29.21	11.03	100
02-May	0	0	0.00	0.00	0.00	*	1,344	0.0	1,234	*	30.97	11.60	112
03-May	0	0	0.00	0.00	0.00	*	759	0.0	1,176	*	29.34	11.04	103
04-May	0	0	0.00	0.00	0.00	*	974	0.0	1,285	*	32.11	12.07	114
05-May	0	0	0.00	0.00	0.00	*	400	0.0	1,031	*	25.64	9.67	88
06-May	0	0	0.00	0.00	0.00	*	404	0.0	1,189	*	29.55	11.15	101
07-May	0	0	0.00	0.00	0.00	*	667	0.0	1,286	*	32.04	12.07	111
08-May	1,604	0	0.51	0.04	18.71	*	1,406	0.0	1,411	*	35.36	13.26	128
09-May	2,466	0	0.78	0.06	28.77	*	324	0.0	1,061	*	26.36	9.96	90
10-May	4,876	0	1.54	0.12	56.89	*	3,640	0.0	1,486	*	37.93	14.02	151
11-May	4,297	0	1.36	0.11	50.13	*	1,809	0.0	1,393	*	35.05	13.10	129
12-May	2,006	0	0.64	0.05	23.40	*	965	0.0	1,161	*	29.05	10.91	103
13-May	3,268	0	1.03	0.08	38.13	*	1,823	0.0	1,263	*	31.83	11.88	119
14-May	2,348	0	0.74	0.06	27.39	*	1,986	0.0	1,267	*	31.99	11.93	120
15-May	2,821	0	0.89	0.07	32.91	*	1,234	0.0	1,258	*	31.53	11.83	114
16-May	3,342	0	1.06	0.08	38.99	*	3,360	0.0	1,545	*	39.31	14.57	154
17-May	3,631	0	1.15	0.09	42.36	*	4,340	0.0	1,521	*	39.03	14.37	160

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**GEORGIA-PACIFIC CORPORATION
PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS**

PAPER MILL UTILITY REPORT

<u>DATE</u>	Gas Mcf	Oil Bbls				*	Gas Mcf	TDF Tons	Bark Tons	*			
PM ₁₀ EF	7.60E-03	NA					7.60E-03	5.64	5.94E-01				
SO ₂ EF	6.00E-04	NA	Calculated lbs/hr				6.00E-04	30.80	2.25E-01		Calculated lbs/hr		
NO _x EF	2.80E-01	NA	PM	SO ₂	NO _x		1.90E-01	1.98	1.98E+00		PM	SO ₂	NO _x
18-May	0	0	0.00	0.00	0.00	*	112	0.0	1,019	*	25.25	9.55	85
19-May	6	0	0.00	0.00	0.07	*	1,078	0.0	1,130	*	28.32	10.62	102
20-May	0	0	0.00	0.00	0.00	*	259	0.0	1,113	*	27.63	10.44	94
21-May	4,524	0	1.43	0.11	52.78	*	5,147	0.0	1,616	*	41.62	15.28	174
22-May	3,977	0	1.26	0.10	46.40	*	3,309	0.0	1,562	*	39.71	14.73	155
23-May	3,582	0	1.13	0.09	41.79	*	1,728	0.0	1,562	*	39.21	14.69	143
24-May	1,395	0	0.44	0.03	16.28	*	534	0.0	583	*	14.60	5.48	52
25-May	0	0	0.00	0.00	0.00	*	178	0.0	1,026	*	25.45	9.62	86
26-May	0	0	0.00	0.00	0.00	*	570	0.0	904	*	22.55	8.49	79
27-May	0	0	0.00	0.00	0.00	*	163	0.0	895	*	22.21	8.40	75
28-May	7	0	0.00	0.00	0.08	*	623	0.0	729	*	18.25	6.85	65
29-May	1,088	0	0.34	0.03	12.69	*	370	0.0	978	*	24.33	9.18	84
30-May	4,205	0	1.33	0.11	49.06	*	1,852	0.0	1,253	*	31.61	11.80	118
31-May	4,803	0	1.52	0.12	56.04	*	6,643	0.0	1,442	*	37.79	13.68	172
01-Jun	4,009	0	1.27	0.10	46.77	*	4,592	0.0	1,337	*	34.54	12.65	147
02-Jun	462	0	0.15	0.01	5.39	*	443	0.0	805	*	20.06	7.56	70
03-Jun	3,392	0	1.07	0.08	39.57	*	2,285	0.0	1,334	*	33.74	12.56	128
04-Jun	769	0	0.24	0.02	8.97	*	222	0.0	1,157	*	28.71	10.85	97
05-Jun	0	0	0.00	0.00	0.00	*	292	0.0	1,098	*	27.27	10.30	93
06-Jun	0	0	0.00	0.00	0.00	*	469	0.0	1,246	*	30.98	11.69	106
07-Jun	1,414	0	0.45	0.04	16.50	*	537	0.0	1,425	*	35.43	13.37	122
08-Jun	0	0	0.00	0.00	0.00	*	726	0.0	1,277	*	31.85	11.99	111
09-Jun	0	0	0.00	0.00	0.00	*	348	0.0	1,098	*	27.28	10.30	93
10-Jun	0	0	0.00	0.00	0.00	*	648	0.0	1,001	*	24.97	9.40	88
11-Jun	0	0	0.00	0.00	0.00	*	2,102	0.0	1,008	*	25.62	9.51	100
12-Jun	0	0	0.00	0.00	0.00	*	188	0.0	900	*	22.33	8.44	76
13-Jun	0	0	0.00	0.00	0.00	*	161	0.0	1,182	*	29.31	11.09	99
14-Jun	1,805	0	0.57	0.05	21.06	*	408	0.0	1,541	*	38.27	14.46	130

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GEORGIA-PACIFIC CORPORATION
PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

PAPER MILL UTILITY REPORT

<u>DATE</u>	Gas Mcf	Oil Bbls				*	Gas Mcf	TDF Tons	Bark Tons	*			
PM ₁₀ EF	7.60E-03	NA					7.60E-03	5.64	5.94E-01				
SO ₂ EF	6.00E-04	NA	Calculated lbs/hr				6.00E-04	30.80	2.25E-01		Calculated lbs/hr		
NO _x EF	2.80E-01	NA	PM	SO ₂	NO _x		1.90E-01	1.98	1.98E+00		PM	SO ₂	NO _x
15-Jun	3,902	0	1.24	0.10	45.52	*	1,945	0.0	1,311	*	33.07	12.34	124
16-Jun	0	0	0.00	0.00	0.00	*	159	0.0	1,232	*	30.54	11.55	103
17-Jun	1,394	0	0.44	0.03	16.26	*	3,148	0.0	996	*	25.66	9.42	107
18-Jun	159	0	0.05	0.00	1.86	*	574	0.0	927	*	23.12	8.70	81
19-Jun	0	0	0.00	0.00	0.00	*	151	0.0	1,060	*	26.27	9.94	89
20-Jun	0	0	0.00	0.00	0.00	*	167	0.0	914	*	22.67	8.57	77
21-Jun	0	0	0.00	0.00	0.00	*	370	0.0	1,028	*	25.56	9.65	88
22-Jun	0	0	0.00	0.00	0.00	*	175	0.0	1,284	*	31.84	12.04	107
23-Jun	0	0	0.00	0.00	0.00	*	192	0.0	980	*	24.32	9.19	82
24-Jun	0	0	0.00	0.00	0.00	*	154	0.0	1,062	*	26.34	9.96	89
25-Jun	0	0	0.00	0.00	0.00	*	189	0.0	960	*	23.81	9.00	81
26-Jun	0	0	0.00	0.00	0.00	*	186	0.0	881	*	21.87	8.27	74
27-Jun	0	0	0.00	0.00	0.00	*	158	0.0	891	*	22.10	8.36	75
28-Jun	0	0	0.00	0.00	0.00	*	1,708	0.0	773	*	19.66	7.29	77
29-Jun	0	0	0.00	0.00	0.00	*	1,525	0.0	907	*	22.92	8.54	87
30-Jun	0	0	0.00	0.00	0.00	*	1,819	0.0	977	*	24.75	9.20	95
01-Jul	0	0	0.00	0.00	0.00	*	2,177	0.0	1,020	*	25.94	9.62	101
02-Jul	42	0	0.01	0.00	0.49	*	1,817	0.0	947	*	24.01	8.92	92
03-Jul	0	0	0.00	0.00	0.00	*	2,055	0.0	1,170	*	29.60	11.02	113
04-Jul	0	0	0.00	0.00	0.00	*	1,487	0.0	978	*	24.67	9.20	92
05-Jul	0	0	0.00	0.00	0.00	*	2,088	0.0	971	*	24.68	9.15	97
06-Jul	0	0	0.00	0.00	0.00	*	2,314	0.0	1,056	*	26.88	9.96	105
07-Jul	0	0	0.00	0.00	0.00	*	1,982	0.0	1,065	*	27.00	10.04	104
08-Jul	0	0	0.00	0.00	0.00	*	686	0.0	857	*	21.42	8.05	76
09-Jul	0	0	0.00	0.00	0.00	*	1,327	0.0	883	*	22.28	8.31	83
10-Jul	0	0	0.00	0.00	0.00	*	402	0.0	894	*	22.26	8.39	77
11-Jul	0	0	0.00	0.00	0.00	*	1,250	0.0	864	*	21.77	8.13	81
12-Jul	0	0	0.00	0.00	0.00	*	1,288	0.0	853	*	21.52	8.03	81

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**GEORGIA-PACIFIC CORPORATION
PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS**

PAPER MILL UTILITY REPORT

<u>DATE</u>	Gas Mcf	Oil Bbls				*	Gas Mcf	TDF Tons	Bark Tons	*			
PM ₁₀ EF	7.60E-03	NA					7.60E-03	5.64	5.94E-01				
SO ₂ EF	6.00E-04	NA	Calculated lbs/hr				6.00E-04	30.80	2.25E-01		Calculated lbs/hr		
NO _x EF	2.80E-01	NA	PM	SO ₂	NO _x		1.90E-01	1.98	1.98E+00		PM	SO ₂	NO _x
13-Jul	0	0	0.00	0.00	0.00	*	570	0.0	792	*	19.77	7.44	70
14-Jul	0	0	0.00	0.00	0.00	*	657	0.0	844	*	21.10	7.93	75
15-Jul	0	0	0.00	0.00	0.00	*	1,398	0.0	919	*	23.19	8.65	87
16-Jul	0	0	0.00	0.00	0.00	*	771	0.0	808	*	20.25	7.60	73
17-Jul	0	0	0.00	0.00	0.00	*	2,318	0.0	1,052	*	26.77	9.92	105
18-Jul	0	0	0.00	0.00	0.00	*	371	0.0	824	*	20.52	7.74	71
19-Jul	1,921	0	0.61	0.05	22.41	*	273	0.0	263	*	6.59	2.47	24
20-Jul	2,401	0	0.76	0.06	28.01	*	0	0.0	0	*	0.00	0.00	0
21-Jul	2,191	0	0.69	0.05	25.56	*	1,332	0.0	82	*	2.44	0.80	17
22-Jul	0	0	0.00	0.00	0.00	*	751	0.0	888	*	22.22	8.35	79
23-Jul	0	0	0.00	0.00	0.00	*	1,108	0.0	848	*	21.33	7.97	79
24-Jul	0	0	0.00	0.00	0.00	*	806	0.0	836	*	20.95	7.86	75
25-Jul	0	0	0.00	0.00	0.00	*	307	0.0	808	*	20.10	7.58	69
26-Jul	0	0	0.00	0.00	0.00	*	509	0.0	859	*	21.43	8.07	75
27-Jul	0	0	0.00	0.00	0.00	*	1,290	0.0	787	*	19.88	7.41	75
28-Jul	0	0	0.00	0.00	0.00	*	1,283	0.0	810	*	20.47	7.63	77
29-Jul	0	0	0.00	0.00	0.00	*	661	0.0	820	*	20.51	7.71	73
30-Jul	98	0	0.03	0.00	1.14	*	220	0.0	866	*	21.49	8.12	73
31-Jul	3,281	0	1.04	0.08	38.28	*	1,562	0.0	1,376	*	34.55	12.94	126
01-Aug	3,281	0	1.04	0.08	38.28	*	1,562	0.0	1,376	*	34.55	12.94	126
02-Aug	4,609	0	1.46	0.12	53.77	*	4,770	0.0	570	*	15.63	5.47	85
03-Aug	4,539	0	1.44	0.11	52.96	*	3,883	0.0	1,158	*	29.90	10.96	126
04-Aug	837	0	0.27	0.02	9.77	*	1,225	0.0	689	*	17.45	6.49	67
05-Aug	243	0	0.08	0.01	2.84	*	4,030	0.0	473	*	12.98	4.53	71
06-Aug	0	0	0.00	0.00	0.00	*	993	0.0	987	*	24.75	9.28	89
07-Aug	0	0	0.00	0.00	0.00	*	543	0.0	872	*	21.74	8.18	76
08-Aug	0	0	0.00	0.00	0.00	*	2,851	0.0	1,020	*	26.14	9.63	107
09-Aug	0	0	0.00	0.00	0.00	*	734	0.0	1,028	*	25.68	9.66	91

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**GEORGIA-PACIFIC CORPORATION
PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS**

PAPER MILL UTILITY REPORT

<u>DATE</u>	Gas Mcf	Oil Bbls				*	Gas Mcf	TDF Tons	Bark Tons	*			
PM ₁₀ EF	7.60E-03	NA					7.60E-03	5.64	5.94E-01				
SO ₂ EF	6.00E-04	NA	Calculated lbs/hr				6.00E-04	30.80	2.25E-01		Calculated lbs/hr		
NO _x EF	2.80E-01	NA	PM	SO ₂	NO _x		1.90E-01	1.98	1.98E+00		PM	SO ₂	NO _x
10-Aug	0	0	0.00	0.00	0.00	*	387	0.0	1,063	*	26.43	9.97	91
11-Aug	0	0	0.00	0.00	0.00	*	345	0.0	1,049	*	26.06	9.84	89
12-Aug	0	0	0.00	0.00	0.00	*	278	0.0	1,050	*	26.07	9.85	89
13-Aug	0	0	0.00	0.00	0.00	*	733	0.0	950	*	23.75	8.93	84
14-Aug	106	0	0.03	0.00	1.24	*	568	0.0	466	*	11.72	4.39	43
15-Aug	245	0	0.08	0.01	2.86	*	623	0.0	1,072	*	26.74	10.07	93
16-Aug	25	0	0.01	0.00	0.29	*	602	0.0	1,089	*	27.13	10.22	95
17-Aug	0	0	0.00	0.00	0.00	*	329	0.0	1,137	*	28.23	10.66	96
18-Aug	0	0	0.00	0.00	0.00	*	503	0.0	964	*	24.02	9.05	84
19-Aug	0	0	0.00	0.00	0.00	*	585	0.0	925	*	23.07	8.68	81
20-Aug	0	0	0.00	0.00	0.00	*	820	0.0	1,004	*	25.11	9.43	89
21-Aug	0	0	0.00	0.00	0.00	*	443	0.0	1,092	*	27.18	10.25	94
22-Aug	0	0	0.00	0.00	0.00	*	642	0.0	957	*	23.89	8.99	84
23-Aug	0	0	0.00	0.00	0.00	*	414	0.0	982	*	24.45	9.22	84
24-Aug	0	0	0.00	0.00	0.00	*	649	0.0	1,094	*	27.27	10.27	95
25-Aug	0	0	0.00	0.00	0.00	*	857	0.0	1,098	*	27.44	10.31	97
26-Aug	0	0	0.00	0.00	0.00	*	783	0.0	1,080	*	26.98	10.15	95
27-Aug	0	0	0.00	0.00	0.00	*	766	0.0	991	*	24.77	9.31	88
28-Aug	0	0	0.00	0.00	0.00	*	388	0.0	1,048	*	26.05	9.83	90
29-Aug	0	0	0.00	0.00	0.00	*	586	0.0	977	*	24.36	9.17	85
30-Aug	0	0	0.00	0.00	0.00	*	824	0.0	1,077	*	26.93	10.12	95
31-Aug	0	0	0.00	0.00	0.00	*	1,296	0.0	1,166	*	29.26	10.96	106
01-Sep	0	0	0.00	0.00	0.00	*	550	0.0	978	*	24.37	9.18	85
02-Sep	0	0	0.00	0.00	0.00	*	941	0.0	1,178	*	29.45	11.07	105
03-Sep	0	0	0.00	0.00	0.00	*	1,577	0.0	1,114	*	28.08	10.49	104
04-Sep	0	0	0.00	0.00	0.00	*	6,112	0.0	745	*	20.37	7.13	110
05-Sep	0	0	0.00	0.00	0.00	*	381	0.0	1,020	*	25.35	9.57	87
06-Sep	0	0	0.00	0.00	0.00	*	358	0.0	1,085	*	26.96	10.18	92

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**GEORGIA-PACIFIC CORPORATION
PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS**

PAPER MILL UTILITY REPORT

<u>DATE</u>	Gas Mcf	Oil Bbls				*	Gas Mcf	TDF Tons	Bark Tons	*			
PM ₁₀ EF	7.60E-03	NA					7.60E-03	5.64	5.94E-01				
SO ₂ EF	6.00E-04	NA	Calculated lbs/hr				6.00E-04	30.80	2.25E-01		Calculated lbs/hr		
NO _x EF	2.80E-01	NA	PM	SO ₂	NO _x		1.90E-01	1.98	1.98E+00		PM	SO ₂	NO _x
07-Sep	0	0	0.00	0.00	0.00	*	400	0.0	1,196	*	29.74	11.23	102
08-Sep	0	0	0.00	0.00	0.00	*	603	0.0	1,203	*	29.97	11.29	104
09-Sep	405	0	0.13	0.01	4.73	*	621	0.0	1,141	*	28.44	10.71	99
10-Sep	2,043	0	0.65	0.05	23.84	*	1,148	0.0	1,110	*	27.84	10.44	101
11-Sep	0	0	0.00	0.00	0.00	*	1,717	0.0	417	*	10.87	3.95	48
12-Sep	0	0	0.00	0.00	0.00	*	617	0.0	1,015	*	25.32	9.53	89
13-Sep	0	0	0.00	0.00	0.00	*	407	0.0	915	*	22.77	8.59	79
14-Sep	0	0	0.00	0.00	0.00	*	420	0.0	992	*	24.69	9.31	85
15-Sep	0	0	0.00	0.00	0.00	*	672	0.0	895	*	22.37	8.41	79
16-Sep	0	0	0.00	0.00	0.00	*	871	0.0	800	*	20.07	7.52	73
17-Sep	0	0	0.00	0.00	0.00	*	384	0.0	1,030	*	25.61	9.66	88
18-Sep	0	0	0.00	0.00	0.00	*	549	0.0	997	*	24.85	9.36	87
19-Sep	176	0	0.06	0.00	2.05	*	644	0.0	1,074	*	26.79	10.09	94
20-Sep	1,805	0	0.57	0.05	21.06	*	1,125	0.0	957	*	24.04	9.00	88
21-Sep	3,133	0	0.99	0.08	36.55	*	291	0.0	0	*	0.09	0.01	2
22-Sep	2,446	0	0.77	0.06	28.54	*	606	0.0	113	*	3.00	1.08	14
23-Sep	0	0	0.00	0.00	0.00	*	571	0.0	1,062	*	26.47	9.97	92
24-Sep	0	0	0.00	0.00	0.00	*	344	0.0	1,072	*	26.63	10.05	91
25-Sep	0	0	0.00	0.00	0.00	*	1,154	0.0	1,103	*	27.66	10.37	100
26-Sep	0	0	0.00	0.00	0.00	*	1,304	0.0	1,219	*	30.58	11.46	111
27-Sep	0	0	0.00	0.00	0.00	*	788	0.0	1,041	*	26.00	9.77	92
28-Sep	0	0	0.00	0.00	0.00	*	902	0.0	1,008	*	25.23	9.47	90
29-Sep	0	0	0.00	0.00	0.00	*	550	0.0	884	*	22.06	8.30	77
30-Sep	0	0	0.00	0.00	0.00	*	440	0.0	1,039	*	25.85	9.75	89
01-Oct	0	0	0.00	0.00	0.00	*	633	0.0	1,000	*	24.94	9.39	87
02-Oct	2,102	0	0.67	0.05	24.52	*	565	0.0	335	*	8.47	3.15	32
03-Oct	1,848	0	0.59	0.05	21.56	*	704	0.0	381	*	9.65	3.59	37
04-Oct	0	0	0.00	0.00	0.00	*	631	0.0	799	*	19.97	7.51	71

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**GEORGIA-PACIFIC CORPORATION
PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS**

PAPER MILL UTILITY REPORT

<u>DATE</u>	Gas	Oil				*	Gas	TDF	Bark	*			
	Mcf	Bbls				*	Mcf	Tons	Tons	*			
PM ₁₀ EF	7.60E-03	NA					7.60E-03	5.64	5.94E-01				
SO ₂ EF	6.00E-04	NA	Calculated lbs/hr				6.00E-04	30.80	2.25E-01	Calculated lbs/hr			
NOx EF	2.80E-01	NA	PM	SO ₂	NOx		1.90E-01	1.98	1.98E+00	PM SO ₂ NOx			
05-Oct	0	0	0.00	0.00	0.00	*	708	0.0	793	*	19.86	7.46	71
06-Oct	0	0	0.00	0.00	0.00	*	566	0.0	800	*	19.98	7.51	70
07-Oct	0	0	0.00	0.00	0.00	*	749	0.0	757	*	18.98	7.12	68
08-Oct	0	0	0.00	0.00	0.00	*	393	0.0	764	*	19.03	7.17	66
09-Oct	0	0	0.00	0.00	0.00	*	392	0.0	903	*	22.48	8.48	78
10-Oct	0	0	0.00	0.00	0.00	*	1,504	0.0	1,172	*	29.49	11.03	109
11-Oct	0	0	0.00	0.00	0.00	*	1,085	0.0	931	*	23.38	8.75	85
12-Oct	0	0	0.00	0.00	0.00	*	396	0.0	877	*	21.84	8.24	76
13-Oct	0	0	0.00	0.00	0.00	*	363	0.0	850	*	21.16	7.98	73
14-Oct	0	0	0.00	0.00	0.00	*	651	0.0	939	*	23.45	8.82	83
15-Oct	0	0	0.00	0.00	0.00	*	1,243	0.0	1,064	*	26.74	10.01	98
16-Oct	0	0	0.00	0.00	0.00	*	2,552	0.0	42	*	1.86	0.46	24
17-Oct	0	0	0.00	0.00	0.00	*	708	0.0	1,337	*	33.31	12.55	116
18-Oct	0	0	0.00	0.00	0.00	*	586	0.0	920	*	22.95	8.64	81
19-Oct	0	0	0.00	0.00	0.00	*	971	0.0	929	*	23.30	8.74	84
20-Oct	0	0	0.00	0.00	0.00	*	507	0.0	1,072	*	26.70	10.07	92
21-Oct	0	0	0.00	0.00	0.00	*	1,229	0.0	1,145	*	28.73	10.76	104
22-Oct	0	0	0.00	0.00	0.00	*	1,246	0.0	1,150	*	28.86	10.81	105
23-Oct	0	0	0.00	0.00	0.00	*	910	0.0	1,050	*	26.28	9.87	94
24-Oct	0	0	0.00	0.00	0.00	*	1,707	0.0	1,006	*	25.43	9.47	96
25-Oct	0	0	0.00	0.00	0.00	*	1,085	0.0	1,286	*	32.17	12.08	115
26-Oct	0	0	0.00	0.00	0.00	*	589	0.0	1,127	*	28.08	10.58	98
27-Oct	0	0	0.00	0.00	0.00	*	422	0.0	1,045	*	26.01	9.81	90
28-Oct	0	0	0.00	0.00	0.00	*	529	0.0	1,065	*	26.52	10.00	92
29-Oct	2,168	0	0.69	0.05	25.29	*	2,784	0.0	1,230	*	31.33	11.60	124
30-Oct	0	0	0.00	0.00	0.00	*	1,507	0.0	1,245	*	31.30	11.71	115
31-Oct	0	0	0.00	0.00	0.00	*	1,212	0.0	1,429	*	35.76	13.43	128
01-Nov	0	0	0.00	0.00	0.00	*	2,102	0.0	1,323	*	33.40	12.45	126

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**GEORGIA-PACIFIC CORPORATION
PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS**

PAPER MILL UTILITY REPORT

<u>DATE</u>	Gas Mcf	Oil Bbls				*	Gas Mcf	TDF Tons	Bark Tons	*			
PM ₁₀ EF	7.60E-03	NA					7.60E-03	5.64	5.94E-01				
SO ₂ EF	6.00E-04	NA	Calculated lbs/hr				6.00E-04	30.80	2.25E-01		Calculated lbs/hr		
NO _x EF	2.80E-01	NA	PM	SO ₂	NO _x		1.90E-01	1.98	1.98E+00		PM	SO ₂	NO _x
02-Nov	0	0	0.00	0.00	0.00	*	1,438	0.0	1,311	*	32.90	12.33	120
03-Nov	0	0	0.00	0.00	0.00	*	762	0.0	1,266	*	31.56	11.88	110
04-Nov	299	0	0.09	0.01	3.49	*	1,484	0.0	1,297	*	32.56	12.19	119
05-Nov	869	0	0.28	0.02	10.14	*	1,004	0.0	1,166	*	29.18	10.96	104
06-Nov	5,058	0	1.60	0.13	59.01	*	4,505	0.0	1,262	*	32.66	11.94	140
07-Nov	672	0	0.21	0.02	7.84	*	2,704	0.0	1,138	*	29.01	10.73	115
08-Nov	0	0	0.00	0.00	0.00	*	1,036	0.0	1,218	*	30.48	11.45	109
09-Nov	0	0	0.00	0.00	0.00	*	547	0.0	1,033	*	25.75	9.70	90
10-Nov	0	0	0.00	0.00	0.00	*	555	0.0	1,197	*	29.79	11.23	103
11-Nov	0	0	0.00	0.00	0.00	*	1,789	0.0	1,137	*	28.72	10.71	108
12-Nov	922	0	0.29	0.02	10.76	*	1,651	0.0	1,312	*	33.00	12.34	121
13-Nov	1,611	0	0.51	0.04	18.80	*	1,057	0.0	1,111	*	27.83	10.44	100
14-Nov	934	0	0.30	0.02	10.90	*	2,828	0.0	662	*	17.28	6.28	77
15-Nov	0	0	0.00	0.00	0.00	*	1,344	0.0	1,131	*	28.41	10.63	104
16-Nov	0	0	0.00	0.00	0.00	*	1,837	0.0	1,345	*	33.88	12.66	126
17-Nov	0	0	0.00	0.00	0.00	*	1,371	0.0	1,349	*	33.81	12.68	122
18-Nov	0	0	0.00	0.00	0.00	*	1,371	0.0	1,304	*	32.70	12.26	118
19-Nov	0	0	0.00	0.00	0.00	*	1,371	0.0	1,299	*	32.59	12.21	118
20-Nov	0	0	0.00	0.00	0.00	*	688	0.0	1,233	*	30.73	11.57	107
21-Nov	0	0	0.00	0.00	0.00	*	2,219	0.0	1,049	*	26.67	9.89	104
22-Nov	0	0	0.00	0.00	0.00	*	3,331	0.0	1,182	*	30.32	11.17	124
23-Nov	0	0	0.00	0.00	0.00	*	3,989	0.0	1,361	*	34.95	12.86	144
24-Nov	0	0	0.00	0.00	0.00	*	2,045	0.0	1,247	*	31.52	11.74	119
25-Nov	0	0	0.00	0.00	0.00	*	2,316	0.0	1,240	*	31.42	11.68	121
26-Nov	130	0	0.04	0.00	1.52	*	3,724	0.0	1,149	*	29.61	10.86	124
27-Nov	473	0	0.15	0.01	5.52	*	2,628	0.0	1,196	*	30.43	11.28	119
28-Nov	0	0	0.00	0.00	0.00	*	3,763	0.0	1,167	*	30.07	11.03	126
29-Nov	0	0	0.00	0.00	0.00	*	3,274	0.0	1,100	*	28.26	10.39	117

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**GEORGIA-PACIFIC CORPORATION
PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS**

PAPER MILL UTILITY REPORT

<u>DATE</u>	Gas Mcf	Oil Bbls				*	Gas Mcf	TDF Tons	Bark Tons	*			
PM ₁₀ EF	7.60E-03	NA					7.60E-03	5.64	5.94E-01				
SO ₂ EF	6.00E-04	NA	Calculated lbs/hr				6.00E-04	30.80	2.25E-01		Calculated lbs/hr		
NO _x EF	2.80E-01	NA	PM	SO ₂	NO _x		1.90E-01	1.98	1.98E+00		PM	SO ₂	NO _x
30-Nov	0	0	0.00	0.00	0.00	*	1,915	0.0	1,170	*	29.56	11.02	112
01-Dec	0	0	0.00	0.00	0.00	*	1,535	0.0	1,172	*	29.50	11.03	109
02-Dec	0	0	0.00	0.00	0.00	*	1,728	0.0	1,239	*	31.21	11.66	116
03-Dec	479	0	0.15	0.01	5.59	*	3,085	0.0	1,220	*	31.17	11.51	125
04-Dec	3,133	0	0.99	0.08	36.55	*	2,712	0.0	1,112	*	28.38	10.49	113
05-Dec	3,353	0	1.06	0.08	39.12	*	2,124	0.0	1,076	*	27.30	10.14	106
06-Dec	0	0	0.00	0.00	0.00	*	1,553	0.0	1,064	*	26.84	10.02	100
07-Dec	0	0	0.00	0.00	0.00	*	1,680	0.0	968	*	24.49	9.12	93
08-Dec	0	0	0.00	0.00	0.00	*	2,255	0.0	1,155	*	29.29	10.88	113
09-Dec	0	0	0.00	0.00	0.00	*	1,600	0.0	1,141	*	28.74	10.73	107
10-Dec	0	0	0.00	0.00	0.00	*	1,203	0.0	1,189	*	29.82	11.18	108
11-Dec	1,528	0	0.48	0.04	17.83	*	912	0.0	589	*	14.87	5.54	56
12-Dec	3,704	0	1.17	0.09	43.21	*	1,346	0.0	309	*	8.07	2.93	36
13-Dec	0	0	0.00	0.00	0.00	*	2,659	0.0	1,042	*	26.63	9.84	107
14-Dec	0	0	0.00	0.00	0.00	*	2,640	0.0	1,245	*	31.65	11.74	124
15-Dec	0	0	0.00	0.00	0.00	*	1,895	0.0	1,242	*	31.34	11.69	117
16-Dec	0	0	0.00	0.00	0.00	*	1,603	0.0	1,235	*	31.07	11.62	115
17-Dec	500	0	0.16	0.01	5.83	*	2,441	0.0	1,290	*	32.71	12.16	126
18-Dec	3,329	0	1.05	0.08	38.84	*	1,456	0.0	1,241	*	31.17	11.67	114
19-Dec	395	0	0.13	0.01	4.61	*	1,781	0.0	1,241	*	31.28	11.68	117
20-Dec	0	0	0.00	0.00	0.00	*	1,053	0.0	1,172	*	29.33	11.01	105
21-Dec	0	0	0.00	0.00	0.00	*	1,742	0.0	1,166	*	29.42	10.98	110
22-Dec	0	0	0.00	0.00	0.00	*	856	0.0	1,116	*	27.89	10.48	99
23-Dec	0	0	0.00	0.00	0.00	*	2,280	0.0	1,180	*	29.92	11.12	115
24-Dec	0	0	0.00	0.00	0.00	*	4,378	0.0	1,229	*	31.80	11.63	136
25-Dec	0	0	0.00	0.00	0.00	*	3,615	0.0	1,222	*	31.38	11.54	129
26-Dec	0	0	0.00	0.00	0.00	*	2,127	0.0	1,346	*	33.98	12.67	128
27-Dec	0	0	0.00	0.00	0.00	*	2,017	0.0	1,310	*	33.06	12.33	124

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GEORGIA-PACIFIC CORPORATION
PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

PAPER MILL UTILITY REPORT

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<u>DATE</u>	Gas	Oil		*	Gas	TDF	Bark	*
	Mcf	Bbls		*	Mcf	Tons	Tons	*
PM ₁₀ EF	7.60E-03	NA			7.60E-03	5.64	5.94E-01	
SO ₂ EF	6.00E-04	NA	Calculated lbs/hr		6.00E-04	30.80	2.25E-01	Calculated lbs/hr
NO _x EF	2.80E-01	NA	PM SO ₂ NO _x		1.90E-01	1.98	1.98E+00	PM SO ₂ NO _x
28-Dec	0	0	0.00 0.00 0.00	*	1,431	0.0	1,351	* 33.88 12.70 123
			Calculated lbs/hr					Calculated lbs/hr
			PM ₁₀ SO ₂ NO _x					PM ₁₀ SO ₂ NO _x

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GEORGIA-PACIFIC CORPORATION
PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

PAPER MILL UTILITY REPORT

DATE	Gas Mcf	Oil Bbls	Calculated lbs/hr			Gas Mcf	Rubber Tons	Bark Tons	Calculated lbs/hr		
PM10EF	7.60E-03	NA	PM ₁₀	SO ₂	NO _x	7.60E-03	5.64E+00	5.94E-01	PM ₁₀	SO ₂	NO _x
SO2 EF	6.00E-04	NA				6.00E-04	3.08E+01	2.25E-01			
NOX EF	2.80E-01	NA				1.90E-01	1.98E+00	1.98E+00			
	-----	-----				-----	-----	-----			
29-Dec	0	0	0.00	0.00	0.00	1,547	0.0	1,297	32.59	12.20	119
30-Dec	0	0	0.00	0.00	0.00	1,322	0.0	1,029	25.88	9.68	95
31-Dec	0	0	0.00	0.00	0.00	2,966	0.0	1,083	27.73	10.22	113
01-Jan	0	0	0.00	0.00	0.00	2,918	0.0	1,105	28.28	10.43	114
02-Jan	482	0	0.15	0.01	5.62	3,109	0.0	1,277	32.58	12.05	130
03-Jan	1,524	0	0.48	0.04	17.78	2,839	0.0	1,277	32.51	12.05	128
04-Jan	0	0	0.00	0.00	0.00	2,288	0.0	1,262	31.96	11.89	122
05-Jan	0	0	0.00	0.00	0.00	935	0.0	1,060	26.52	9.96	95
06-Jan	0	0	0.00	0.00	0.00	2,577	0.0	1,221	31.04	11.51	121
07-Jan	0	0	0.00	0.00	0.00	2,704	0.0	1,197	30.48	11.29	120
08-Jan	3,341	0	1.06	0.08	38.98	3,540	0.0	1,346	34.44	12.71	139
09-Jan	4,591	0	1.45	0.11	53.56	3,467	0.0	1,141	29.35	10.79	122
10-Jan	4,149	0	1.31	0.10	48.41	4,164	0.0	1,181	30.56	11.18	130
11-Jan	121	0	0.04	0.00	1.41	2,655	0.0	1,253	31.85	11.81	124
12-Jan	0	0	0.00	0.00	0.00	1,626	0.0	1,132	28.53	10.65	106
13-Jan	0	0	0.00	0.00	0.00	1,572	0.0	1,324	33.26	12.45	122
14-Jan	0	0	0.00	0.00	0.00	1,737	0.0	1,030	26.05	9.70	99
15-Jan	142	0	0.04	0.00	1.66	5,022	0.0	949	25.08	9.02	118
16-Jan	1,034	0	0.33	0.03	12.06	3,122	0.0	1,342	34.19	12.66	135
17-Jan	4,046	0	1.28	0.10	47.20	3,586	0.0	1,366	34.94	12.89	141
18-Jan	2,079	0	0.66	0.05	24.26	2,845	0.0	1,325	33.68	12.49	132
19-Jan	0	0	0.00	0.00	0.00	3,907	0.0	1,250	32.17	11.82	134
20-Jan	0	0	0.00	0.00	0.00	2,496	0.0	1,116	28.42	10.53	112
21-Jan	0	0	0.00	0.00	0.00	1,948	0.0	1,205	30.45	11.35	115
22-Jan	311	0	0.10	0.01	3.63	1,341	0.0	1,111	27.92	10.45	102
23-Jan	967	0	0.31	0.02	11.28	3,268	0.0	997	25.72	9.43	108
24-Jan	2,879	0	0.91	0.07	33.59	4,163	0.0	1,902	48.39	17.93	190
25-Jan	3,928	0	1.24	0.10	45.83	1,732	0.0	1,531	38.43	14.39	140
26-Jan	4,082	0	1.29	0.10	47.62	1,479	0.0	1,310	32.88	12.32	120
27-Jan	2,440	0	0.77	0.06	28.47	891	0.0	1,439	35.91	13.52	126
28-Jan	1,087	0	0.34	0.03	12.68	1,647	0.0	1,306	32.84	12.28	121

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GEORGIA-PACIFIC CORPORATION
PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

PAPER MILL UTILITY REPORT

DATE	Gas Mcf	Oil Bbls	Calculated lbs/hr			Gas Mcf	Rubber Tons	Bark Tons	Calculated lbs/hr		
PM10EF	7.60E-03	NA	PM ₁₀	SO ₂	NO _x	7.60E-03	5.64E+00	5.94E-01	PM ₁₀	SO ₂	NO _x
SO2 EF	6.00E-04	NA				6.00E-04	3.08E+01	2.25E-01			
NOX EF	2.80E-01	NA				1.90E-01	1.98E+00	1.98E+00			
29-Jan	0	0	0.00	0.00	0.00	965	0.0	1,878	46.78	17.63	163
30-Jan	0	0	0.00	0.00	0.00	1,844	0.0	1,666	41.83	15.67	152
31-Jan	0	0	0.00	0.00	0.00	2,706	0.0	1,440	36.51	13.57	140
01-Feb	0	0	0.00	0.00	0.00	1,413	0.0	1,369	34.32	12.87	124
02-Feb	0	0	0.00	0.00	0.00	1,099	0.0	1,228	30.75	11.54	110
03-Feb	0	0	0.00	0.00	0.00	1,884	0.0	1,317	33.20	12.40	124
04-Feb	0	0	0.00	0.00	0.00	1,024	0.0	1,325	33.13	12.45	117
05-Feb	0	0	0.00	0.00	0.00	1,255	0.0	1,074	26.98	10.10	99
06-Feb	318	0	0.10	0.01	3.71	2,603	0.0	1,452	36.76	13.68	140
07-Feb	957	0	0.30	0.02	11.17	3,622	0.0	1,447	36.96	13.65	148
08-Feb	0	0	0.00	0.00	0.00	3,326	0.0	1,437	36.63	13.56	145
09-Feb	0	0	0.00	0.00	0.00	3,582	0.0	1,493	38.09	14.09	152
10-Feb	0	0	0.00	0.00	0.00	2,406	0.0	1,448	36.61	13.64	139
11-Feb	0	0	0.00	0.00	0.00	2,940	0.0	1,304	33.20	12.30	131
12-Feb	0	0	0.00	0.00	0.00	1,601	0.0	1,053	26.57	9.91	100
13-Feb	0	0	0.00	0.00	0.00	2,743	0.0	1,123	28.66	10.60	114
14-Feb	0	0	0.00	0.00	0.00	1,802	0.0	1,005	25.44	9.47	97
15-Feb	0	0	0.00	0.00	0.00	1,673	0.0	1,279	32.18	12.03	119
16-Feb	0	0	0.00	0.00	0.00	1,987	0.0	1,307	32.98	12.30	124
17-Feb	0	0	0.00	0.00	0.00	2,608	0.0	1,312	33.30	12.37	129
18-Feb	74	0	0.02	0.00	0.86	2,198	0.0	1,094	27.77	10.31	108
19-Feb	485	0	0.15	0.01	5.66	1,702	0.0	1,014	25.65	9.55	97
20-Feb	0	0	0.00	0.00	0.00	2,250	0.0	1,396	35.26	13.14	133
21-Feb	0	0	0.00	0.00	0.00	2,768	0.0	1,299	33.02	12.24	129
22-Feb	0	0	0.00	0.00	0.00	3,326	0.0	1,347	34.40	12.71	137
23-Feb	0	0	0.00	0.00	0.00	2,376	0.0	1,399	35.38	13.18	134
24-Feb	2,295	0	0.73	0.06	26.78	2,135	0.0	511	13.32	4.84	59
25-Feb	4,188	0	1.33	0.10	48.86	0	0.0	0	0.00	0.00	0
26-Feb	3,547	0	1.12	0.09	41.38	0	0.0	0	0.00	0.00	0
27-Feb	3,054	0	0.97	0.08	35.63	2,541	0.0	225	6.38	2.17	39
28-Feb	0	0	0.00	0.00	0.00	3,788	0.0	1,221	31.42	11.54	131

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GEORGIA-PACIFIC CORPORATION
PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

PAPER MILL UTILITY REPORT

DATE	Gas Mcf	Oil Bbls	Calculated lbs/hr			Gas Mcf	Rubber Tons	Bark Tons	Calculated lbs/hr		
PM10EF	7.60E-03	NA	PM ₁₀	SO ₂	NO _x	7.60E-03	5.64E+00	5.94E-01	PM ₁₀	SO ₂	NO _x
SO2 EF	6.00E-04	NA				6.00E-04	3.08E+01	2.25E-01			
NOX EF	2.80E-01	NA				1.90E-01	1.98E+00	1.98E+00			
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01-Mar	0	0	0.00	0.00	0.00	4,735	0.0	1,138	29.66	10.78	131
02-Mar	0	0	0.00	0.00	0.00	2,613	0.0	1,161	29.57	10.95	116
03-Mar	0	0	0.00	0.00	0.00	1,958	0.0	1,272	32.11	11.98	120
04-Mar	0	0	0.00	0.00	0.00	1,738	0.0	1,241	31.26	11.68	116
05-Mar	0	0	0.00	0.00	0.00	1,116	0.0	988	24.80	9.29	90
06-Mar	0	0	0.00	0.00	0.00	1,391	0.0	1,180	29.65	11.10	108
07-Mar	0	0	0.00	0.00	0.00	3,144	0.0	1,139	29.20	10.76	119
08-Mar	0	0	0.00	0.00	0.00	1,626	0.0	1,224	30.80	11.51	114
09-Mar	0	0	0.00	0.00	0.00	858	0.0	1,008	25.22	9.47	90
10-Mar	0	0	0.00	0.00	0.00	639	0.0	1,148	28.61	10.78	100
11-Mar	555	0	0.18	0.01	6.48	652	0.0	1,298	32.33	12.18	112
12-Mar	0	0	0.00	0.00	0.00	510	0.0	1,024	25.50	9.61	88
13-Mar	0	0	0.00	0.00	0.00	33	0.0	981	24.28	9.20	81
14-Mar	0	0	0.00	0.00	0.00	1,141	0.0	1,033	25.94	9.72	94
15-Mar	0	0	0.00	0.00	0.00	1,342	0.0	1,125	28.28	10.58	103
16-Mar	0	0	0.00	0.00	0.00	793	0.0	1,206	30.09	11.32	106
17-Mar	0	0	0.00	0.00	0.00	360	0.0	908	22.59	8.52	78
18-Mar	0	0	0.00	0.00	0.00	1,190	0.0	1,098	27.54	10.32	100
19-Mar	0	0	0.00	0.00	0.00	372	0.0	912	22.69	8.56	78
20-Mar	0	0	0.00	0.00	0.00	733	0.0	1,179	29.42	11.08	103
21-Mar	0	0	0.00	0.00	0.00	552	0.0	1,127	28.07	10.58	97
22-Mar	0	0	0.00	0.00	0.00	790	0.0	1,215	30.33	11.41	107
23-Mar	0	0	0.00	0.00	0.00	358	0.0	1,214	30.17	11.39	103
24-Mar	0	0	0.00	0.00	0.00	291	0.0	930	23.11	8.73	79
25-Mar	1,474	0	0.47	0.04	17.20	1,312	0.0	1,046	26.29	9.83	97
26-Mar	4,587	0	1.45	0.11	53.52	1,635	0.0	1,368	34.37	12.86	126
27-Mar	3,844	0	1.22	0.10	44.85	1,068	0.0	1,414	35.33	13.28	125
28-Mar	2,298	0	0.73	0.06	26.81	1,173	0.0	1,385	34.64	13.01	124
29-Mar	0	0	0.00	0.00	0.00	749	0.0	1,099	27.44	10.32	97
30-Mar	0	0	0.00	0.00	0.00	522	0.0	962	23.97	9.03	83
31-Mar	0	0	0.00	0.00	0.00	1,478	0.0	1,309	32.87	12.31	120

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GEORGIA-PACIFIC CORPORATION
PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

PAPER MILL UTILITY REPORT

DATE	Gas Mcf	Oil Bbls	Calculated lbs/hr			Gas Mcf	Rubber Tons	Bark Tons	Calculated lbs/hr		
PM10EF	7.60E-03	NA	PM ₁₀	SO ₂	NO _x	7.60E-03	5.64E+00	5.94E-01	PM ₁₀	SO ₂	NO _x
SO2 EF	6.00E-04	NA				6.00E-04	3.08E+01	2.25E-01			
NOX EF	2.80E-01	NA				1.90E-01	1.98E+00	1.98E+00			
01-Apr	97	0	0.03	0.00	1.13	494	0.0	967	24.08	9.07	84
02-Apr	105	0	0.03	0.00	1.23	504	0.0	1,019	25.37	9.56	88
03-Apr	0	0	0.00	0.00	0.00	694	0.0	1,025	25.60	9.63	90
04-Apr	0	0	0.00	0.00	0.00	878	0.0	1,032	25.83	9.70	92
05-Apr	0	0	0.00	0.00	0.00	360	0.0	1,165	28.95	10.93	99
06-Apr	0	0	0.00	0.00	0.00	857	0.0	954	23.88	8.96	85
07-Apr	3,302	0	1.05	0.08	38.52	1,508	0.0	1,185	29.82	11.15	110
08-Apr	2,811	0	0.89	0.07	32.80	1,783	0.0	1,283	32.33	12.08	120
09-Apr	0	0	0.00	0.00	0.00	954	0.0	1,277	31.90	11.99	113
10-Apr	0	0	0.00	0.00	0.00	1,546	0.0	1,377	34.57	12.95	126
11-Apr	0	0	0.00	0.00	0.00	988	0.0	1,199	30.00	11.27	107
12-Apr	0	0	0.00	0.00	0.00	581	0.0	1,101	27.45	10.34	95
13-Apr	0	0	0.00	0.00	0.00	792	0.0	916	22.91	8.60	82
14-Apr	0	0	0.00	0.00	0.00	592	0.0	1,004	25.04	9.43	88
15-Apr	0	0	0.00	0.00	0.00	660	0.0	910	22.73	8.55	80
16-Apr	0	0	0.00	0.00	0.00	587	0.0	860	21.48	8.08	76
17-Apr	0	0	0.00	0.00	0.00	337	0.0	842	20.95	7.90	72
18-Apr	0	0	0.00	0.00	0.00	686	0.0	843	21.07	7.92	75
19-Apr	0	0	0.00	0.00	0.00	377	0.0	984	24.48	9.24	84
20-Apr	0	0	0.00	0.00	0.00	381	0.0	702	17.50	6.59	61
21-Apr	0	0	0.00	0.00	0.00	256	0.0	838	20.83	7.87	71
22-Apr	0	0	0.00	0.00	0.00	492	0.0	905	22.56	8.50	79
23-Apr	0	0	0.00	0.00	0.00	2,713	0.0	789	20.39	7.46	87
24-Apr	0	0	0.00	0.00	0.00	827	0.0	1,215	30.33	11.41	107
25-Apr	0	0	0.00	0.00	0.00	914	0.0	1,189	29.71	11.17	105
26-Apr	0	0	0.00	0.00	0.00	929	0.0	1,353	33.78	12.71	119
27-Apr	0	0	0.00	0.00	0.00	496	0.0	1,166	29.02	10.95	100
28-Apr	0	0	0.00	0.00	0.00	543	0.0	1,089	27.12	10.22	94
29-Apr	0	0	0.00	0.00	0.00	463	0.0	1,028	25.58	9.65	88
30-Apr	0	0	0.00	0.00	0.00	481	0.0	967	24.09	9.08	84
01-May	0	0	0.00	0.00	0.00	240	0.0	1,017	25.26	9.54	86

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GEORGIA-PACIFIC CORPORATION
PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

PAPER MILL UTILITY REPORT

DATE	Gas Mcf	Oil Bbls	Calculated lbs/hr			Gas Mcf	Rubber Tons	Bark Tons	Calculated lbs/hr		
PM10EF	7.60E-03	NA	PM ₁₀	SO ₂	NO _x	7.60E-03	5.64E+00	5.94E-01	PM ₁₀	SO ₂	NO _x
SO2 EF	6.00E-04	NA				6.00E-04	3.08E+01	2.25E-01			
NOX EF	2.80E-01	NA				1.90E-01	1.98E+00	1.98E+00			
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02-May	0	0	0.00	0.00	0.00	345	0.0	986	24.50	9.25	84
03-May	0	0	0.00	0.00	0.00	433	0.0	985	24.53	9.25	85
04-May	4,144	0	1.31	0.10	48.35	1,778	0.0	1,313	33.06	12.35	122
05-May	2,286	0	0.72	0.06	26.67	1,072	0.0	1,217	30.45	11.43	109
06-May	1,749	0	0.55	0.04	20.41	785	0.0	1,157	28.87	10.86	102
07-May	2,871	0	0.91	0.07	33.50	1,431	0.0	1,126	28.32	10.59	104
08-May	1,640	0	0.52	0.04	19.13	1,129	0.0	1,108	27.77	10.41	100
09-May	2,314	0	0.73	0.06	27.00	1,200	0.0	1,181	29.62	11.10	107
10-May	4,117	0	1.30	0.10	48.03	1,924	0.0	1,278	32.23	12.02	121
11-May	3,985	0	1.26	0.10	46.49	751	0.0	1,305	32.53	12.25	114
12-May	3,255	0	1.03	0.08	37.98	1,355	0.0	1,388	34.79	13.05	125
13-May	819	0	0.26	0.02	9.56	686	0.0	868	21.69	8.15	77
14-May	0	0	0.00	0.00	0.00	685	0.0	911	22.76	8.56	81
15-May	0	0	0.00	0.00	0.00	495	0.0	857	21.37	8.05	75
16-May	0	0	0.00	0.00	0.00	903	0.0	961	24.06	9.03	86
17-May	0	0	0.00	0.00	0.00	643	0.0	944	23.56	8.86	83
18-May	0	0	0.00	0.00	0.00	628	0.0	922	23.03	8.66	81
19-May	2,985	0	0.95	0.07	34.83	1,888	0.0	1,082	27.37	10.19	104
20-May	3,430	0	1.09	0.09	40.02	3,296	0.0	1,327	33.88	12.52	136
21-May	0	0	0.00	0.00	0.00	1,731	0.0	968	24.50	9.12	94
22-May	0	0	0.00	0.00	0.00	456	0.0	1,114	27.72	10.46	96
23-May	0	0	0.00	0.00	0.00	342	0.0	1,027	25.53	9.64	87
24-May	0	0	0.00	0.00	0.00	690	0.0	874	21.85	8.21	78
25-May	0	0	0.00	0.00	0.00	723	0.0	780	19.53	7.33	70
26-May	0	0	0.00	0.00	0.00	816	0.0	1,721	42.85	16.15	148
27-May	0	0	0.00	0.00	0.00	1,284	0.0	774	19.55	7.28	74
28-May	1,450	0	0.46	0.04	16.92	1,221	0.0	1,082	27.16	10.17	99
29-May	3,087	0	0.98	0.08	36.02	2,421	0.0	1,094	27.84	10.32	109
30-May	0	0	0.00	0.00	0.00	1,604	0.0	835	21.17	7.87	82
31-May	0	0	0.00	0.00	0.00	1,725	0.0	970	24.54	9.13	94
01-Jun	0	0	0.00	0.00	0.00	981	0.0	829	20.84	7.80	76

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GEORGIA-PACIFIC CORPORATION
PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

PAPER MILL UTILITY REPORT

DATE	Gas Mcf	Oil Bbls	Calculated lbs/hr			Gas Mcf	Rubber Tons	Bark Tons	Calculated lbs/hr		
PM10EF	7.60E-03	NA	PM ₁₀	SO ₂	NO _x	7.60E-03	5.64E+00	5.94E-01	PM ₁₀	SO ₂	NO _x
SO2 EF	6.00E-04	NA				6.00E-04	3.08E+01	2.25E-01			
NOX EF	2.80E-01	NA				1.90E-01	1.98E+00	1.98E+00			
02-Jun	0	0	0.00	0.00	0.00	836	0.0	837	20.97	7.86	76
03-Jun	0	0	0.00	0.00	0.00	548	0.0	718	17.94	6.74	64
04-Jun	0	0	0.00	0.00	0.00	544	0.0	727	18.17	6.83	64
05-Jun	0	0	0.00	0.00	0.00	323	0.0	699	17.39	6.56	60
06-Jun	0	0	0.00	0.00	0.00	326	0.0	740	18.42	6.95	64
07-Jun	0	0	0.00	0.00	0.00	378	0.0	779	19.41	7.32	67
08-Jun	0	0	0.00	0.00	0.00	567	0.0	665	16.64	6.25	59
09-Jun	0	0	0.00	0.00	0.00	374	0.0	671	16.72	6.30	58
10-Jun	0	0	0.00	0.00	0.00	516	0.0	711	17.76	6.68	63
11-Jun	0	0	0.00	0.00	0.00	483	0.0	832	20.73	7.81	72
12-Jun	0	0	0.00	0.00	0.00	4,423	0.0	507	13.96	4.87	77
13-Jun	0	0	0.00	0.00	0.00	2,550	0.0	607	15.83	5.75	70
14-Jun	0	0	0.00	0.00	0.00	334	0.0	770	19.16	7.22	66
15-Jun	0	0	0.00	0.00	0.00	327	0.0	860	21.39	8.07	74
16-Jun	0	0	0.00	0.00	0.00	319	0.0	722	17.97	6.78	62
17-Jun	0	0	0.00	0.00	0.00	475	0.0	864	21.53	8.11	75
18-Jun	0	0	0.00	0.00	0.00	324	0.0	714	17.78	6.71	62
19-Jun	0	0	0.00	0.00	0.00	745	0.0	811	20.31	7.62	73
20-Jun	0	0	0.00	0.00	0.00	618	0.0	939	23.43	8.82	82
21-Jun	0	0	0.00	0.00	0.00	349	0.0	855	21.27	8.03	73
22-Jun	0	0	0.00	0.00	0.00	1,121	0.0	834	21.00	7.85	78
23-Jun	0	0	0.00	0.00	0.00	397	0.0	958	23.85	8.99	82
24-Jun	0	0	0.00	0.00	0.00	835	0.0	973	24.35	9.14	87
25-Jun	612	0	0.19	0.02	7.14	2,930	0.0	642	16.82	6.09	76
26-Jun	0	0	0.00	0.00	0.00	851	0.0	726	18.24	6.83	67
27-Jun	0	0	0.00	0.00	0.00	324	0.0	793	19.74	7.44	68
28-Jun	0	0	0.00	0.00	0.00	313	0.0	711	17.69	6.67	61
29-Jun	0	0	0.00	0.00	0.00	375	0.0	712	17.73	6.68	62
30-Jun	0	0	0.00	0.00	0.00	516	0.0	862	21.50	8.10	75
01-Jul	0	0	0.00	0.00	0.00	321	0.0	668	16.63	6.27	58
02-Jul	0	0	0.00	0.00	0.00	326	0.0	724	18.03	6.80	62

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PULP & PAPER DIVISION
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PAPER MILL UTILITY REPORT

DATE	Gas Mcf	Oil Bbls	Calculated lbs/hr			Gas Mcf	Rubber Tons	Bark Tons	Calculated lbs/hr		
PM10EF	7.60E-03	NA	PM ₁₀	SO ₂	NOx	7.60E-03	5.64E+00	5.94E-01	PM ₁₀	SO ₂	NOx
SO2 EF	6.00E-04	NA				6.00E-04	3.08E+01	2.25E-01			
NOX EF	2.80E-01	NA				1.90E-01	1.98E+00	1.98E+00			
03-Jul	0	0	0.00	0.00	0.00	497	0.0	720	17.98	6.76	63
04-Jul	0	0	0.00	0.00	0.00	929	0.0	1,006	25.19	9.45	90
05-Jul	0	0	0.00	0.00	0.00	1,082	0.0	1,226	30.69	11.52	110
06-Jul	0	0	0.00	0.00	0.00	977	0.0	807	20.28	7.59	74
07-Jul	25	0	0.01	0.00	0.29	2,056	0.0	821	20.97	7.75	84
08-Jul	0	0	0.00	0.00	0.00	824	0.0	556	14.02	5.23	52
09-Jul	1,124	0	0.36	0.03	13.11	1,729	0.0	940	23.80	8.85	91
10-Jul	0	0	0.00	0.00	0.00	358	0.0	746	18.57	7.00	64
11-Jul	0	0	0.00	0.00	0.00	365	0.0	679	16.92	6.37	59
12-Jul	0	0	0.00	0.00	0.00	338	0.0	781	19.45	7.33	67
13-Jul	0	0	0.00	0.00	0.00	355	0.0	644	16.04	6.04	56
14-Jul	0	0	0.00	0.00	0.00	314	0.0	717	17.84	6.73	62
15-Jul	0	0	0.00	0.00	0.00	1,711	0.0	769	19.57	7.25	77
16-Jul	0	0	0.00	0.00	0.00	374	0.0	654	16.30	6.14	57
17-Jul	0	0	0.00	0.00	0.00	507	0.0	780	19.46	7.32	68
18-Jul	0	0	0.00	0.00	0.00	634	0.0	912	22.77	8.56	80
19-Jul	0	0	0.00	0.00	0.00	730	0.0	1,219	30.39	11.44	106
20-Jul	0	0	0.00	0.00	0.00	324	0.0	740	18.43	6.95	64
21-Jul	0	0	0.00	0.00	0.00	868	0.0	833	20.90	7.83	76
22-Jul	0	0	0.00	0.00	0.00	362	0.0	679	16.91	6.37	59
23-Jul	0	0	0.00	0.00	0.00	430	0.0	771	19.21	7.24	67
24-Jul	0	0	0.00	0.00	0.00	381	0.0	671	16.72	6.30	58
25-Jul	0	0	0.00	0.00	0.00	358	0.0	737	18.36	6.92	64
26-Jul	0	0	0.00	0.00	0.00	394	0.0	798	19.87	7.49	69
27-Jul	0	0	0.00	0.00	0.00	400	0.0	680	16.95	6.38	59
28-Jul	1,511	0	0.48	0.04	17.63	1,055	0.0	908	22.81	8.54	83
29-Jul	4,001	0	1.27	0.10	46.68	1,309	0.0	970	24.42	9.12	90
30-Jul	591	0	0.19	0.01	6.90	430	0.0	693	17.28	6.50	61
31-Jul	0	0	0.00	0.00	0.00	448	0.0	678	16.93	6.37	60
01-Aug	0	0	0.00	0.00	0.00	370	0.0	800	19.92	7.51	69
02-Aug	0	0	0.00	0.00	0.00	421	0.0	662	16.51	6.21	58

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GEORGIA-PACIFIC CORPORATION
PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

PAPER MILL UTILITY REPORT

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PM10EF	7.60E-03	NA	PM ₁₀	SO ₂	NO _x	7.60E-03	5.64E+00	5.94E-01	PM ₁₀	SO ₂	NO _x
SO2 EF	6.00E-04	NA				6.00E-04	3.08E+01	2.25E-01			
NOX EF	2.80E-01	NA				1.90E-01	1.98E+00	1.98E+00			
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03-Aug	0	0	0.00	0.00	0.00	1,118	0.0	963	24.19	9.06	88
04-Aug	0	0	0.00	0.00	0.00	716	0.0	879	21.99	8.26	78
05-Aug	0	0	0.00	0.00	0.00	423	0.0	735	18.33	6.90	64
06-Aug	0	0	0.00	0.00	0.00	1,310	0.0	871	21.98	8.20	82
07-Aug	0	0	0.00	0.00	0.00	1,158	0.0	798	20.11	7.51	75
08-Aug	0	0	0.00	0.00	0.00	394	0.0	762	18.99	7.15	66
09-Aug	0	0	0.00	0.00	0.00	376	0.0	714	17.80	6.71	62
10-Aug	0	0	0.00	0.00	0.00	371	0.0	713	17.77	6.70	62
11-Aug	0	0	0.00	0.00	0.00	602	0.0	759	18.97	7.13	67
12-Aug	0	0	0.00	0.00	0.00	480	0.0	773	19.27	7.25	68
13-Aug	0	0	0.00	0.00	0.00	1,364	0.0	1,076	27.06	10.12	100
14-Aug	338	0	0.11	0.01	3.94	806	0.0	730	18.31	6.86	67
15-Aug	2,468	0	0.78	0.06	28.79	384	0.0	202	5.13	1.91	20
16-Aug	3,464	0	1.10	0.09	40.41	0	0.0	0	0.00	0.00	0
17-Aug	2,934	0	0.93	0.07	34.23	542	0.0	116	3.04	1.10	14
18-Aug	0	0	0.00	0.00	0.00	1,887	0.0	937	23.79	8.83	92
19-Aug	0	0	0.00	0.00	0.00	595	0.0	766	19.14	7.19	68
20-Aug	0	0	0.00	0.00	0.00	1,443	0.0	811	20.53	7.64	78
21-Aug	0	0	0.00	0.00	0.00	1,167	0.0	1,061	26.62	9.97	97
22-Aug	0	0	0.00	0.00	0.00	1,060	0.0	861	21.64	8.09	79
23-Aug	0	0	0.00	0.00	0.00	657	0.0	675	16.91	6.34	61
24-Aug	0	0	0.00	0.00	0.00	674	0.0	772	19.32	7.25	69
25-Aug	0	0	0.00	0.00	0.00	3,057	0.0	1,081	27.72	10.21	113
26-Aug	1,035	0	0.33	0.03	12.08	1,851	0.0	1,189	30.01	11.19	113
27-Aug	3,819	0	1.21	0.10	44.56	2,318	0.0	1,275	32.29	12.01	124
28-Aug	1,792	0	0.57	0.04	20.91	2,870	0.0	693	18.07	6.57	80
29-Aug	874	0	0.28	0.02	10.20	861	0.0	605	15.25	5.69	57
30-Aug	0	0	0.00	0.00	0.00	423	0.0	823	20.50	7.73	71
31-Aug	0	0	0.00	0.00	0.00	341	0.0	795	19.78	7.46	68
01-Sep	433	0	0.14	0.01	5.05	1,960	0.0	961	24.40	9.06	95
02-Sep	238	0	0.08	0.01	2.78	548	0.0	955	23.80	8.96	83

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DATE	Gas Mcf	Oil Bbls	Calculated lbs/hr			Gas Mcf	Rubber Tons	Bark Tons	Calculated lbs/hr		
PM10EF	7.60E-03	NA	PM ₁₀	SO ₂	NO _x	7.60E-03	5.64E+00	5.94E-01	PM ₁₀	SO ₂	NO _x
SO2 EF	6.00E-04	NA				6.00E-04	3.08E+01	2.25E-01			
NOX EF	2.80E-01	NA				1.90E-01	1.98E+00	1.98E+00			
03-Sep	142	0	0.04	0.00	1.66	1,735	0.0	995	25.18	9.37	96
04-Sep	55	0	0.02	0.00	0.64	395	0.0	878	21.85	8.24	76
05-Sep	1,606	0	0.51	0.04	18.74	552	0.0	410	10.32	3.86	38
06-Sep	2,787	0	0.88	0.07	32.52	76	0.0	0	0.02	0.00	1
07-Sep	191	0	0.06	0.00	2.23	693	0.0	674	16.91	6.34	61
08-Sep	0	0	0.00	0.00	0.00	374	0.0	703	17.52	6.60	61
09-Sep	0	0	0.00	0.00	0.00	305	0.0	649	16.16	6.09	56
10-Sep	0	0	0.00	0.00	0.00	529	0.0	695	17.37	6.53	62
11-Sep	0	0	0.00	0.00	0.00	295	0.0	601	14.97	5.64	52
12-Sep	0	0	0.00	0.00	0.00	304	0.0	755	18.77	7.08	65
13-Sep	0	0	0.00	0.00	0.00	1,218	0.0	961	24.18	9.04	89
14-Sep	0	0	0.00	0.00	0.00	806	0.0	1,027	25.67	9.65	91
15-Sep	0	0	0.00	0.00	0.00	302	0.0	713	17.74	6.69	61
16-Sep	0	0	0.00	0.00	0.00	293	0.0	704	17.51	6.61	60
17-Sep	0	0	0.00	0.00	0.00	443	0.0	883	22.00	8.29	76
18-Sep	0	0	0.00	0.00	0.00	577	0.0	948	23.66	8.91	83
19-Sep	0	0	0.00	0.00	0.00	2,859	0.0	629	16.47	5.97	75
20-Sep	0	0	0.00	0.00	0.00	294	0.0	602	14.99	5.65	52
21-Sep	0	0	0.00	0.00	0.00	977	0.0	924	23.18	8.69	84
22-Sep	0	0	0.00	0.00	0.00	427	0.0	883	22.00	8.29	76
23-Sep	0	0	0.00	0.00	0.00	399	0.0	728	18.15	6.84	63
24-Sep	0	0	0.00	0.00	0.00	291	0.0	593	14.77	5.57	51
25-Sep	0	0	0.00	0.00	0.00	331	0.0	703	17.51	6.60	61
26-Sep	0	0	0.00	0.00	0.00	557	0.0	909	22.68	8.54	79
27-Sep	0	0	0.00	0.00	0.00	551	0.0	917	22.87	8.61	80
28-Sep	0	0	0.00	0.00	0.00	1,747	0.0	627	16.06	5.92	66
29-Sep	0	0	0.00	0.00	0.00	6,631	0.0	481	14.00	4.67	92
30-Sep	0	0	0.00	0.00	0.00	1,855	0.0	838	21.33	7.90	84
01-Oct	167	0	0.05	0.00	1.95	853	0.0	836	20.97	7.86	76
02-Oct	0	0	0.00	0.00	0.00	553	0.0	885	22.08	8.31	77
03-Oct	205	0	0.06	0.01	2.39	514	0.0	927	23.12	8.71	81

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DATE	Gas Mcf	Oil Bbls	Calculated lbs/hr				Gas Mcf	Rubber Tons	Bark Tons		Calculated lbs/hr		
PM10EF	7.60E-03	NA					7.60E-03	5.64E+00	5.94E-01				
SO2 EF	6.00E-04	NA	PM10	SO2	NOx		6.00E-04	3.08E+01	2.25E-01		PM10	SO2	NOx
NOX EF	2.80E-01	NA					1.90E-01	1.98E+00	1.98E+00				
04-Oct	4,544	0	1.44	0.11	53.01	*	1,228	0.0	694	*	17.55	6.53	67
05-Oct	3,917	0	1.24	0.10	45.70	*	2,674	0.0	782	*	20.21	7.40	86
06-Oct	3,816	0	1.21	0.10	44.52	*	1,017	0.0	1,535	*	38.32	14.42	135
07-Oct	4,114	0	1.30	0.10	48.00	*	2,083	0.0	1,477	*	37.22	13.90	138
08-Oct	4,171	0	1.32	0.10	48.66	*	2,391	0.0	1,423	*	35.97	13.40	136
09-Oct	4,798	0	1.52	0.12	55.98	*	2,366	0.0	1,368	*	34.60	12.88	132
10-Oct	2,806	0	0.89	0.07	32.74	*	1,666	0.0	921	*	23.33	8.68	89
11-Oct	1,253	0	0.40	0.03	14.62	*	1,147	0.0	834	*	21.00	7.84	78
12-Oct	0	0	0.00	0.00	0.00	*	901	0.0	997	*	24.95	9.37	89
13-Oct	0	0	0.00	0.00	0.00	*	657	0.0	931	*	23.24	8.74	82
14-Oct	0	0	0.00	0.00	0.00	*	372	0.0	817	*	20.34	7.67	70
15-Oct	0	0	0.00	0.00	0.00	*	657	0.0	981	*	24.50	9.22	86
16-Oct	0	0	0.00	0.00	0.00	*	572	0.0	885	*	22.08	8.31	78
17-Oct	0	0	0.00	0.00	0.00	*	995	0.0	934	*	23.43	8.78	85
18-Oct	0	0	0.00	0.00	0.00	*	424	0.0	983	*	24.46	9.23	84
19-Oct	0	0	0.00	0.00	0.00	*	344	0.0	904	*	22.48	8.48	77
20-Oct	0	0	0.00	0.00	0.00	*	1,081	0.0	965	*	24.24	9.08	88
21-Oct	726	0	0.23	0.02	8.47	*	585	0.0	797	*	19.91	7.49	70
22-Oct	2,024	0	0.64	0.05	23.61	*	704	0.0	960	*	23.99	9.02	85
23-Oct	169	0	0.05	0.00	1.97	*	813	0.0	956	*	23.92	8.98	85
24-Oct	0	0	0.00	0.00	0.00	*	1,147	0.0	1,128	*	28.29	10.61	102
25-Oct	0	0	0.00	0.00	0.00	*	1,147	0.0	1,128	*	28.28	10.60	102
26-Oct	0	0	0.00	0.00	0.00	*	1,276	0.0	1,236	*	31.00	11.62	112
27-Oct	0	0	0.00	0.00	0.00	*	984	0.0	1,168	*	29.21	10.97	104
28-Oct	0	0	0.00	0.00	0.00	*	1,348	0.0	891	*	22.47	8.38	84
29-Oct	0	0	0.00	0.00	0.00	*	607	0.0	973	*	24.28	9.14	85
30-Oct	0	0	0.00	0.00	0.00	*	1,702	0.0	1,079	*	27.25	10.16	103
31-Oct	0	0	0.00	0.00	0.00	*	520	0.0	1,067	*	26.57	10.01	92
01-Nov	0	0	0.00	0.00	0.00	*	468	0.0	1,054	*	26.25	9.90	91
02-Nov	0	0	0.00	0.00	0.00	*	549	0.0	1,006	*	25.06	9.44	87
03-Nov	0	0	0.00	0.00	0.00	*	387	0.0	981	*	24.39	9.20	84

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DATE	Gas Mcf	Oil Bbls	Calculated lbs/hr			Gas Mcf	Rubber Tons	Bark Tons	Calculated lbs/hr		
PM10EF	7.60E-03	NA	PM ₁₀	SO ₂	NO _x	7.60E-03	5.64E+00	5.94E-01	PM ₁₀	SO ₂	NO _x
SO2 EF	6.00E-04	NA				6.00E-04	3.08E+01	2.25E-01			
NOX EF	2.80E-01	NA				1.90E-01	1.98E+00	1.98E+00			
04-Nov	0	0	0.00	0.00	0.00	609	0.0	847	21.17	7.96	75
05-Nov	0	0	0.00	0.00	0.00	648	0.0	766	19.16	7.20	68
06-Nov	0	0	0.00	0.00	0.00	635	0.0	913	22.80	8.58	80
07-Nov	0	0	0.00	0.00	0.00	1,274	0.0	1,110	27.89	10.44	102
08-Nov	0	0	0.00	0.00	0.00	980	0.0	1,122	28.08	10.54	100
09-Nov	0	0	0.00	0.00	0.00	1,132	0.0	1,116	27.99	10.49	101
10-Nov	0	0	0.00	0.00	0.00	662	0.0	993	24.80	9.33	87
11-Nov	0	0	0.00	0.00	0.00	687	0.0	914	22.85	8.59	81
12-Nov	0	0	0.00	0.00	0.00	925	0.0	868	21.78	8.16	79
13-Nov	451	0	0.14	0.01	5.26	635	0.0	891	22.25	8.37	79
14-Nov	3,636	0	1.15	0.09	42.42	708	0.0	1,072	26.75	10.07	94
15-Nov	3,434	0	1.09	0.09	40.06	335	0.0	1,023	25.43	9.60	87
16-Nov	3,326	0	1.05	0.08	38.80	324	0.0	979	24.33	9.18	83
17-Nov	3,395	0	1.08	0.08	39.61	849	0.0	945	23.65	8.88	85
18-Nov	3,833	0	1.21	0.10	44.72	1,700	0.0	992	25.09	9.34	95
19-Nov	3,367	0	1.07	0.08	39.28	1,657	0.0	974	24.64	9.17	93
20-Nov	3,524	0	1.12	0.09	41.11	923	0.0	943	23.63	8.86	85
21-Nov	3,901	0	1.24	0.10	45.51	1,384	0.0	1,097	27.60	10.32	101
22-Nov	3,756	0	1.19	0.09	43.82	833	0.0	1,075	26.88	10.10	95
23-Nov	3,848	0	1.22	0.10	44.89	2,933	0.0	1,062	27.21	10.03	111
24-Nov	4,152	0	1.31	0.10	48.44	6,064	0.0	1,192	31.43	11.33	146
25-Nov	4,818	0	1.53	0.12	56.21	8,918	0.0	1,449	38.68	13.80	190
26-Nov	4,124	0	1.31	0.10	48.11	583	0.0	1,020	25.44	9.58	89
27-Nov	3,479	0	1.10	0.09	40.59	1,656	0.0	1,289	32.42	12.12	119
28-Nov	4,173	0	1.32	0.10	48.69	1,990	0.0	1,335	33.68	12.57	126
29-Nov	3,724	0	1.18	0.09	43.45	1,528	0.0	1,262	31.72	11.87	116
30-Nov	3,724	0	1.18	0.09	43.45	1,529	0.0	1,262	31.72	11.87	116
01-Dec	4,409	0	1.40	0.11	51.44	1,733	0.0	1,263	31.82	11.89	118
02-Dec	5,039	0	1.60	0.13	58.79	3,506	0.0	1,342	34.34	12.67	139
03-Dec	4,590	0	1.45	0.11	53.55	2,541	0.0	1,251	31.77	11.79	123
04-Dec	3,347	0	1.06	0.08	39.05	745	0.0	1,095	27.33	10.28	96

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DATE	Gas Mcf	Oil Bbls	Calculated lbs/hr			Gas Mcf	Rubber Tons	Bark Tons	Calculated lbs/hr		
PM10EF	7.60E-03	NA	PM ₁₀	SO ₂	NO _x	7.60E-03	5.64E+00	5.94E-01	PM ₁₀	SO ₂	NO _x
SO2 EF	6.00E-04	NA				6.00E-04	3.08E+01	2.25E-01			
NOX EF	2.80E-01	NA				1.90E-01	1.98E+00	1.98E+00			
05-Dec	4,421	0	1.40	0.11	51.58	1,889	0.0	1,233	31.11	11.61	117
06-Dec	894	0	0.28	0.02	10.43	1,416	0.0	1,188	29.85	11.17	109
07-Dec	1,295	0	0.41	0.03	15.11	1,325	0.0	1,235	30.99	11.61	112
08-Dec	1,264	0	0.40	0.03	14.75	820	0.0	954	23.87	8.96	85
09-Dec	4,445	0	1.41	0.11	51.86	2,609	0.0	1,285	32.64	12.12	127
10-Dec	2,685	0	0.85	0.07	31.33	1,367	0.0	1,142	28.70	10.74	105
11-Dec	2,910	0	0.92	0.07	33.95	1,724	0.0	1,073	27.11	10.11	102
12-Dec	2,101	0	0.67	0.05	24.51	733	0.0	999	24.97	9.39	88
13-Dec	0	0	0.00	0.00	0.00	2,291	0.0	1,066	27.10	10.05	106
14-Dec	0	0	0.00	0.00	0.00	3,094	0.0	1,177	30.11	11.11	122
15-Dec	245	0	0.08	0.01	2.86	2,052	0.0	1,201	30.38	11.31	115
16-Dec	1,733	0	0.55	0.04	20.22	2,875	0.0	1,238	31.55	11.68	125
17-Dec	548	0	0.17	0.01	6.39	1,051	0.0	1,198	29.99	11.26	107
18-Dec	0	0	0.00	0.00	0.00	2,345	0.0	1,193	30.28	11.25	117
19-Dec	0	0	0.00	0.00	0.00	2,118	0.0	1,141	28.91	10.75	111
20-Dec	0	0	0.00	0.00	0.00	1,474	0.0	1,083	27.26	10.19	101
21-Dec	0	0	0.00	0.00	0.00	1,493	0.0	1,102	27.75	10.37	103
22-Dec	0	0	0.00	0.00	0.00	1,518	0.0	1,096	27.61	10.32	102
23-Dec	0	0	0.00	0.00	0.00	709	0.0	970	24.23	9.11	86
24-Dec	0	0	0.00	0.00	0.00	712	0.0	1,098	27.39	10.31	96
25-Dec	0	0	0.00	0.00	0.00	1,336	0.0	1,174	29.48	11.04	107
26-Dec	0	0	0.00	0.00	0.00	1,073	0.0	1,187	29.71	11.15	106
27-Dec	0	0	0.00	0.00	0.00	1,572	0.0	1,132	28.51	10.65	106
28-Dec	0	0	0.00	0.00	0.00	865	0.0	1,072	26.81	10.07	95
29-Dec	1,922	0	0.61	0.05	22.42	1,364	0.0	313	8.18	2.97	37
30-Dec	3,741	0	1.18	0.09	43.65	915	0.0	50	1.53	0.49	11
31-Dec	1,380	0	0.44	0.03	16.10	522	0.0	587	14.71	5.52	53
01-Jan	0	0	0.00	0.00	0.00	359	0.0	926	23.02	8.69	79
02-Jan	0	0	0.00	0.00	0.00	739	0.0	931	23.29	8.75	83
03-Jan	0	0	0.00	0.00	0.00	410	0.0	772	19.23	7.25	67
	5,039	0				472,484	0	367,133			

Emission Factors and Throughputs:

Emission factors and throughputs have been researched and are summarized in the following tables.

**NOTE: GP requested the ADEQ to eliminate the use of on-specification fuel oil for this boiler as
As a result, the 6A Boiler is no longer allowed to fire any fuel oil**

Table 6A-1

Summary of Criteria Pollutant Emission Factors for the 6A Boiler (SN-19) (lb/MMBtu)												
Fuel	PM ₁₀	Note	SO ₂	Note	VOC	Note	CO	Note	NO _x	Note	Pb	Note
Natural Gas	7.6E-03	A	6.0E-04	A	5.5E-03	A	8.4E-02	B	0.28	B	5.0E-07	A
Specification Oil (Short-term)	0.11	C	1.51	C	1.8E-03	D	3.2E-02	C	0.30	C	9.7E-06	E
Specification Oil (Long-term)	0.08	C	1.01	C	1.8E-03	D	3.2E-02	C	0.30	C	9.7E-06	E

- A. Emission factor obtained from AP-42 Section 1.4, Table 1.4-2, given in terms of lb/MMscf and converted to lb/MMBtu.
- B. Emission factor obtained from AP-42 Section 1.4, Table 1.4-1 for uncontrolled post-NSPS large wall-fired boilers, given in terms of lb/MMscf and converted to lb/MMBtu.
- C. Emission factor obtained from AP-42 Section 1.3, Table 1.3-1, boilers >100 MMBtu/hr firing No. 6 fuel oil, converted from lb/mgal to lb/MMBtu.
AP-42 PM₁₀ emission factor (lb/mgal) = 9.19 * Sulfur Content (% by weight) + 3.22
AP-42 SO₂ emission factor (lb/mgal) = 157 * Sulfur Content (% by weight)
Short-term maximum sulfur content: 1.5 %
Long-term average sulfur content: 1.0 %
- D. Emission factor obtained from AP-42 Section 1.3, Table 1.3-3 for industrial boilers firing No. 6 fuel oil, converted from lb/mgal to lb/MMBtu.
- E. Emission factor obtained from AP-42 Section 1.3, Table 1.3-11 for industrial boilers firing No. 6 fuel oil, converted from lb/mgal to lb/MMBtu.

Table 6A-2

Maximum Fuel Firing Rates and Heating Values for the 6A Boiler (SN-19)				
Fuel	Maximum Rate (MMBtu/hr)	Note	Heating Value	Note
Natural Gas	357.0	A	1,000 Btu/scf	B
Specification Oil	280.8	C	156 MMBtu/mgal	D

- A. Maximum rating of the unit.
- B. Heating value obtained from AP-42 Section 1.4, Page 1.4-1.
- C. Based on a permit limit of 1,800 gallons per hour.
- D. Mill-specific data.

Emission Factors and Throughputs:

Emission factors and throughputs have been researched and are summarized in the following tables.

Table 9A-1

Summary of Criteria Pollutant Emission Factors for the 9A Boiler (SN-22) (lb/MMBtu)										
Fuel	PM ₁₀	Note	SO ₂	Note	VOC	Note	CO	Note	NO _x	Note
Woodwaste	0.066	A	0.025	B	0.017	C	0.6	B	0.22	B
Natural Gas	7.6E-03	E	6.0E-04	E	5.5E-03	E	8.4E-02	F	0.190	F
Specification Oil (Short-term)	0.11	G	1.51	G	0.002	H	3.2E-02	G	0.30	G
Specification Oil (Long-term)	0.08	G	1.01	G	0.002	H	3.2E-02	G	0.30	G
TDF	0.188	J	1.03	K	-	L	-	L	-	L
ADF	0.066	M	0.025	M	0.017	M	0.6	M	0.22	M
RDF	0.15	N	0.25	N	-	O	2.0	N	0.2	N
Sludge	-	Q	-	Q	-	Q	-	Q	-	Q
NCGs	-	-	(lb/ADTP) 0.76	R	-	-	-	-	-	-

- A. Woodwaste PM₁₀ emission factor obtained from AP-42 Section 1.6, Table 1.6-1 for boilers with a wet scrubber control device.
- B. Emission factor obtained from AP-42 Section 1.6, Table 1.6-2, for "bark/bark and wet wood/wet wood-fired boiler".
- C. Emission factor obtained from AP-42 Section 1.6, Table 1.6-3.
- D. Emission factor obtained from AP-42 Section 1.6, Table 1.6-4.
- E. Emission factor obtained from AP-42 Section 1.4, Table 1.4-2, given in terms of lb/MMscf and converted to lb/MMBtu.
- F. Emission factor obtained from AP-42 Section 1.4, Table 1.4-1 for uncontrolled post-NSPS large wall-fired boilers, given in terms of lb/MMscf and converted to lb/MMBtu.
- G. Emission factor obtained from AP-42 Section 1.3, Table 1.3-1, boilers >100 MMBtu/hr firing No. 6 fuel oil, converted from lb/mgal to lb/MMBtu.
AP-42 PM₁₀ emission factor (lb/mgal) = 9.19 * Sulfur Content (% by weight) + 3.22
AP-42 SO₂ emission factor (lb/mgal) = 157 * Sulfur Content (% by weight)
- Short-term maximum sulfur content 1.5 %
Long-term maximum sulfur content 1.0 %
- H. Emission factor obtained from AP-42 Section 1.3, Table 1.3-3 for industrial boilers firing No. 6 fuel oil, converted from lb/mgal to lb/MMBtu.
- I. Emission factor obtained from AP-42 Section 1.3, Table 1.3-11 for industrial boilers firing No. 6 fuel oil, converted from lb/mgal to lb/MMBtu.
- J. Emission factor obtained from NCASI Technical Bulletin No. 906: Alternative Fuels Used In The Forest Products Industry: Their Composition and Impact On Emissions (September 2005), Table 3.8, Boiler L (venturi scrubber) Run 2 where fuel composition was 93% wood and 7% TDF.
- K. SO₂ emission factor is based on % sulfur in the TDF. For calculation of potential emissions, the average % sulfur given in NCASI Technical Bulletin No. 906: Alternative Fuels Used In The Forest Products Industry: Their Composition And Impact On Emissions (September 2005) of 1.8% is used to determine the SO₂ potential emission factor. The Crossett facility conducted a TDF composition analysis in November 2006 and found that the % sulfur was 1.1%. As stated in Section 3.3, Page 14 of NCASI TB No. 906, it is conservatively assumed that 30% of the sulfur in TDF is absorbed by the woodwaste as these fuels are co-fired. SO₂ emission factor calculation details are as follows:
SO₂ Emission Factor (lb/MMBtu) = 1.8 lb S/100 lb TDF * 2 lb SO₂/lb S * ton TDF/30 MMBtu * (2,000 lb/ton) * (1 - 30% S absorbed)
Where: % Sulfur in TDF = 1.1% November 2006 TDF composition analysis
lb SO₂/lb S = 2 Stoichiometric analysis
Sulfur absorbed in wood = 30% NCASI Technical Bulletin No. 906, Page 14.
- L. Per NCASI Technical Bulletin No. 906, Pages 13-14, VOC, CO, NO_x and trace metals (other than zinc) emissions are generally expected to be lowered or unchanged by burning TDF in a wood-fired boiler. Therefore, no emission factor is chosen for these pollutants.
- M. Emission factors for ADF are assumed equal to woodwaste emission factors.
- N. Emission factor from AP-42 Section 2.1, Refuse Combustion (Oct 1996), Table 2.1-12. The factors given in AP-42 are uncontrolled; therefore, a control efficiency of 90% is assumed for PM₁₀.
- O. No emission factor for VOC is given in AP-42 Section 2.1, Refuse Combustion; only total organic matter is presented.
- P. Emission factor from AP-42 Section 2.1, Refuse Combustion, Table 2.1-8. The factors given in AP-42 are uncontrolled; therefore, a control efficiency of 90% is assumed for Pb.
- Q. Per NCASI Technical Bulletin No. 906, Section 8.1, burning of WWTP residuals (sludge) is not expected to lead to an increase in any criteria or related pollutant including metals. While sulfur in the sludge could result in higher SO₂ emissions, when sludge is co-fired with woodwaste (as is done at the Crossett Mill), the sulfur removal capability of the woodwaste reduces the SO₂ emitted such that it is not discernible.
- R. The 9A Boiler is permitted as an alternate incinerator for NCGs and SOGs during periods when the incinerator or its associated control equipment is inoperative. NCASI Technical Bulletin No. 849 (August 2002), Table 9 gives mean sulfur contents of 0.34 lb/ADTP for hardwood and 0.46 lb/ADTP for softwood. The normal pulp mix is 66% hardwood and 34% softwood, resulting in an emission factor of:
SO₂ emission factor = [0.34 lb/ADTP * 66% + 0.46 lb/ADTP * 34%] * 2 lb SO₂/lb S = 0.76 lb SO₂/ADTP

Table 9A-2

Maximum Fuel Firing Rates and Heating Values for the 9A Boiler (SN-22)				
Fuel	Maximum Rate (MMBtu/hr)	Note	Heating Value	Note
Woodwaste	475.2	A	9 MMBtu/ton	B
Natural Gas	720.0	C	1,000 Btu/scf	D
Specification Oil	249.0	A	156 MMBtu/mgal	E
TDF	31.5	F	30 MMBtu/ton	G
ADF	475.2	H	9 MMBtu/ton	H
RDF	104.2	I	10 MMBtu/ton	J
Sludge	405.0	K	9 MMBtu/BDT	-

A. Based on information provided in the August 21, 1980 letter submitted by GP to EPA.

B. Heating value obtained from AP-42 Section 1.6, Page 1.6-1, given as 4,500 Btu/lb and converted to MMBtu/ton.

C. Maximum boiler rating.

D. Heating value obtained from AP-42 Section 1.4, Page 1.4-1.

E. Mill-specific data.

F. Based on permit limit of 35 lb/min. Maximum Rate (MMBtu/hr) = 35 lb/min * 30 MMBtu/ton * (60 min/hr) * (ton/2,000 lb)

G. Heating value obtained from NCASI Technical Bulletin No. 906: Alternative Fuels Used In The Forest Products Industry: Their Composition and Impact On Emissions (September 2005), Page 2, given as 15,000 Btu/lb and converted to MMBtu/ton.

H. Data for ADF is assumed to be equal to woodwaste.

I. Based on permit limit of 250 tons/day. Maximum Rate (MMBtu/hr) = 250 tons/day * 10 MMBtu/ton * (day/24 hr)

J. A heating value of 5,000 Btu/lb is assumed for RDF.

K. Based on permit limit of 45 BDT/hr. Maximum Rate (MMBtu/hr) = 45 BDT/hr * 9 MMBtu/BDT

Medina, Dayana

From: Cutbirth, James W. <James.Cutbirth@GAPAC.com>
Sent: Monday, April 01, 2013 11:58 AM
To: 'PETTYJOHN@adeq.state.ar.us'
Cc: 'Davis, Anthony (DavisA@adeq.state.ar.us)'; 'mac@adeq.state.ar.us'; 'spencer@adeq.state.ar.us'; Medina, Dayana; Donaldson, Guy; Nann, Barbara; Feldman, Michael; Kordzi, Joe
Subject: Georgia-Pacific Responses to ADEQ and EPA Region 6 BART Questions for Crossett Paper Operations, Crossett AR
Attachments: BART Response to ADEQ and EPA Region 6 04-01-2013.pdf; FW: Region 6 feedback on Georgia Pacific-6A and 9A boilers; FW: Georgia Pacific; Table 1-Baseline 2001 2002 2003 BART Analyses 3-27-2013.xls; BART Five Factor Analysis Response 05-18-2012.pdf

Mary and all other personnel at ADEQ and EPA Region 6:

Please find enclosed Georgia-Pacific's written responses to the questions and issues related to BART compliance for the Crossett Paper Operations facility in Crossett AR that were discussed during our teleconference call on March 20, 2013. Enclosed with this submittal are the following attachments:

- Letter from Georgia-Pacific to Mary Pettyjohn at ADEQ, dated April 1, 2013, transmitting written responses related to BART compliance for the Crossett Paper Operations
- E-mail correspondence between Dayana Medina and Mary Pettyjohn, dated February 06, 2013 for Boiler 9A
- E-mail correspondence between Dayana Medina and Mary Pettyjohn, dated March 4, 2013 for Boiler 6A
- Table 1-Baseline Years (2001-2002-2003) BART Emission Calculations and Explanation fo How 24-hour Maximum Emission Rates Were Determined for BART Analyses
- Correspondence Letter between Georgia-Pacific and ADEQ, dated May 18, 2012, with results of CALPUFF Modeling for 6A Boiler and 9A Boiler

Sincerely,

Jim Cutbirth

Jim Cutbirth
Environmental Manager
Georgia Pacific LLC
Crossett Consumer Products Mill
(870)567-8144



Georgia-Pacific

Georgia-Pacific LLC
Consumer Products

CERTIFIED MAIL 7011-1150-0000-8947-6853
Return Receipt Requested

May 18, 2012

Crossett Paper Operations
100 Mill Supply Rd.
P.O. Box 3333
Crossett, AR 71635
(870) 567-8000
(870) 364-9076 fax
www.gp.com

Ms. Mary Pettyjohn
Arkansas Department of Environmental Quality
Epidemiologist
5301 Northshore Drive
North Little Rock, AR 72118

**Re: Georgia-Pacific LLC Crossett Paper Operations
Best Available Retrofit Technology Five Factor Analysis
AFIN: 02-00013 Title V Permit No. 0597-AOP-R14**

Dear Ms. Pettyjohn:

Georgia-Pacific LLC Crossett Paper Operations (GP) received Mike Bates' letter of May 14, 2012 requesting submittal of a five factor analysis for GP Boilers 6A and 9A located at the mill. Based on the letter and the attached April 26, 2012 letter from EPA, we understand that there are questions regarding the BART eligibility of these two boilers. With this letter we would like to summarize the background of this issue and explain why GP believes submitting a five-factor analysis is not appropriate in this case.

As we discussed in our meeting on October 26, 2011 the Mill has prepared additional CALPUFF modeling to demonstrate that our Title V permitted emission rates do not cause or contribute to an impact above the screening threshold of 0.5 deciviews (dv) in regional Class I Areas. In our 2006 CALPUFF analyses, we modeled highest actual daily rates instead of the Title V permit allowable emission rates. As submitted in December, we re-analyzed our BART-eligible sources using our current Title V Permit limits and reducing our maximum hourly emission rate of sulfur dioxide (SO₂) for the 9A Boiler (SN-22) from 502.5 pounds per hour to 200.0 pounds per hour. This limit is now enforceable in Permit #0579-AOP-R14. Section 169A(c) of the Clean Air Act allows sources to be screened out of further requirements including a five-factor analysis. Specifically:

(c) Exemptions

(1) The Administrator may, by rule, after notice and opportunity for public hearing, exempt any major stationary source from the requirement of subsection (b)(2)(A) of this section, upon his determination that such source does not or will not, by itself or in combination with other sources, emit any air pollutant which may reasonably be anticipated to cause or contribute to a significant impairment of visibility in any mandatory class I Federal area.

(2) Paragraph (1) of this subsection shall not be applicable to any fossil-fuel fired powerplant with total design capacity of 750 megawatts or more, unless the owner or operator of any such plant demonstrates to the satisfaction of the Administrator that such powerplant is located at such distance from all areas listed by the Administrator under subsection (a)(2) of this section that such powerplant does not or will not, by itself or in combination with other sources,

emit any air pollutant which may reasonably be anticipated to cause or contribute to significant impairment of visibility in any such area.

(3) An exemption under this subsection shall be effective only upon concurrence by the appropriate Federal land manager or managers with the Administrator's determination under this subsection.

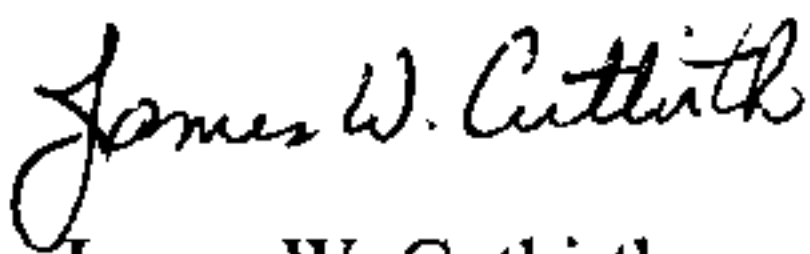
GP believes the 2011 analysis and the current air permit which enforces those limits is sufficient to demonstrate no cause or contribution to an impairment of visibility by BART-eligible source at our Crossett operations. Thus, the state is afforded by 169A(c)(1) to not require analyses under 169A Section or Appendix Y to 40 CFR Part 51, Section V.E.2:

As we discuss in detail in these guidelines, the regional haze rule codifies and clarifies the BART provisions in the CAA. The rule requires that States identify and list "BART-eligible sources," that is, that States identify and list those sources that fall within the 26 source categories, were put in place during the 15-year window of time from 1962 to 1977, and have potential emissions greater than 250 tons per year. Once the State has identified the BART-eligible sources, the next step is to identify those BART-eligible sources that may "emit any air pollutant which may reasonably be anticipated to cause or contribute to any impairment of visibility." Under the rule, a source which fits this description is "subject to BART."

If the visibility impairment modeling protocol and techniques require an updated demonstration for EPA and ADEQ's review, we believe that is the next step to affirm our request for screening out of a Five-factor analysis using the most up-to-date methodology. EPA's disapproval of ADEQ's regional haze SIP does not affect the definition of a subject-to-BART source nor our ability to demonstrate that the allowable emissions from these sources do not cause impairment sufficient to require a five-factor analysis.

To follow-up on this letter, we will contact you in the near future to further discuss and clarify the appropriate steps forward to properly address the BART eligibility of Boilers 6A and 9A. If you have any questions regarding this matter, please do not hesitate to contact me at (870) 567-8144.

Sincerely,



James W. Cutbirth
Superintendent, Environmental Services

JWC/wjg

Enclosure:

Previously submitted BART Golder Modeling Analysis Summary
Page 54 of current Title V Permit depicting lower SO2 emission rate of 9A Boiler.

SN-22
9A Boiler

Source Description

The 9A Boiler is a 720 million Btu per hour combination fuel boiler used to generate steam. The source is equipped with a wet venturi scrubber. The boiler may serve as backup combustion unit during times when the incinerator (SN-83) is offline.

The 9A Boiler is capable of firing tire derived fuel (TDF), agriculture derived fuel (ADF), refuse derived fuel (RDF), non-condensable gases (NCGs), woodwaste, specification grade oil, natural gas and sludge. A woodwaste storage pile is associated with the 9A Boiler. Woodwaste consists of bark, wood scraps, wax coated paper, wax coated cardboard, wax coated sawdust, creosote treated railroad crossties and paper pellets (waste paper and wax paper). Bark from the debarker in the Woodyard is pneumatically transferred to the 9A pile. A cyclone is located at the end of the pneumatic transfer line to control particulate matter emissions. The majority of the woodwaste is delivered by truck and occasionally by rail. It is then transferred by conveyors to either the 9A or the 10A woodwaste storage pile.

RDF, ADF and sludge are directly added to the chip piles. RDF consists of pelletized paper, lawn clippings and similar materials. TDF and other scrap rubber products are stored in segregated piles near the woodwaste piles. TDF is loaded several times a day by a front end loader into feeder bins in the vicinity. These solid fuels are then fed onto a conveyor system and delivered to the boilers. ADF consists of, but is not limited to, corn cobs, shucks, and vegetable starch.

Specification grade oil consists of new oil, used oil, used oil absorbent material and pitch from the production of tall oil. Used oil absorbent material shall include used oil filter paper, used rags, sorbant booms, etc. that meet the specification grade oil criteria (40 CFR 279.11).

Specific Conditions

33. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #43, #47, #48, #49, #50, and #53. [Regulation No. 19 §19.501 et seq. and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM ₁₀	77.4	339.0
SO ₂	199.8	484.6
VOC	11.3	49.5
CO	366.8	1,606.7



December 14, 2011

113-87721
Via Electronic Delivery

James Cutbirth
Georgia-Pacific Consumer Products LLC
Superintendent – Environmental Services
100 Mill Supply Road
Crossett, AR 71635

RE: BART AIR MODELING ANALYSIS FOR THE CROSSETT (AR) MILL

Dear Mr. Cutbirth:

At the request of Georgia-Pacific, LLC (GP), Golder Associates, Inc. (Golder) performed an air modeling analysis to revise the Best Available Retrofit Technology (BART) Application for the Crossett Mill (Mill). The original application was provided to the Arkansas Department of Environmental Quality (ADEQ) in 2006 and used the California Puff modeling system to address the maximum 24-hour visibility impairment due to the Mill's BART-eligible sources. The analysis followed the procedures as outlined in the BART Modeling Protocol (ADEQ, June, 2006) to determine if the Mill could qualify for an exemption under the BART regulations. The following paragraphs summarize the modeling inputs and results.

Source and Emission Data

Emission and source parameter data for the BART modeling analysis were provided by GP. The 6A and 9A Boilers are the only BART-eligible sources at the Mill and the emissions for these sources were provided for sulfur dioxide, nitrogen oxides and particulate matter with diameters less than or equal to 10 microns. These emissions represent the maximum 24-hour emissions allowed by air permit except for sulfur dioxide emissions for SN-22 which were lowered to 200 lbs/hr to match emission rate in GP's December 2011 application for a permit modification.

Meteorological Data

The modeling analysis used three years of gridded 3-dimensional wind field meteorological data developed by the Central Regional Air Planning Association (CENRAP) for the years 2001 to 2003.

Receptor Locations

In accordance with the Air Protocol, predictions of visibility impairment were made at the following Prevention of Significant Deterioration (PSD) Class I areas that are located within 300-km of Arkansas:

- Caney Creek (AR, 235 km) Wilderness Area (WA)
- Upper Buffalo (AR, 325 km) WA
- Hercules-Glade (MO, 398 km) WA
- Mingo (MO, 448 km) WA, and
- Sipsey (AL, 442 km) WA

Golder Associates Inc.
6026 NW 1st Place
Gainesville, FL 32607 USA
Tel: (352) 336-5600 Fax: (352) 336-6603 www.golder.com



Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

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Receptors for each PSD Class I area were obtained from the National Park Service. All source and receptor locations were based in the Lambert Conformal Coordinate (LCC) system for input to CALPUFF.

Modeling Results

The air modeling results are summarized in Table 1. The maximum predicted 24-hour visibility impairment of 0.359 deciview (dv) was predicted at the Caney Creek WA in 2002. This impact is less than the BART exemption criteria of 0.5 dv.

The air modeling files used to perform the analysis are included with this submittal and include the CALPUFF, POSTUTIL and CALPOST input and list files for years 2001 to 2003, the hourly ozone files for each year, and the executable files.

If you have any questions regarding this analysis please contact me at (352) 336-5600. Thank you.

Sincerely,

GOLDER ASSOCIATES INC.



Steven R. Marks, CCM
Associate, Project Manager



Robert C. McCann, Jr.
Principal

Enclosures

TABLE 1

Maximum Predicted 24-Hour Visibility Impairment (dV) From BART Eligible Sources

PSD Class I Area Area	Highest Deciview for Year		
	2001	2002	2003
Caney Creek (AR) NWA	0.16	0.359	0.296
Upper Buffalo (AR) NWA	0.099	0.074	0.099
Hercules-Glade (MO) NWA	0.08	0.288	0.125
Mingo (MO) NWA	0.123	0.093	0.168
Sipsey (AL) NWA	0.171	0.184	0.119
BART Exemption Criterion	0.5	0.5	0.5

NWA = National Wilderness Area

Notes: All emitted PM emissions assumed as PMF per AR BART protocol

Medina, Dayana

From: Medina, Dayana
Sent: Friday, April 12, 2013 3:59 PM
To: pettyjohn@adeq.state.ar.us
Cc: Donaldson, Guy; Feldman, Michael
Subject: Region 6 response on Georgia-Pacific Crossett Mill

Hi Mary,

We appreciate the opportunity to review the April 1, 2013, letter sent to ADEQ by James Cutbirth from the Georgia-Pacific Crossett Mill. We have reviewed the additional information provided and believe that the technical analysis presented in the letter and the spreadsheets and other attachments included in Mr. Cutbirth's April 1, 2013 email, demonstrate that the actual SO₂, PM, and NO_x emissions from the 6A and 9A boilers during the 2001-2003 baseline period are below the emission rates modeled by Georgia Pacific in its 2011 BART screening CALPUFF modeling. We believe that Georgia-Pacific's analysis, which compares the modeled emission rates with estimates of 2001-2003 maximum 24-hour emission rates that were calculated based on daily fuel usage and EPA's AP-42 emission factors, and other newly provided information allow for a more accurate assessment of whether or not the 6A and 9A boilers are subject to BART. Based on this newly provided information, we believe the 6A and 9A boilers are not subject to BART and therefore it is not necessary for Georgia-Pacific to submit a BART five factor analysis. Please inform Region 6 whether ADEQ concurs with our assessment or if you would like to discuss this matter further. If ADEQ concurs with Region 6, please ensure that when you submit the Arkansas Regional Haze SIP revision, the SIP submittal includes the BART screening CALPUFF modeling files for the Georgia-Pacific Crossett Mill, as well as a copy of Mr. Cutbirth's April 1, 2013, letter and the spreadsheets and other attachments provided in Mr. Cutbirth's April 1, 2013 email.

Thank you,

Dayana Medina

U.S. Environmental Protection Agency, Region 6
Multimedia Planning and Permitting Division
Air Planning Section (6PD-L)
214-665-7241
medina.dayana@epa.gov

Medina, Dayana

From: Galler, Wayne J. <WJGALLER@GAPAC.com>
Sent: Wednesday, March 20, 2013 8:52 AM
To: Medina, Dayana
Cc: Cutbirth, James W.
Subject: Files for BART call Review
Attachments: SN19 6A Boiler Natural Gas 2001 2002 2003-WJG Revision 03-12-2013.xls; BART Five Factor Analysis Response 05-18-2012.pdf

Can you send these files and my notes below out to everyone on the call list, except for Jim Cutbirth and myself for our call shortly? Thanks.

I wanted to share a couple of documents in advance of our conference call. The PDF file is a copy of a letter sent to Mary Pettyjohn at ADEQ, dated May 18, 2012. This memo explains that the two boilers at the Crossett Mill, 6A and 9A, are both BART eligible units, and as a result, GP conducted CALPUFF modeling for the combined maximum daily emissions of PM10, SO2, and NO2 from these units. The results of the modeling indicate that there is no impact above the screening level of 0.5 deciviews in any of the regional Class I areas near the Crossett Mill. The highest impact was 0.36 deciviews at the Caney Creek National Wilderness Area in Arkansas. As explained in the memo, the two boilers are exempt from the BART five factor analysis requirements. The emission rates modeled for the analysis are all less than the Title V Permit limits contained in the latest revision issue for the Mill in May 2012.

The attached spreadsheet summarizes the values subjected to the CALPUFF modeling for each boiler versus the maximum pollutant emissions rates and compares these data to the R14 Title V permit limits.

DRAFT Subject to Review

Table 1. Summary of 2001-2003 Actual Emissions, R14 Permit Allowables and CALPUFF Model Emission Rates

	Daily Average lb/hr Actual Emissions				R14 Limit	CALPUFF(c)	Model < Permit?
	2001	2002	2003	3-year Max			
	6A Boiler						
Max SO ₂	0.2	0.1	0.1	0.2	0.3	2.4	No
Max NO _x @ 280 lb/MMscf	90.7	66.3	58.8	90.7	120.0	32.4	Yes
Max PM ₁₀	2.5	1.8	1.6	2.5	3.3	2.6	Yes
	9A Boiler						
Max SO ₂ (b)	16.3	15.8	17.9	17.9	199.8	306.7	Yes
Max NO _x	171.4	154.6	174.1	174.1	196.0	244.4	No
Max PM ₁₀ (a)	72.0	61.0	54.3	72.0	77.4	90.0	No

(a) The greater of annual PM test values for 3 1-hr runs average and calculated daily emission rate using emission factors.

For all three baseline years, the stack test results were used as the highest hourly and therefore the daily maximum emission rates

(b) During 2001-2003, no oil or TDF was fired in 9A Boiler. Permit limit allows both fuels to be burned.

(c) CALPUFF model for particulate matter conservatively treats all modeled particulate mass using a mean diameter of less than 1µm.

2001

GEORGIA-PACIFIC CORPORATION
SOUTHERN PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

P A P E R M I L L U T I L I T Y R E P O R T

Daily Meter Readings/Production Trends

	6A Boiler				9A Boiler												
	S/B	Steam	Gas	Oil				S/B	Steam	Gas	Rubber	Bark					
	MLbs	MLbs	Mcf	Bbls				MLbs	MLbs	Mcf	Tons	Tons					
PM10EF			7.60E-03	NA						7.60E-03	5.64E+00	5.94E-01					
SO2 EF			6.00E-04	NA	Calculated lbs/hr					6.00E-04	3.08E+01	2.25E-01	Calculated lbs/hr				
NOX EF			2.80E-01	NA	PM	SO2	Nox			1.90E-01	1.98E+00	1.98E+00	PM	SO2	Nox		
31-Dec	0	2,737	3,649	0	1.16	0.09	42.57	*	327	8,455	2,831	0.0	1,284	*	32.68	12.11	128
01-Jan	0	344	459	0	0.15	0.01	5.36	*	431	5,449	2,513	0.0	814	*	20.94	7.69	87
02-Jan	0	3,214	4,285	0	1.36	0.11	49.99	*	503	8,356	1,732	0.0	1,380	*	34.71	12.98	128
03-Jan	0	722	963	0	0.30	0.02	11.24	*	416	7,617	1,267	0.0	1,275	*	31.95	11.98	115
04-Jan	0	1,872	2,496	0	0.79	0.06	29.12	*	376	6,611	1,570	0.0	1,073	*	27.06	10.10	101
05-Jan	0	3,147	4,196	0	1.33	0.10	48.95	*	369	5,436	960	0.0	918	*	23.02	8.63	83
06-Jan	0	3,091	4,121	0	1.30	0.10	48.08	*	374	7,435	719	0.0	1,278	*	31.85	12.00	111
07-Jan	0	748	997	0	0.32	0.02	11.63	*	391	6,860	443	0.0	1,203	*	29.92	11.29	103
08-Jan	0	2,536	3,381	0	1.07	0.08	39.45	*	368	7,661	373	0.0	1,341	*	33.32	12.58	114
09-Jan	0	2,631	3,508	0	1.11	0.09	40.93	*	389	7,073	155	0.0	1,261	*	31.26	11.83	105
10-Jan	0	2,583	3,444	0	1.09	0.09	40.18	*	373	4,805	1,100	0.0	800	*	20.15	7.53	75
11-Jan	0	3,606	4,808	0	1.52	0.12	56.09	*	384	8,614	1,052	0.0	1,455	*	36.35	13.67	128
12-Jan	0	3,557	4,743	0	1.50	0.12	55.34	*	382	9,483	2,096	0.0	1,524	*	38.39	14.34	142
13-Jan	0	2,610	3,480	0	1.10	0.09	40.60	*	376	7,792	155	0.0	1,382	*	34.24	12.96	115
14-Jan	0	2,422	3,229	0	1.02	0.08	37.67	*	370	7,614	102	0.0	1,354	*	33.55	12.70	113
15-Jan	0	3,416	4,555	0	1.44	0.11	53.14	*	330	3,346	716	0.0	573	*	14.41	5.39	53
16-Jan	0	4,225	5,633	0	1.78	0.14	65.72	*	348	4,641	2,678	0.0	649	*	16.90	6.15	75
17-Jan	0	4,478	5,971	0	1.89	0.15	69.66	*	377	10,478	4,375	0.0	1,005	*	26.27	9.53	118
18-Jan	0	4,739	6,319	0	2.00	0.16	73.72	*	378	12,416	8,199	0.0	1,047	*	28.52	10.02	151
19-Jan	0	4,921	6,561	0	2.08	0.16	76.55	*	346	13,728	8,984	0.0	1,207	*	32.71	11.54	171
20-Jan	0	3,629	4,839	0	1.53	0.12	56.46	*	445	10,506	5,172	0.0	962	*	25.44	9.14	120
21-Jan	0	3,222	4,296	0	1.36	0.11	50.12	*	408	9,552	3,440	0.0	1,391	*	35.52	13.13	142
22-Jan	0	2,702	3,603	0	1.14	0.09	42.04	*	391	7,929	697	0.0	1,367	*	34.04	12.83	118
23-Jan	0	3,805	5,073	0	1.61	0.13	59.19	*	363	3,877	943	0.0	652	*	16.44	6.14	61
24-Jan	0	3,637	4,849	0	1.54	0.12	56.57	*	369	4,915	764	0.0	844	*	21.12	7.93	76
25-Jan	0	4,205	5,607	0	1.78	0.14	65.42	*	361	2,961	589	0.0	522	*	13.11	4.91	48
26-Jan	0	3,877	5,169	0	1.64	0.13	60.31	*	0	0	0	0.0	0	*	0.00	0.00	0
27-Jan	0	4,055	5,407	0	1.71	0.14	63.08	*	0	0	0	0.0	0	*	0.00	0.00	0
28-Jan	0	4,271	5,695	0	1.80	0.14	66.44	*	0	0	0	0.0	0	*	0.00	0.00	0
29-Jan	0	4,676	6,235	0	1.97	0.16	72.74	*	0	0	0	0.0	0	*	0.00	0.00	0
30-Jan	0	2,840	3,787	0	1.20	0.09	44.18	*	350	3,820	704	0.0	658	*	16.51	6.19	66

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GEORGIA-PACIFIC CORPORATION
SOUTHERN PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

P A P E R M I L L U T I L I T Y R E P O R T

Daily Meter Readings/Production Trends

	6A Boiler							*	9A Boiler					*		
	S/B	Steam	Gas	Oil					S/B	Steam	Gas	Rubber	Bark			
	MLbs	MLbs	Mcf	Bbls	Calculated lbs/hr				MLbs	MLbs	Mcf	Tons	Tons			
PM10EF			7.60E-03	NA				*			7.60E-03	5.64E+00	5.94E-01			
SO2 EF			6.00E-04	NA	Calculated lbs/hr			*			6.00E-04	3.08E+01	2.25E-01	Calculated lbs/hr		
NOX EF			2.80E-01	NA	PM	SO2	Nox	*			1.90E-01	1.98E+00	1.98E+00	PM	SO2	Nox
31-Jan	0	1,306	1,741	0	0.55	0.04	20.31	*	393	6,673	586	0.0	1,161	28.92	10.90	100
01-Feb	0	3,337	4,449	0	1.41	0.11	51.91	*	364	3,947	1,318	0.0	636	16.15	5.99	63
02-Feb	0	4,569	6,092	0	1.93	0.15	71.07	*	0	0	0	0.0	0	0.00	0.00	0
03-Feb	0	3,723	4,964	0	1.57	0.12	57.91	*	363	4,454	523	0.0	782	19.52	7.35	69
04-Feb	0	2,453	3,271	0	1.04	0.08	38.16	*	388	8,867	125	0.0	1,569	38.88	14.71	130
05-Feb	0	2,264	3,019	0	0.96	0.08	35.22	*	390	8,632	254	0.0	1,520	37.69	14.25	127
06-Feb	0	2,073	2,764	0	0.88	0.07	32.25	*	375	7,992	719	0.0	1,373	34.21	12.89	119
07-Feb	0	1,781	2,370	0	0.75	0.06	27.65	*	376	7,029	143	0.0	1,252	31.04	11.74	104
08-Feb	0	1,781	2,370	0	0.75	0.06	27.65	*	378	7,150	470	0.0	1,249	31.05	11.72	107
09-Feb	0	1,885	2,513	0	0.80	0.06	29.32	*	438	7,746	447	0.0	1,362	33.86	12.78	116
10-Feb	0	2,506	3,341	0	1.06	0.08	38.98	*	419	7,813	240	0.0	1,386	34.38	13.00	116
11-Feb	0	3,358	4,477	0	1.42	0.11	52.23	*	354	8,271	225	0.0	1,454	36.06	13.64	122
12-Feb	0	3,956	5,275	0	1.67	0.13	61.54	*	340	7,982	843	0.0	1,356	33.82	12.73	119
13-Feb	0	2,988	3,984	0	1.26	0.10	46.48	*	320	7,882	394	0.0	1,369	34.02	12.85	116
14-Feb	0	1,692	2,357	0	0.75	0.06	27.50	*	284	8,665	652	0.0	1,477	36.77	13.87	127
15-Feb	0	42	75	0	0.02	0.00	0.88	*	333	8,093	836	0.0	1,374	34.27	12.90	120
16-Feb	0	0	0	0	0.00	0.00	0.00	*	358	8,433	1,639	0.0	1,376	34.57	12.94	126
17-Feb	0	0	0	0	0.00	0.00	0.00	*	378	8,713	2,165	0.0	1,387	35.02	13.06	132
18-Feb	0	0	0	0	0.00	0.00	0.00	*	353	8,073	962	0.0	1,365	34.08	12.82	120
19-Feb	0	0	0	0	0.00	0.00	0.00	*	316	8,832	1,717	0.0	1,431	35.96	13.46	132
20-Feb	0	0	0	0	0.00	0.00	0.00	*	278	8,741	319	0.0	1,514	37.58	14.21	127
21-Feb	0	0	0	0	0.00	0.00	0.00	*	331	7,949	135	0.0	1,402	34.75	13.15	117
22-Feb	0	0	0	0	0.00	0.00	0.00	*	347	7,788	183	0.0	1,374	34.06	12.88	115
23-Feb	0	0	0	0	0.00	0.00	0.00	*	336	7,640	131	0.0	1,351	33.47	12.67	112
24-Feb	0	0	0	0	0.00	0.00	0.00	*	309	7,452	937	0.0	1,253	31.31	11.77	111
25-Feb	0	0	0	0	0.00	0.00	0.00	*	320	7,197	498	0.0	1,245	30.96	11.68	107
26-Feb	0	0	0	0	0.00	0.00	0.00	*	349	6,905	377	0.0	1,209	30.04	11.34	103
27-Feb	0	0	0	0	0.00	0.00	0.00	*	349	8,854	2,945	0.0	1,347	34.28	12.71	134
28-Feb	0	1,243	1,657	0	0.52	0.04	19.33	*	354	9,215	3,150	0.0	1,394	35.51	13.15	140
01-Mar	0	3,667	4,889	0	1.55	0.12	57.04	*	328	9,031	3,769	0.0	1,312	33.66	12.39	138
02-Mar	0	4,336	5,781	0	1.83	0.14	67.45	*	349	9,282	4,750	0.0	1,284	33.28	12.16	144
03-Mar	0	4,224	5,632	0	1.78	0.14	65.71	*	356	9,192	4,705	0.0	1,273	33.00	12.05	142

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GEORGIA-PACIFIC CORPORATION
SOUTHERN PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

P A P E R M I L L U T I L I T Y R E P O R T

Daily Meter Readings/Production Trends

	6A Boiler							*	9A Boiler					*			
	S/B	Steam	Gas	Oil					S/B	Steam	Gas	Rubber	Bark				
	MLbs	MLbs	Mcf	Bbls					MLbs	MLbs	Mcf	Tons	Tons				
PM10EF			7.60E-03	NA						7.60E-03	5.64E+00	5.94E-01					
SO2 EF			6.00E-04	NA	Calculated lbs/hr					6.00E-04	3.08E+01	2.25E-01		Calculated lbs/hr			
NOX EF			2.80E-01	NA	PM	SO2	Nox			1.90E-01	1.98E+00	1.98E+00		PM	SO2	Nox	
04-Mar	0	4,028	5,371	0	1.70	0.13	62.66	*	347	10,190	5,247	0.0	1,401	*	36.34	13.27	157
05-Mar	0	4,025	5,367	0	1.70	0.13	62.62	*	349	10,189	4,147	0.0	1,484	*	38.05	14.02	155
06-Mar	0	3,978	5,304	0	1.68	0.13	61.88	*	344	10,949	4,741	0.0	1,568	*	40.32	14.82	167
07-Mar	0	3,890	5,187	0	1.64	0.13	60.52	*	332	8,489	5,229	0.0	1,110	*	29.12	10.53	133
08-Mar	0	3,352	4,470	0	1.42	0.11	52.15	*	344	9,644	3,255	0.0	1,458	*	37.11	13.75	146
09-Mar	0	3,979	5,305	0	1.68	0.13	61.89	*	355	10,657	4,596	0.0	1,531	*	39.35	14.47	163
10-Mar	0	4,524	6,032	0	1.91	0.15	70.37	*	333	10,481	3,852	0.0	1,554	*	39.67	14.66	159
11-Mar	0	4,432	5,909	0	1.87	0.15	68.94	*	331	10,228	4,255	0.0	1,480	*	37.97	13.98	156
12-Mar	0	4,455	5,940	0	1.88	0.15	69.30	*	311	10,891	4,593	0.0	1,564	*	40.16	14.78	165
13-Mar	0	4,106	5,475	0	1.73	0.14	63.88	*	315	10,581	4,533	0.0	1,611	*	41.31	15.22	169
14-Mar	0	3,093	4,124	0	1.31	0.10	48.11	*	336	8,649	2,996	0.0	1,379	*	35.07	13.00	137
15-Mar	0	3,220	4,293	0	1.36	0.11	50.09	*	333	9,573	3,779	0.0	1,362	*	34.92	12.87	142
16-Mar	0	724	965	0	0.31	0.02	11.26	*	331	7,662	3,775	0.0	1,078	*	27.88	10.20	119
17-Mar	0	0	0	0	0.00	0.00	0.00	*	355	8,601	464	0.0	1,493	*	37.09	14.01	127
18-Mar	0	0	0	0	0.00	0.00	0.00	*	365	8,400	1,017	0.0	1,418	*	35.42	13.32	125
19-Mar	0	350	467	0	0.15	0.01	5.45	*	352	8,614	785	0.0	1,470	*	36.63	13.80	127
20-Mar	0	777	1,036	0	0.33	0.03	12.09	*	318	6,701	402	0.0	1,167	*	29.01	10.95	99
21-Mar	0	0	0	0	0.00	0.00	0.00	*	330	7,704	380	0.0	1,342	*	33.33	12.59	114
22-Mar	0	0	0	0	0.00	0.00	0.00	*	311	8,372	340	0.0	1,455	*	36.13	13.65	123
23-Mar	0	0	0	0	0.00	0.00	0.00	*	300	7,401	342	0.0	1,288	*	31.98	12.08	109
24-Mar	0	1,607	2,143	0	0.68	0.05	25.00	*	329	6,692	3,602	0.0	926	*	24.05	8.77	105
25-Mar	0	3,937	5,249	0	1.66	0.13	61.24	*	316	4,046	5,623	0.0	319	*	9.68	3.13	71
26-Mar	0	4,074	5,432	0	1.72	0.14	63.37	*	0	0	0	0.0	0	*	0.00	0.00	0
27-Mar	0	4,343	5,791	0	1.83	0.14	67.56	*	0	0	0	0.0	0	*	0.00	0.00	0
28-Mar	0	4,167	5,556	0	1.76	0.14	64.82	*	0	0	0	0.0	0	*	0.00	0.00	0
29-Mar	0	3,355	4,473	0	1.42	0.11	52.19	*	0	0	0	0.0	0	*	0.00	0.00	0
30-Mar	0	2,947	3,929	0	1.24	0.10	45.84	*	0	0	0	0.0	0	*	0.00	0.00	0
31-Mar	0	2,320	3,093	0	0.98	0.08	36.09	*	0	0	0	0.0	0	*	0.00	0.00	0
01-Apr	0	3,889	5,185	0	1.64	0.13	60.49	*	0	0	0	0.0	0	*	0.00	0.00	0
02-Apr	0	4,031	5,375	0	1.70	0.13	62.71	*	0	0	0	0.0	0	*	0.00	0.00	0
03-Apr	0	3,274	4,365	0	1.38	0.11	50.93	*	0	0	0	0.0	0	*	0.00	0.00	0
04-Apr	0	2,394	3,192	0	1.01	0.08	37.24	*	0	0	0	0.0	0	*	0.00	0.00	0

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SOUTHERN PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

P A P E R M I L L U T I L I T Y R E P O R T

Daily Meter Readings/Production Trends

6A Boiler								9A Boiler								
	S/B	Steam	Gas	Oil					S/B	Steam	Gas	Rubber	Bark			
	MLbs	MLbs	Mcf	Bbls					MLbs	MLbs	Mcf	Tons	Tons			
PM10EF			7.60E-03	NA							7.60E-03	5.64E+00	5.94E-01			
SO2 EF			6.00E-04	NA	Calculated lbs/hr						6.00E-04	3.08E+01	2.25E-01	Calculated lbs/hr		
NOX EF			2.80E-01	NA	PM	SO2	Nox				1.90E-01	1.98E+00	1.98E+00	PM	SO2	Nox
05-Apr	0	3,093	4,124	0	1.31	0.10	48.11	*	0	0	0	0.0	0	0.00	0.00	0
06-Apr	0	3,319	4,425	0	1.40	0.11	51.63	*	0	0	0	0.0	0	0.00	0.00	0
07-Apr	0	3,401	4,535	0	1.44	0.11	52.91	*	0	0	0	0.0	0	0.00	0.00	0
08-Apr	0	3,701	4,935	0	1.56	0.12	57.58	*	0	0	0	0.0	0	0.00	0.00	0
09-Apr	0	4,062	5,416	0	1.72	0.14	63.19	*	0	0	0	0.0	0	0.00	0.00	0
10-Apr	0	3,884	5,179	0	1.64	0.13	60.42	*	0	0	0	0.0	0	0.00	0.00	0
11-Apr	0	1,683	2,244	0	0.71	0.06	26.18	*	0	0	0	0.0	0	0.00	0.00	0
12-Apr	0	3,272	4,363	0	1.38	0.11	50.90	*	0	0	0	0.0	0	0.00	0.00	0
13-Apr	0	3,025	4,033	0	1.28	0.10	47.05	*	0	0	0	0.0	0	0.00	0.00	0
14-Apr	0	3,800	5,067	0	1.60	0.13	59.12	*	0	0	233	0.0	0	0.07	0.01	2
15-Apr	0	1,929	2,572	0	0.81	0.06	30.01	*	202	4,498	5,681	0.0	373	11.02	3.64	76
16-Apr	0	2,725	3,633	0	1.15	0.09	42.39	*	288	6,260	1,957	0.0	969	24.61	9.13	95
17-Apr	0	2,506	3,341	0	1.06	0.08	38.98	*	302	7,404	611	0.0	1,268	31.58	11.91	109
18-Apr	0	3,066	4,088	0	1.29	0.10	47.69	*	262	6,772	2,025	0.0	1,047	26.55	9.87	102
19-Apr	0	1,993	2,657	0	0.84	0.07	31.00	*	199	6,037	565	0.0	1,021	25.45	9.59	89
20-Apr	0	246	328	0	0.10	0.01	3.83	*	165	8,411	207	0.0	1,447	35.88	13.57	121
21-Apr	0	0	0	0	0.00	0.00	0.00	*	162	7,239	240	0.0	1,244	30.87	11.67	105
22-Apr	0	0	0	0	0.00	0.00	0.00	*	178	7,092	412	0.0	1,209	30.05	11.34	103
23-Apr	0	0	0	0	0.00	0.00	0.00	*	241	6,294	290	0.0	1,093	27.14	10.25	92
24-Apr	0	0	0	0	0.00	0.00	0.00	*	304	8,023	969	0.0	1,347	33.65	12.65	119
25-Apr	0	0	0	0	0.00	0.00	0.00	*	256	6,891	196	0.0	1,204	29.87	11.30	101
26-Apr	0	0	0	0	0.00	0.00	0.00	*	221	6,724	211	0.0	1,161	28.81	10.89	97
27-Apr	0	0	0	0	0.00	0.00	0.00	*	210	6,340	459	0.0	1,083	26.94	10.16	93
28-Apr	0	0	0	0	0.00	0.00	0.00	*	180	6,269	302	0.0	1,077	26.76	10.11	91
29-Apr	0	0	0	0	0.00	0.00	0.00	*	183	6,272	225	0.0	1,084	26.90	10.17	91
30-Apr	0	0	0	0	0.00	0.00	0.00	*	177	6,364	1,952	0.0	968	24.58	9.13	95
01-May	0	0	0	0	0.00	0.00	0.00	*	187	8,576	219	0.0	1,478	36.66	13.86	124
02-May	0	0	0	0	0.00	0.00	0.00	*	176	8,687	205	0.0	1,496	37.10	14.03	125
03-May	0	0	0	0	0.00	0.00	0.00	*	158	8,748	201	0.0	1,504	37.29	14.10	126
04-May	0	0	0	0	0.00	0.00	0.00	*	153	8,841	203	0.0	1,519	37.66	14.24	127
05-May	0	0	0	0	0.00	0.00	0.00	*	160	7,894	209	0.0	1,358	33.68	12.74	114
06-May	0	0	0	0	0.00	0.00	0.00	*	183	7,799	207	0.0	1,346	33.38	12.62	113

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GEORGIA-PACIFIC CORPORATION
SOUTHERN PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

P A P E R M I L L U T I L I T Y R E P O R T

Daily Meter Readings/Production Trends

	6A Boiler								9A Boiler					
	S/B	Steam	Gas	Oil					S/B	Steam	Gas	Rubber	Bark	
	MLbs	MLbs	Mcf	Bbls					MLbs	MLbs	Mcf	Tons	Tons	
PM10EF			7.60E-03	NA							7.60E-03	5.64E+00	5.94E-01	
SO2 EF			6.00E-04	NA	Calculated lbs/hr						6.00E-04	3.08E+01	2.25E-01	Calculated lbs/hr
NOX EF			2.80E-01	NA	PM	SO2	Nox				1.90E-01	1.98E+00	1.98E+00	PM SO2 Nox
07-May	0	0	0	0	0.00	0.00	0.00	*	201	7,041	287	0.0	1,214	* 30.13 11.39 102
08-May	0	0	0	0	0.00	0.00	0.00	*	175	8,283	201	0.0	1,428	* 35.40 13.39 119
09-May	0	0	0	0	0.00	0.00	0.00	*	139	8,767	207	0.0	1,509	* 37.41 14.15 126
10-May	0	0	0	0	0.00	0.00	0.00	*	156	8,784	546	0.0	1,484	* 36.90 13.92 127
11-May	0	3,050	4,067	0	1.29	0.10	47.45	*	183	6,803	465	0.0	1,157	* 28.77 10.85 99
12-May	0	5,829	7,772	0	2.46	0.19	90.67	*	247	10,766	1,982	0.0	1,729	* 43.42 16.26 158
13-May	0	2,822	3,763	0	1.19	0.09	43.90	*	231	8,968	219	0.0	1,553	* 38.50 14.56 130
14-May	0	0	0	0	0.00	0.00	0.00	*	31	824	367	0.0	118	* 3.04 1.12 13
15-May	0	0	0	0	0.00	0.00	0.00	*	0	20	119	0.0	0	* 0.04 0.00 1
16-May	0	0	0	0	0.00	0.00	0.00	*	26	907	1,034	0.0	81	* 2.33 0.79 15
17-May	0	0	0	0	0.00	0.00	0.00	*	166	7,864	1,058	0.0	1,290	* 32.26 12.12 115
18-May	0	2,073	2,764	0	0.88	0.07	32.25	*	151	9,651	537	0.0	1,631	* 40.55 15.31 139
19-May	0	2,960	3,947	0	1.25	0.10	46.05	*	164	9,536	972	0.0	1,581	* 39.44 14.85 138
20-May	0	1,800	2,400	0	0.76	0.06	28.00	*	79	6,422	2,498	0.0	920	* 23.57 8.69 96
21-May	0	2,033	2,710	0	0.86	0.07	31.62	*	247	7,800	836	0.0	1,310	* 32.67 12.30 115
22-May	0	430	573	0	0.18	0.01	6.69	*	239	7,274	244	0.0	1,263	* 31.34 11.85 106
23-May	0	0	0	0	0.00	0.00	0.00	*	198	7,855	494	0.0	1,336	* 33.23 12.54 114
24-May	0	0	0	0	0.00	0.00	0.00	*	231	6,383	207	0.0	1,113	* 27.60 10.44 93
25-May	0	0	0	0	0.00	0.00	0.00	*	235	7,842	335	0.0	1,352	* 33.58 12.69 114
26-May	0	0	0	0	0.00	0.00	0.00	*	177	6,497	359	0.0	1,111	* 27.62 10.43 95
27-May	0	0	0	0	0.00	0.00	0.00	*	186	6,535	209	0.0	1,131	* 28.05 10.61 95
28-May	0	1,640	2,187	0	0.69	0.05	25.52	*	40	2,796	586	0.0	440	* 11.06 4.13 41
29-May	0	2,399	3,199	0	1.01	0.08	37.32	*	0	0	0	0.0	0	* 0.00 0.00 0
30-May	0	1,993	2,658	0	0.84	0.07	31.01	*	0	0	0	0.0	0	* 0.00 0.00 0
31-May	0	2,594	3,459	0	1.10	0.09	40.36	*	27	1,293	465	0.0	190	* 4.85 1.79 19
01-Jun	0	169	225	0	0.07	0.01	2.63	*	98	8,250	339	0.0	1,398	* 34.72 13.12 118
02-Jun	0	0	0	0	0.00	0.00	0.00	*	139	8,263	1,021	0.0	1,356	* 33.89 12.74 120
03-Jun	0	0	0	0	0.00	0.00	0.00	*	113	7,716	440	0.0	1,302	* 32.37 12.22 111
04-Jun	0	0	0	0	0.00	0.00	0.00	*	159	7,126	987	0.0	1,168	* 29.22 10.98 104
05-Jun	0	2,477	3,303	0	1.05	0.08	38.54	*	49	1,158	784	0.0	147	* 3.88 1.39 18
06-Jun	0	0	0	0	0.00	0.00	0.00	*	164	6,298	198	0.0	1,087	* 26.97 10.20 91
07-Jun	0	0	0	0	0.00	0.00	0.00	*	182	6,161	203	0.0	1,067	* 26.46 10.00 90

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GEORGIA-PACIFIC CORPORATION
SOUTHERN PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

PAPER MILL UTILITY REPORT

Daily Meter Readings/Production Trends

	6A Boiler								9A Boiler								
	S/B	Steam	Gas	Oil				S/B	Steam	Gas	Rubber	Bark					
	MLbs	MLbs	Mcf	Bbls				MLbs	MLbs	Mcf	Tons	Tons					
PM10EF			7.60E-03	NA						7.60E-03	5.64E+00	5.94E-01					
SO2 EF			6.00E-04	NA	Calculated lbs/hr					6.00E-04	3.08E+01	2.25E-01	Calculated lbs/hr				
NOX EF			2.80E-01	NA	PM	SO2	Nox			1.90E-01	1.98E+00	1.98E+00	PM	SO2	Nox		
08-Jun	0	0	0	0	0.00	0.00	0.00	*	172	7,541	206	0.0	1,300	*	32.24	12.19	109
09-Jun	0	0	0	0	0.00	0.00	0.00	*	170	7,467	213	0.0	1,287	*	31.91	12.07	108
10-Jun	0	0	0	0	0.00	0.00	0.00	*	179	7,159	214	0.0	1,236	*	30.65	11.59	104
11-Jun	0	0	0	0	0.00	0.00	0.00	*	155	7,148	223	0.0	1,229	*	30.49	11.53	103
12-Jun	0	0	0	0	0.00	0.00	0.00	*	144	6,491	217	0.0	1,115	*	27.67	10.46	94
13-Jun	0	0	0	0	0.00	0.00	0.00	*	141	5,062	359	0.0	860	*	21.41	8.08	74
14-Jun	0	0	0	0	0.00	0.00	0.00	*	232	2,532	394	0.0	902	*	22.46	8.47	78
15-Jun	0	0	0	0	0.00	0.00	0.00	*	196	5,967	222	0.0	1,035	*	25.67	9.70	87
16-Jun	0	0	0	0	0.00	0.00	0.00	*	202	6,765	272	0.0	1,168	*	28.99	10.96	99
17-Jun	0	0	0	0	0.00	0.00	0.00	*	175	6,412	395	0.0	1,094	*	27.20	10.26	93
18-Jun	0	0	0	0	0.00	0.00	0.00	*	169	6,240	214	0.0	1,077	*	26.73	10.10	91
19-Jun	0	0	0	0	0.00	0.00	0.00	*	233	6,018	211	0.0	1,050	*	26.06	9.85	88
20-Jun	0	0	0	0	0.00	0.00	0.00	*	150	5,947	215	0.0	1,024	*	25.41	9.60	86
21-Jun	0	0	0	0	0.00	0.00	0.00	*	154	7,139	1,081	0.0	1,162	*	29.11	10.92	104
22-Jun	0	0	0	0	0.00	0.00	0.00	*	184	7,556	214	0.0	1,304	*	32.34	12.23	109
23-Jun	0	0	0	0	0.00	0.00	0.00	*	153	7,135	220	0.0	1,227	*	30.43	11.50	103
24-Jun	0	0	0	0	0.00	0.00	0.00	*	166	6,206	270	0.0	1,067	*	26.48	10.01	90
25-Jun	0	0	0	0	0.00	0.00	0.00	*	191	6,251	212	0.0	1,083	*	26.87	10.16	91
26-Jun	0	0	0	0	0.00	0.00	0.00	*	146	6,309	280	0.0	1,080	*	26.82	10.13	91
27-Jun	0	0	0	0	0.00	0.00	0.00	*	210	6,661	316	0.0	1,148	*	28.52	10.77	97
28-Jun	0	0	0	0	0.00	0.00	0.00	*	153	7,099	377	0.0	1,209	*	30.03	11.34	103
29-Jun	0	0	0	0	0.00	0.00	0.00	*	156	7,763	204	0.0	1,335	*	33.12	12.52	112
30-Jun	0	0	0	0	0.00	0.00	0.00	*	141	6,962	225	0.0	1,195	*	29.64	11.21	100
01-Jul	0	0	0	0	0.00	0.00	0.00	*	145	6,523	225	0.0	1,120	*	27.80	10.51	94
02-Jul	0	0	0	0	0.00	0.00	0.00	*	146	5,901	232	0.0	1,014	*	25.17	9.51	85
03-Jul	0	0	0	0	0.00	0.00	0.00	*	127	5,710	229	0.0	978	*	24.29	9.18	83
04-Jul	0	443	635	0	0.20	0.02	7.41	*	106	6,237	639	0.0	1,034	*	25.79	9.71	90
05-Jul	0	1,369	1,589	0	0.50	0.04	18.54	*	139	8,497	1,503	0.0	1,360	*	34.13	12.78	124
06-Jul	0	860	939	0	0.30	0.02	10.96	*	51	4,101	2,649	0.0	508	*	13.42	4.83	63
07-Jul	0	3,338	3,493	0	1.11	0.09	40.75	*	2	153	457	0.0	0	*	0.14	0.01	4
08-Jul	0	48	69	0	0.02	0.00	0.81	*	134	7,077	1,417	0.0	1,123	*	28.24	10.56	104
09-Jul	0	3,340	3,573	0	1.13	0.09	41.69	*	125	11,534	4,367	0.0	1,659	*	42.44	15.66	171

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GEORGIA-PACIFIC CORPORATION
SOUTHERN PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

P A P E R M I L L U T I L I T Y R E P O R T

Daily Meter Readings/Production Trends

6A Boiler								9A Boiler					*			
	S/B	Steam	Gas	Oil				*	S/B	Steam	Gas	Rubber	Bark	*		
	MLbs	MLbs	Mcf	Bbls				*	MLbs	MLbs	Mcf	Tons	Tons	*		
PM10EF			7.60E-03	NA							7.60E-03	5.64E+00	5.94E-01			
SO2 EF			6.00E-04	NA	Calculated lbs/hr						6.00E-04	3.08E+01	2.25E-01	Calculated lbs/hr		
NOX EF			2.80E-01	NA	PM	SO2	Nox				1.90E-01	1.98E+00	1.98E+00	PM	SO2	Nox
10-Jul	0	3,778	4,026	0	1.27	0.10	46.97	*	112	9,544	5,021	0.0	1,268	32.97	12.01	144
11-Jul	0	262	921	0	0.29	0.02	10.75	*	138	9,970	2,586	0.0	1,529	38.66	14.40	147
12-Jul	0	0	0	0	0.00	0.00	0.00	*	153	6,958	228	0.0	1,196	29.67	11.22	100
13-Jul	0	0	0	0	0.00	0.00	0.00	*	216	7,547	206	0.0	1,309	32.45	12.27	110
14-Jul	0	0	0	0	0.00	0.00	0.00	*	169	8,556	370	0.0	1,460	36.26	13.70	123
15-Jul	0	0	0	0	0.00	0.00	0.00	*	141	6,115	257	0.0	1,048	26.01	9.83	88
16-Jul	0	0	0	0	0.00	0.00	0.00	*	155	6,917	217	0.0	1,190	29.52	11.16	100
17-Jul	0	0	0	0	0.00	0.00	0.00	*	144	8,001	293	0.0	1,367	33.93	12.83	115
18-Jul	0	0	0	0	0.00	0.00	0.00	*	192	6,376	680	0.0	1,069	26.67	10.04	94
19-Jul	0	0	0	0	0.00	0.00	0.00	*	122	7,858	1,058	0.0	1,282	32.07	12.05	114
20-Jul	0	0	0	0	0.00	0.00	0.00	*	141	7,499	252	0.0	1,284	31.86	12.05	108
21-Jul	0	0	0	0	0.00	0.00	0.00	*	139	6,757	1,515	0.0	1,062	26.76	9.99	100
22-Jul	0	0	0	0	0.00	0.00	0.00	*	126	7,091	1,248	0.0	1,213	30.42	11.41	110
23-Jul	0	856	1,391	0	0.44	0.03	16.23	*	138	8,960	585	0.0	1,508	37.50	14.15	129
24-Jul	0	1,029	1,229	0	0.39	0.03	14.34	*	150	7,634	247	0.0	1,309	32.48	12.28	110
25-Jul	0	0	0	0	0.00	0.00	0.00	*	146	8,435	223	0.0	1,447	35.88	13.57	121
26-Jul	0	0	0	0	0.00	0.00	0.00	*	152	7,090	997	0.0	1,160	29.03	10.90	104
27-Jul	0	0	0	0	0.00	0.00	0.00	*	127	7,336	789	0.0	1,213	30.28	11.40	106
28-Jul	0	0	0	0	0.00	0.00	0.00	*	124	5,381	230	0.0	922	22.88	8.65	78
29-Jul	0	0	0	0	0.00	0.00	0.00	*	124	5,265	230	0.0	902	22.39	8.46	76
30-Jul	0	0	0	0	0.00	0.00	0.00	*	121	8,263	360	0.0	1,403	34.84	13.16	119
31-Jul	0	0	0	0	0.00	0.00	0.00	*	108	6,858	294	0.0	1,166	28.95	10.94	99
01-Aug	0	0	0	0	0.00	0.00	0.00	*	162	8,321	230	0.0	1,397	34.65	13.10	117
02-Aug	0	607	796	0	0.25	0.02	9.29	*	143	9,488	1,776	0.0	1,474	37.05	13.86	136
03-Aug	0	0	0	0	0.00	0.00	0.00	*	128	7,776	342	0.0	1,292	32.09	12.12	109
04-Aug	0	3,528	4,704	0	1.49	0.12	54.88	*	155	9,692	1,231	0.0	1,550	38.76	14.57	138
05-Aug	0	1,369	1,546	0	0.49	0.04	18.04	*	141	8,491	1,172	0.0	1,352	33.84	12.71	121
06-Aug	0	0	0	0	0.00	0.00	0.00	*	190	7,022	215	0.0	1,186	29.42	11.13	100
07-Aug	0	0	0	0	0.00	0.00	0.00	*	129	5,854	237	0.0	980	24.32	9.19	83
08-Aug	0	0	0	0	0.00	0.00	0.00	*	128	5,309	351	0.0	880	21.90	8.26	75
09-Aug	0	0	0	0	0.00	0.00	0.00	*	171	7,320	230	0.0	1,232	30.55	11.55	103
10-Aug	0	0	0	0	0.00	0.00	0.00	*	135	6,295	508	0.0	1,034	25.76	9.71	89

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SOUTHERN PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

PAPER MILL UTILITY REPORT

Daily Meter Readings/Production Trends

6A Boiler								9A Boiler					*	
-----								-----					*	
	S/B	Steam	Gas	Oil				*	S/B	Steam	Gas	Rubber	Bark	*
	MLbs	MLbs	Mcf	Bbls				*	MLbs	MLbs	Mcf	Tons	Tons	*
PM10EF			7.60E-03	NA							7.60E-03	5.64E+00	5.94E-01	
SO2 EF			6.00E-04	NA	Calculated lbs/hr						6.00E-04	3.08E+01	2.25E-01	Calculated lbs/hr
NOX EF			2.80E-01	NA	PM	SO2	Nox				1.90E-01	1.98E+00	1.98E+00	PM SO2 Nox
11-Aug	0	0	0	0	0.00	0.00	0.00	*	136	6,874	299	0.0	1,146	* 28.46 10.75 97
12-Aug	0	0	0	0	0.00	0.00	0.00	*	132	6,825	215	0.0	1,144	* 28.37 10.73 96
13-Aug	0	0	0	0	0.00	0.00	0.00	*	140	6,969	218	0.0	1,169	* 29.00 10.96 98
14-Aug	0	0	0	0	0.00	0.00	0.00	*	155	7,328	250	0.0	1,229	* 30.49 11.53 103
15-Aug	0	0	0	0	0.00	0.00	0.00	*	175	6,698	308	0.0	1,123	* 27.89 10.53 95
16-Aug	0	0	0	0	0.00	0.00	0.00	*	132	7,698	255	0.0	1,286	* 31.91 12.06 108
17-Aug	0	2,776	3,174	0	1.01	0.08	37.03	*	13	1,168	245	0.0	179	* 4.50 1.68 17
18-Aug	0	3,459	4,612	0	1.46	0.12	53.81	*	0	0	0	0.0	0	* 0.00 0.00 0
19-Aug	0	3,548	4,731	0	1.50	0.12	55.20	*	0	0	0	0.0	0	* 0.00 0.00 0
20-Aug	0	3,600	4,700	0	1.49	0.12	54.83	*	0	0	0	0.0	0	* 0.00 0.00 0
21-Aug	0	3,444	4,592	0	1.45	0.11	53.57	*	0	0	0	0.0	0	* 0.00 0.00 0
22-Aug	0	3,884	5,178	0	1.64	0.13	60.41	*	49	877	1,226	0.0	60	* 1.87 0.59 15
23-Aug	0	150	182	0	0.06	0.00	2.12	*	148	5,284	4,276	0.0	590	* 15.95 5.64 83
24-Aug	0	0	0	0	0.00	0.00	0.00	*	127	6,055	4,305	0.0	713	* 19.00 6.79 93
25-Aug	0	0	0	0	0.00	0.00	0.00	*	130	6,222	1,000	0.0	985	* 24.69 9.26 89
26-Aug	0	0	0	0	0.00	0.00	0.00	*	123	5,560	294	0.0	925	* 23.00 8.68 79
27-Aug	0	0	0	0	0.00	0.00	0.00	*	153	6,772	235	0.0	1,137	* 28.21 10.66 96
28-Aug	0	0	0	0	0.00	0.00	0.00	*	149	6,539	156	0.0	1,103	* 27.35 10.35 92
29-Aug	0	0	0	0	0.00	0.00	0.00	*	163	7,470	225	0.0	1,256	* 31.15 11.78 105
30-Aug	0	0	0	0	0.00	0.00	0.00	*	159	6,215	206	0.0	1,047	* 25.98 9.82 88
31-Aug	0	0	0	0	0.00	0.00	0.00	*	140	7,084	140	0.0	1,187	* 29.43 11.13 99
01-Sep	0	0	0	0	0.00	0.00	0.00	*	144	7,252	223	0.0	1,216	* 30.17 11.41 102
02-Sep	0	0	0	0	0.00	0.00	0.00	*	118	8,853	341	0.0	1,470	* 36.49 13.79 124
03-Sep	0	0	0	0	0.00	0.00	0.00	*	133	8,247	229	0.0	1,380	* 34.22 12.94 116
04-Sep	0	0	0	0	0.00	0.00	0.00	*	133	7,544	229	0.0	1,263	* 31.32 11.84 106
05-Sep	0	0	0	0	0.00	0.00	0.00	*	72	6,362	232	0.0	1,055	* 26.19 9.90 89
06-Sep	0	0	0	0	0.00	0.00	0.00	*	156	5,871	234	0.0	987	* 24.51 9.26 83
07-Sep	0	0	0	0	0.00	0.00	0.00	*	135	6,027	223	0.0	1,011	* 25.08 9.48 85
08-Sep	0	0	0	0	0.00	0.00	0.00	*	136	7,399	229	0.0	1,239	* 30.74 11.62 104
09-Sep	0	0	0	0	0.00	0.00	0.00	*	197	8,017	832	0.0	1,308	* 32.63 12.28 114
10-Sep	0	0	0	0	0.00	0.00	0.00	*	160	6,368	211	0.0	1,072	* 26.61 10.06 90
11-Sep	0	0	0	0	0.00	0.00	0.00	*	202	7,699	655	0.0	1,268	* 31.60 11.91 110

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GEORGIA-PACIFIC CORPORATION
SOUTHERN PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

P A P E R M I L L U T I L I T Y R E P O R T

Daily Meter Readings/Production Trends

6A Boiler								9A Boiler					*				
	S/B	Steam	Gas	Oil				*	S/B	Steam	Gas	Rubber	Bark	*			
	MLbs	MLbs	Mcf	Bbls				*	MLbs	MLbs	Mcf	Tons	Tons	*			
PM10EF			7.60E-03	NA							7.60E-03	5.64E+00	5.94E-01				
SO2 EF			6.00E-04	NA	Calculated lbs/hr						6.00E-04	3.08E+01	2.25E-01	Calculated lbs/hr			
NOX EF			2.80E-01	NA	PM	SO2	Nox				1.90E-01	1.98E+00	1.98E+00	PM	SO2	Nox	
12-Sep	0	0	0	0	0.00	0.00	0.00	*	200	6,649	1,165	0.0	1,056	*	26.49	9.92	96
13-Sep	0	649	1,201	0	0.38	0.03	14.01	*	79	7,627	2,638	0.0	1,090	*	27.80	10.28	111
14-Sep	0	0	0	0	0.00	0.00	0.00	*	174	5,844	727	0.0	949	*	23.73	8.92	84
15-Sep	0	0	0	0	0.00	0.00	0.00	*	180	5,955	814	0.0	962	*	24.08	9.04	86
16-Sep	0	0	0	0	0.00	0.00	0.00	*	158	5,428	1,202	0.0	842	*	21.23	7.93	79
17-Sep	0	0	0	0	0.00	0.00	0.00	*	203	5,656	1,084	0.0	897	*	22.53	8.43	83
18-Sep	0	0	0	0	0.00	0.00	0.00	*	128	6,277	1,243	0.0	976	*	24.54	9.18	90
19-Sep	0	0	0	0	0.00	0.00	0.00	*	139	5,408	636	0.0	878	*	21.92	8.24	77
20-Sep	0	0	0	0	0.00	0.00	0.00	*	142	7,408	1,173	0.0	1,172	*	29.37	11.01	106
21-Sep	0	0	0	0	0.00	0.00	0.00	*	158	5,819	1,554	0.0	881	*	22.31	8.30	85
22-Sep	0	0	0	0	0.00	0.00	0.00	*	137	5,763	1,201	0.0	895	*	22.52	8.42	83
23-Sep	0	0	0	0	0.00	0.00	0.00	*	155	5,724	586	0.0	937	*	23.37	8.80	82
24-Sep	0	0	0	0	0.00	0.00	0.00	*	268	8,403	2,200	0.0	1,283	*	32.45	12.08	123
25-Sep	0	0	0	0	0.00	0.00	0.00	*	275	7,007	1,232	0.0	1,123	*	28.18	10.56	102
26-Sep	0	0	0	0	0.00	0.00	0.00	*	201	5,744	1,207	0.0	902	*	22.70	8.48	84
27-Sep	0	0	0	0	0.00	0.00	0.00	*	149	3,059	626	0.0	488	*	12.29	4.60	45
28-Sep	0	0	0	0	0.00	0.00	0.00	*	224	4,133	697	0.0	675	*	16.92	6.34	61
29-Sep	0	0	0	0	0.00	0.00	0.00	*	280	5,367	792	0.0	883	*	22.10	8.30	79
30-Sep	0	0	0	0	0.00	0.00	0.00	*	254	5,732	1,203	0.0	909	*	22.88	8.55	85
01-Oct	0	0	0	0	0.00	0.00	0.00	*	211	5,891	1,460	0.0	909	*	22.97	8.56	87
02-Oct	0	0	0	0	0.00	0.00	0.00	*	107	3,830	439	0.0	624	*	15.58	5.86	55
03-Oct	0	0	0	0	0.00	0.00	0.00	*	107	5,019	439	0.0	822	*	20.49	7.72	71
04-Oct	0	0	0	0	0.00	0.00	0.00	*	125	5,572	465	0.0	915	*	22.80	8.59	79
05-Oct	0	0	0	0	0.00	0.00	0.00	*	297	5,190	209	0.0	899	*	22.32	8.43	76
06-Oct	0	0	0	0	0.00	0.00	0.00	*	255	5,717	1,833	0.0	860	*	21.87	8.11	85
07-Oct	0	0	0	0	0.00	0.00	0.00	*	194	5,614	7,819	0.0	391	*	12.15	3.86	94
08-Oct	0	1,378	1,608	0	0.51	0.04	18.76	*	57	3,244	4,341	0.0	230	*	7.06	2.26	53
09-Oct	0	2,745	3,089	0	0.98	0.08	36.04	*	0	0	0	0.0	0	*	0.00	0.00	0
10-Oct	0	2,792	3,059	0	0.97	0.08	35.69	*	0	0	0	0.0	0	*	0.00	0.00	0
11-Oct	0	3,000	3,307	0	1.05	0.08	38.58	*	0	0	0	0.0	0	*	0.00	0.00	0
12-Oct	0	3,000	3,307	0	1.05	0.08	38.58	*	0	0	0	0.0	0	*	0.00	0.00	0
13-Oct	0	3,000	3,307	0	1.05	0.08	38.58	*	0	0	0	0.0	0	*	0.00	0.00	0

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GEORGIA-PACIFIC CORPORATION
SOUTHERN PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

P A P E R M I L L U T I L I T Y R E P O R T

Daily Meter Readings/Production Trends

	6A Boiler								9A Boiler							
	S/B MLbs	Steam MLbs	Gas Mcf	Oil Bbls				S/B MLbs	Steam MLbs	Gas Mcf	Rubber Tons	Bark Tons				
PM10EF			7.60E-03	NA						7.60E-03	5.64E+00	5.94E-01				
SO2 EF			6.00E-04	NA	Calculated lbs/hr					6.00E-04	3.08E+01	2.25E-01	Calculated lbs/hr			
NOX EF			2.80E-01	NA	PM	SO2	Nox			1.90E-01	1.98E+00	1.98E+00	PM	SO2	Nox	
14-Oct	0	3,000	3,307	0	1.05	0.08	38.58	*	0	0	0	0.0	0	0.00	0.00	0
15-Oct	0	3,751	4,046	0	1.28	0.10	47.20	*	0	0	0	0.0	0	0.00	0.00	0
16-Oct	0	4,230	4,545	0	1.44	0.11	53.03	*	0	0	0	0.0	0	0.00	0.00	0
17-Oct	0	3,900	4,144	0	1.31	0.10	48.35	*	0	0	0	0.0	0	0.00	0.00	0
18-Oct	0	4,415	4,694	0	1.49	0.12	54.76	*	0	0	0	0.0	0	0.00	0.00	0
19-Oct	0	4,365	4,557	0	1.44	0.11	53.17	*	0	0	0	0.0	0	0.00	0.00	0
20-Oct	0	3,348	3,459	0	1.10	0.09	40.36	*	0	0	0	0.0	0	0.00	0.00	0
21-Oct	0	3,026	3,203	0	1.01	0.08	37.37	*	0	0	0	0.0	0	0.00	0.00	0
22-Oct	0	4,605	5,023	0	1.59	0.13	58.60	*	0	0	0	0.0	0	0.00	0.00	0
23-Oct	0	4,481	4,811	0	1.52	0.12	56.13	*	0	0	0	0.0	0	0.00	0.00	0
24-Oct	0	3,995	4,257	0	1.35	0.11	49.67	*	0	0	0	0.0	0	0.00	0.00	0
25-Oct	0	171	316	0	0.10	0.01	3.69	*	260	6,313	1,284	0.0	1,001	25.17	9.41	93
26-Oct	0	170	226	0	0.07	0.01	2.64	*	276	6,835	401	0.0	1,156	28.73	10.84	99
27-Oct	0	0	0	0	0.00	0.00	0.00	*	312	7,408	251	0.0	1,268	31.47	11.90	107
28-Oct	0	0	0	0	0.00	0.00	0.00	*	262	7,970	199	0.0	1,357	33.66	12.73	114
29-Oct	0	0	0	0	0.00	0.00	0.00	*	212	8,096	485	0.0	1,349	33.54	12.66	115
30-Oct	0	0	0	0	0.00	0.00	0.00	*	200	6,302	278	0.0	1,063	26.40	9.97	90
31-Oct	0	0	0	0	0.00	0.00	0.00	*	195	6,375	199	0.0	1,080	26.80	10.13	91
01-Nov	0	0	0	0	0.00	0.00	0.00	*	156	5,148	208	0.0	869	21.56	8.15	73
02-Nov	0	0	0	0	0.00	0.00	0.00	*	44	762	485	0.0	99	2.59	0.94	12
03-Nov	0	0	0	0	0.00	0.00	0.00	*	235	5,290	682	0.0	871	21.76	8.18	77
04-Nov	0	0	0	0	0.00	0.00	0.00	*	268	4,602	204	0.0	797	19.78	7.47	67
05-Nov	0	0	0	0	0.00	0.00	0.00	*	232	5,308	204	0.0	908	22.54	8.52	77
06-Nov	0	0	0	0	0.00	0.00	0.00	*	189	5,304	302	0.0	893	22.20	8.38	76
07-Nov	0	0	0	0	0.00	0.00	0.00	*	174	5,986	422	0.0	933	23.24	8.76	80
08-Nov	0	0	34	0	0.01	0.00	0.40	*	189	7,877	1,319	0.0	1,073	26.98	10.09	99
09-Nov	0	0	0	0	0.00	0.00	0.00	*	261	7,403	507	0.0	1,240	30.85	11.64	106
10-Nov	0	0	0	0	0.00	0.00	0.00	*	175	7,224	637	0.0	1,186	29.56	11.14	103
11-Nov	0	613	1,289	0	0.41	0.03	15.04	*	247	8,270	733	0.0	1,365	34.03	12.82	118
12-Nov	0	1,856	1,795	0	0.57	0.04	20.94	*	226	9,187	365	0.0	1,038	25.80	9.74	89
13-Nov	0	452	345	0	0.11	0.01	4.03	*	178	8,693	482	0.0	1,212	30.16	11.38	104
14-Nov	0	0	0	0	0.00	0.00	0.00	*	123	6,794	218	0.0	1,137	28.20	10.66	96

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GEORGIA-PACIFIC CORPORATION
SOUTHERN PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

P A P E R M I L L U T I L I T Y R E P O R T

Daily Meter Readings/Production Trends

6A Boiler								9A Boiler										
	S/B	Steam	Gas	Oil					S/B	Steam	Gas	Rubber	Bark					
	MLbs	MLbs	Mcf	Bbls					MLbs	MLbs	Mcf	Tons	Tons					
PM10EF			7.60E-03	NA	Calculated lbs/hr						7.60E-03	5.64E+00	5.94E-01	Calculated lbs/hr				
SO2 EF			6.00E-04	NA	PM	SO2	Nox				6.00E-04	3.08E+01	2.25E-01	PM	SO2	Nox		
NOX EF			2.80E-01	NA							1.90E-01	1.98E+00	1.98E+00					
15-Nov	0	0	0	0	0.00	0.00	0.00	*	125	6,807	212	0.0	1,140	*	28.27	10.69	96	
16-Nov	0	0	0	0	0.00	0.00	0.00	*	125	6,354	207	0.0	1,065	*	26.41	9.99	89	
17-Nov	0	0	0	0	0.00	0.00	0.00	*	109	7,040	242	0.0	1,174	*	29.12	11.01	99	
18-Nov	0	0	0	0	0.00	0.00	0.00	*	120	6,314	216	0.0	1,056	*	26.21	9.91	89	
19-Nov	0	0	0	0	0.00	0.00	0.00	*	113	7,104	554	0.0	1,162	*	28.93	10.91	100	
20-Nov	0	0	0	0	0.00	0.00	0.00	*	127	8,164	264	0.0	1,362	*	33.80	12.78	114	
21-Nov	0	0	0	0	0.00	0.00	0.00	*	70	8,224	1,237	0.0	1,367	*	34.22	12.85	123	
22-Nov	0	0	0	0	0.00	0.00	0.00	*	111	8,713	1,241	0.0	959	*	24.12	9.02	89	
23-Nov	0	0	0	0	0.00	0.00	0.00	*	122	9,131	1,113	0.0	973	*	24.43	9.15	89	
24-Nov	0	0	0	0	0.00	0.00	0.00	*	110	8,717	901	0.0	917	*	22.98	8.62	83	
25-Nov	0	0	0	0	0.00	0.00	0.00	*	118	8,619	632	0.0	923	*	23.05	8.67	81	
26-Nov	0	0	0	0	0.00	0.00	0.00	*	123	9,642	2,252	0.0	995	*	25.34	9.38	100	
27-Nov	0	0	0	0	0.00	0.00	0.00	*	124	6,515	1,001	0.0	1,033	*	25.87	9.71	93	
28-Nov	0	0	0	0	0.00	0.00	0.00	*	109	6,962	3,577	0.0	915	*	23.77	8.66	104	
29-Nov	0	425	582	0	0.18	0.01	6.79	*	49	7,615	10,093	0.0	532	*	16.37	5.24	124	
30-Nov	0	2,485	2,989	0	0.95	0.07	34.87	*	77	4,796	2,188	0.0	651	*	16.80	6.15	71	
01-Dec	0	0	0	0	0.00	0.00	0.00	*	75	8,189	768	0.0	1,321	*	32.93	12.40	115	
02-Dec	0	0	0	0	0.00	0.00	0.00	*	84	6,968	252	0.0	1,157	*	28.71	10.85	97	
03-Dec	0	0	0	0	0.00	0.00	0.00	*	106	8,295	715	0.0	1,347	*	33.57	12.65	117	
04-Dec	0	0	0	0	0.00	0.00	0.00	*	102	7,864	505	0.0	1,290	*	32.10	12.11	110	
05-Dec	0	0	0	0	0.00	0.00	0.00	*	108	6,116	379	0.0	1,009	*	25.10	9.47	86	
06-Dec	0	0	0	0	0.00	0.00	0.00	*	97	7,996	314	0.0	1,326	*	32.91	12.44	112	
07-Dec	0	0	0	0	0.00	0.00	0.00	*	98	7,158	309	0.0	1,187	*	29.46	11.13	100	
08-Dec	0	0	0	0	0.00	0.00	0.00	*	106	7,660	345	0.0	1,269	*	31.51	11.90	107	
09-Dec	0	0	0	0	0.00	0.00	0.00	*	97	8,098	346	0.0	1,340	*	33.28	12.57	113	
10-Dec	0	0	0	0	0.00	0.00	0.00	*	102	8,257	397	0.0	1,364	*	33.88	12.80	116	
11-Dec	0	0	0	0	0.00	0.00	0.00	*	98	8,735	1,240	0.0	1,381	*	34.56	12.97	124	
12-Dec	0	0	0	0	0.00	0.00	0.00	*	113	7,743	549	0.0	1,269	*	31.58	11.91	109	
13-Dec	0	0	0	0	0.00	0.00	0.00	*	104	8,202	1,966	0.0	1,239	*	31.29	11.67	118	
14-Dec	0	0	0	0	0.00	0.00	0.00	*	120	8,168	1,468	0.0	1,273	*	31.97	11.97	117	
15-Dec	0	2,398	2,730	0	0.86	0.07	31.85	*	138	9,803	3,706	0.0	1,383	*	35.41	13.06	143	
16-Dec	0	899	1,298	0	0.41	0.03	15.14	*	127	7,987	1,234	0.0	1,261	*	31.61	11.86	114	

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GEORGIA-PACIFIC CORPORATION
SOUTHERN PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

P A P E R M I L L U T I L I T Y R E P O R T

Daily Meter Readings/Production Trends

	6A Boiler							*	9A Boiler					*			
	S/B	Steam	Gas	Oil					S/B	Steam	Gas	Rubber	Bark				
	MLbs	MLbs	Mcf	Bbls					MLbs	MLbs	Mcf	Tons	Tons				
PM10EF			7.60E-03	NA						7.60E-03	5.64E+00	5.94E-01					
SO2 EF			6.00E-04	NA	Calculated lbs/hr					6.00E-04	3.08E+01	2.25E-01		Calculated lbs/hr			
NOX EF			2.80E-01	NA	PM	SO2	Nox			1.90E-01	1.98E+00	1.98E+00		PM	SO2	Nox	
17-Dec	0	0	0	0	0.00	0.00	0.00	*	135	9,204	3,184	0.0	1,322	*	33.72	12.47	134
18-Dec	0	0	0	0	0.00	0.00	0.00	*	135	8,377	1,367	0.0	1,318	*	33.05	12.39	120
19-Dec	0	0	0	0	0.00	0.00	0.00	*	125	7,977	941	0.0	1,281	*	32.00	12.03	113
20-Dec	0	2,977	3,321	0	1.05	0.08	38.75	*	137	10,575	3,108	0.0	1,556	*	39.49	14.66	153
21-Dec	0	2,466	2,703	0	0.86	0.07	31.54	*	127	10,465	2,088	0.0	1,611	*	40.54	15.16	149
22-Dec	0	0	0	0	0.00	0.00	0.00	*	133	10,086	2,404	0.0	1,526	*	38.52	14.36	145
23-Dec	0	0	0	0	0.00	0.00	0.00	*	129	9,531	1,509	0.0	1,499	*	37.57	14.09	136
24-Dec	0	0	0	0	0.00	0.00	0.00	*	143	8,220	957	0.0	1,323	*	33.05	12.43	117
25-Dec	0	0	0	0	0.00	0.00	0.00	*	141	6,082	186	0.0	1,023	*	25.39	9.60	86
26-Dec	0	0	0	0	0.00	0.00	0.00	*	135	6,736	236	0.0	1,128	*	27.99	10.58	95
27-Dec	0	0	54	0	0.02	0.00	0.63	*	121	8,277	2,248	0.0	1,234	*	31.25	11.62	120
28-Dec	0	3,241	4,321	0	1.37	0.11	50.41	*	131	9,902	2,640	0.0	1,477	*	37.40	13.92	143
29-Dec	0	2,591	2,718	0	0.86	0.07	31.71	*	105	8,993	946	0.0	1,447	*	36.10	13.58	127
			7772		2.46	0	91								43	16	171

GEORGIA-PACIFIC CORPORATION
PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

PAPER MILL UTILITY REPORT

6A Boiler								9A Boiler								
DATE	S/B MLbs	Steam MLbs	Gas Mcf	Oil Bbls	Calculated lbs/hr			S/B MLbs	Steam MLbs	Gas Mcf	Rubber Tons	Bark Tons	Calculated lbs/hr			
PM10EF			7.60E-03	NA						7.60E-03	5.64E+00	5.94E-01				
SO2 EF			6.00E-04	NA						6.00E-04	3.08E+01	2.25E-01				
NOX EF			2.80E-01	NA	PM	SO2	Nox			9.91E-02	1.98E+00	1.98E+00		PM	SO2	Nox
30-Dec	0	734	751	0	0.24	0.02	8.76	109	7,957	1,307	0.0	1,248	31.30	11.73	108	
31-Dec	0	0	0	0	0.00	0.00	0.00	87	8,536	342	0.0	1,412	35.05	13.25	118	
01-Jan	0	0	0	0	0.00	0.00	0.00	111	8,733	418	0.0	1,443	35.85	13.54	121	
02-Jan	0	0	0	0	0.00	0.00	0.00	111	9,032	1,438	0.0	1,418	35.54	13.33	123	
03-Jan	0	0	0	0	0.00	0.00	0.00	111	9,862	1,545	0.0	1,548	38.81	14.55	134	
04-Jan	0	0	0	0	0.00	0.00	0.00	134	9,140	1,198	0.0	1,457	36.45	13.69	125	
05-Jan	0	0	0	0	0.00	0.00	0.00	156	9,512	1,274	0.0	1,517	37.96	14.26	130	
06-Jan	0	0	0	0	0.00	0.00	0.00	151	9,787	1,521	0.0	1,544	38.70	14.51	134	
07-Jan	0	1,323	1,561	0	0.49	0.04	18.21	159	9,459	1,409	0.0	1,499	37.55	14.09	129	
08-Jan	0	1,878	2,067	0	0.65	0.05	24.12	129	9,273	431	0.0	1,535	38.13	14.40	128	
09-Jan	0	0	0	0	0.00	0.00	0.00	125	8,072	388	0.0	1,338	33.23	12.55	112	
10-Jan	0	0	0	0	0.00	0.00	0.00	110	7,207	284	0.0	1,199	29.75	11.24	100	
11-Jan	0	0	0	0	0.00	0.00	0.00	127	6,783	212	0.0	1,136	28.18	10.66	95	
12-Jan	0	0	0	0	0.00	0.00	0.00	129	8,784	370	0.0	1,458	36.21	13.68	122	
13-Jan	0	0	0	0	0.00	0.00	0.00	128	10,578	1,584	0.0	1,667	41.77	15.67	144	
14-Jan	0	0	0	0	0.00	0.00	0.00	129	8,329	240	0.0	1,392	34.53	13.06	116	
15-Jan	0	0	0	0	0.00	0.00	0.00	140	9,381	265	0.0	1,567	38.87	14.70	130	
16-Jan	0	0	0	0	0.00	0.00	0.00	133	7,991	499	0.0	1,317	32.76	12.36	111	
17-Jan	0	0	0	0	0.00	0.00	0.00	162	9,263	583	0.0	1,528	38.00	14.34	128	
18-Jan	0	0	0	0	0.00	0.00	0.00	135	10,066	1,222	0.0	1,610	40.23	15.12	138	
19-Jan	0	3,569	3,975	0	1.26	0.10	46.38	47	2,564	2,364	0.0	261	7.20	2.50	31	
20-Jan	0	4,739	5,156	0	1.63	0.13	60.15	0	221	423	0.0	6	0.27	0.06	2	
21-Jan	0	770	1,157	0	0.37	0.03	13.50	124	8,655	845	0.0	1,401	34.94	13.15	119	
22-Jan	0	1,528	1,501	0	0.48	0.04	17.51	115	7,108	2,990	0.0	983	25.28	9.29	93	
23-Jan	0	0	0	0	0.00	0.00	0.00	120	5,803	253	0.0	969	24.05	9.09	81	
24-Jan	0	0	0	0	0.00	0.00	0.00	157	7,576	1,207	0.0	1,200	30.08	11.28	104	
25-Jan	0	0	0	0	0.00	0.00	0.00	111	9,795	1,702	0.0	1,525	38.29	14.34	133	
26-Jan	0	0	0	0	0.00	0.00	0.00	106	9,388	582	0.0	1,539	38.28	14.45	129	
27-Jan	0	32	211	0	0.07	0.01	2.46	106	8,291	287	0.0	1,378	34.20	12.93	115	
28-Jan	0	2,490	2,609	0	0.83	0.07	30.44	153	7,591	485	0.0	1,255	31.21	11.78	106	
29-Jan	0	0	0	0	0.00	0.00	0.00	130	7,142	446	0.0	1,179	29.32	11.07	99	
30-Jan	0	0	0	0	0.00	0.00	0.00	142	7,258	230	0.0	1,216	30.18	11.41	101	
31-Jan	0	0	0	0	0.00	0.00	0.00	131	8,914	1,152	0.0	1,422	35.57	13.36	122	
01-Feb	0	1,529	1,782	0	0.56	0.04	20.79	151	10,937	2,650	0.0	1,652	41.74	15.56	147	
02-Feb	0	0	0	0	0.00	0.00	0.00	127	10,209	1,133	0.0	1,639	40.93	15.39	140	
03-Feb	0	0	0	0	0.00	0.00	0.00	115	9,884	1,594	0.0	1,549	38.84	14.56	134	

GEORGIA-PACIFIC CORPORATION
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6A Boiler								9A Boiler							
DATE	S/B MLbs	Steam MLbs	Gas Mcf	Oil Bbls	Calculated lbs/hr			S/B MLbs	Steam MLbs	Gas Mcf	Rubber Tons	Bark Tons	Calculated lbs/hr		
					PM	SO2	Nox						PM	SO2	Nox
PM10EF			7.60E-03	NA						7.60E-03	5.64E+00	5.94E-01			
SO2 EF			6.00E-04	NA						6.00E-04	3.08E+01	2.25E-01			
NOX EF			2.80E-01	NA						9.91E-02	1.98E+00	1.98E+00			
04-Feb	0	0	0	0	0.00	0.00	0.00	145	8,885	955	0.0	1,435	35.81	13.47	122
05-Feb	0	0	0	0	0.00	0.00	0.00	147	8,700	1,515	0.0	1,363	34.21	12.81	119
06-Feb	0	2,438	2,576	0	0.82	0.06	30.05	151	10,041	2,371	0.0	1,524	38.46	14.34	135
07-Feb	0	2,426	2,419	0	0.77	0.06	28.22	121	9,410	2,035	0.0	1,438	36.24	13.54	127
08-Feb	0	0	0	0	0.00	0.00	0.00	125	9,023	2,694	0.0	1,326	33.67	12.50	121
09-Feb	0	0	0	0	0.00	0.00	0.00	106	9,514	771	0.0	1,546	38.52	14.52	131
10-Feb	0	0	0	0	0.00	0.00	0.00	134	9,804	705	0.0	1,604	39.93	15.06	135
11-Feb	0	0	0	0	0.00	0.00	0.00	101	9,752	4,523	0.0	1,308	33.81	12.38	127
12-Feb	0	0	0	0	0.00	0.00	0.00	96	7,877	1,107	0.0	1,247	31.22	11.72	107
13-Feb	0	784	881	0	0.28	0.02	10.28	110	7,980	2,189	0.0	1,187	30.07	11.18	107
14-Feb	0	640	787	0	0.25	0.02	9.18	99	8,531	1,165	0.0	1,352	33.84	12.71	116
15-Feb	0	0	0	0	0.00	0.00	0.00	139	9,123	925	0.0	1,475	36.81	13.86	126
16-Feb	0	0	0	0	0.00	0.00	0.00	113	9,045	1,369	0.0	1,425	35.71	13.40	123
17-Feb	0	0	0	0	0.00	0.00	0.00	127	10,094	1,962	0.0	1,559	39.20	14.66	137
18-Feb	0	0	0	0	0.00	0.00	0.00	118	9,677	2,158	0.0	1,473	37.15	13.87	130
19-Feb	0	0	0	0	0.00	0.00	0.00	115	9,695	2,497	0.0	1,451	36.70	13.66	130
20-Feb	0	0	0	0	0.00	0.00	0.00	154	7,506	1,265	0.0	1,183	29.69	11.13	103
21-Feb	0	0	0	0	0.00	0.00	0.00	87	9,948	4,102	0.0	1,370	35.20	12.94	130
22-Feb	0	0	0	0	0.00	0.00	0.00	128	10,605	2,520	0.0	1,603	40.47	15.09	143
23-Feb	0	0	0	0	0.00	0.00	0.00	117	10,739	2,286	0.0	1,641	41.33	15.44	145
24-Feb	0	0	0	0	0.00	0.00	0.00	128	10,789	2,763	0.0	1,616	40.86	15.22	145
25-Feb	0	0	0	0	0.00	0.00	0.00	165	9,652	2,437	0.0	1,456	36.82	13.71	130
26-Feb	0	601	706	0	0.22	0.02	8.24	262	10,855	4,184	0.0	1,544	39.54	14.58	145
27-Feb	0	2,360	2,579	0	0.82	0.06	30.09	133	8,472	3,615	0.0	1,167	30.04	11.03	111
28-Feb	0	930	1,182	0	0.37	0.03	13.79	102	7,040	2,077	0.0	1,037	26.32	9.77	94
01-Mar	0	728	802	0	0.25	0.02	9.36	133	8,829	2,308	0.0	1,323	33.48	12.46	119
02-Mar	0	0	0	0	0.00	0.00	0.00	225	9,039	3,671	0.0	1,273	32.67	12.03	120
03-Mar	0	0	0	0	0.00	0.00	0.00	280	10,460	3,241	0.0	1,551	39.41	14.62	141
04-Mar	0	0	0	0	0.00	0.00	0.00	207	10,353	2,219	0.0	1,596	40.21	15.02	141
05-Mar	0	0	59	0	0.02	0.00	0.69	214	10,709	3,540	0.0	1,559	39.71	14.71	143
06-Mar	0	3,312	3,619	0	1.15	0.09	42.22	160	5,413	2,602	0.0	737	19.06	6.97	72
07-Mar	0	717	839	0	0.27	0.02	9.79	159	8,629	1,378	0.0	1,363	34.17	12.81	118
08-Mar	0	0	111	0	0.04	0.00	1.30	201	7,015	2,425	0.0	1,024	26.10	9.66	94
09-Mar	0	0	171	0	0.05	0.00	2.00	199	8,028	3,027	0.0	1,148	29.37	10.84	107
10-Mar	0	4,101	4,300	0	1.36	0.11	50.17	64	2,315	2,715	0.0	196	5.71	1.91	27
11-Mar	0	3,954	3,887	0	1.23	0.10	45.35	0	0	0	0.0	0	0.00	0.00	0
12-Mar	0	3,714	3,862	0	1.22	0.10	45.06	0	0	0	0.0	0	0.00	0.00	0

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DATE	S/B MLbs	Steam MLbs	Gas Mcf	Oil Bbls	Calculated lbs/hr						S/B MLbs	Steam MLbs	Gas Mcf	Rubber Tons	Bark Tons	Calculated lbs/hr			
					PM	SO2	Nox									PM	SO2	Nox	
PM10EF			7.60E-03	NA									7.60E-03	5.64E+00	5.94E-01				
SO2 EF			6.00E-04	NA									6.00E-04	3.08E+01	2.25E-01				
NOX EF			2.80E-01	NA									9.91E-02	1.98E+00	1.98E+00				
13-Mar	0	3,542	3,711	0	1.18	0.09	43.30	*	0	0	0	0	0	0.0	0	0.00	0.00	0	0
14-Mar	0	3,882	4,109	0	1.30	0.10	47.94	*	0	0	0	0	0	0.0	0	0.00	0.00	0	0
15-Mar	0	3,631	3,736	0	1.18	0.09	43.59	*	0	0	0	0	0	0.0	0	0.00	0.00	0	0
16-Mar	0	3,540	3,560	0	1.13	0.09	41.53	*	0	0	0	0	0	0.0	0	0.00	0.00	0	0
17-Mar	0	3,729	3,956	0	1.25	0.10	46.15	*	0	0	0	0	0	0.0	0	0.00	0.00	0	0
18-Mar	0	3,358	3,302	0	1.05	0.08	38.52	*	0	0	0	0	0	0.0	0	0.00	0.00	0	0
19-Mar	0	3,540	3,574	0	1.13	0.09	41.70	*	0	0	0	0	0	0.0	0	0.00	0.00	0	0
20-Mar	0	3,815	3,956	0	1.25	0.10	46.15	*	0	0	0	0	0	0.0	0	0.00	0.00	0	0
21-Mar	0	3,937	4,091	0	1.30	0.10	47.73	*	0	0	0	0	0	0.0	0	0.00	0.00	0	0
22-Mar	0	4,264	5,685	0	1.80	0.14	66.33	*	0	0	0	0	0	0.0	0	0.00	0.00	0	0
23-Mar	0	4,439	4,755	0	1.51	0.12	55.48	*	0	0	0	0	0	0.0	0	0.00	0.00	0	0
24-Mar	0	3,883	4,017	0	1.27	0.10	46.87	*	0	0	0	0	0	0.0	0	0.00	0.00	0	0
25-Mar	0	3,155	3,367	0	1.07	0.08	39.28	*	0	0	0	0	0	0.0	0	0.00	0.00	0	0
26-Mar	0	3,369	3,583	0	1.13	0.09	41.80	*	0	0	0	0	0	0.0	0	0.00	0.00	0	0
27-Mar	0	3,778	4,151	0	1.31	0.10	48.43	*	3	3,965	3,112	0.0	323			8.97	3.10	39	
28-Mar	0	3,557	3,872	0	1.23	0.10	45.17	*	73	9,381	4,658	0.0	1,313			33.97	12.42	128	
29-Mar	0	3,765	4,198	0	1.33	0.10	48.98	*	81	9,301	1,246	0.0	1,549			38.72	14.55	133	
30-Mar	0	3,918	4,347	0	1.38	0.11	50.72	*	179	10,267	2,263	0.0	1,676			42.19	15.77	148	
31-Mar	0	3,612	3,979	0	1.26	0.10	46.42	*	192	10,746	4,980	0.0	1,564			40.30	14.79	150	
01-Apr	0	3,165	3,499	0	1.11	0.09	40.82	*	103	10,438	3,442	0.0	1,180			30.30	11.15	112	
02-Apr	0	1,069	1,259	0	0.40	0.03	14.69	*	107	9,804	2,958	0.0	930			23.94	8.79	89	
03-Apr	0	3,733	4,125	0	1.31	0.10	48.13	*	275	10,272	4,093	0.0	952			24.85	9.02	95	
04-Apr	0	3,935	4,295	0	1.36	0.11	50.11	*	263	10,449	2,948	0.0	1,060			27.18	10.02	100	
05-Apr	0	1,429	1,955	0	0.62	0.05	22.81	*	266	10,343	2,904	0.0	1,554			39.38	14.64	140	
06-Apr	0	497	656	0	0.21	0.02	7.65	*	152	10,274	2,233	0.0	1,573			39.64	14.80	139	
07-Apr	0	0	0	0	0.00	0.00	0.00	*	79	8,206	2,523	0.0	1,195			30.37	11.26	109	
08-Apr	0	0	0	0	0.00	0.00	0.00	*	89	8,150	2,838	0.0	1,164			29.70	10.98	108	
09-Apr	0	0	0	0	0.00	0.00	0.00	*	203	6,849	254	0.0	1,157			28.71	10.85	96	
10-Apr	0	0	0	0	0.00	0.00	0.00	*	152	7,448	1,220	0.0	1,177			29.51	11.06	102	
11-Apr	0	0	0	0	0.00	0.00	0.00	*	100	7,837	678	0.0	1,273			31.72	11.95	108	
12-Apr	0	0	0	0	0.00	0.00	0.00	*	99	7,661	202	0.0	1,278			31.71	11.99	106	
13-Apr	0	0	0	0	0.00	0.00	0.00	*	112	6,111	161	0.0	1,025			25.43	9.62	85	
14-Apr	0	0	0	0	0.00	0.00	0.00	*	88	6,387	230	0.0	1,062			26.36	9.96	89	
15-Apr	0	0	0	0	0.00	0.00	0.00	*	75	6,504	161	0.0	1,085			26.90	10.17	90	
16-Apr	0	0	0	0	0.00	0.00	0.00	*	109	7,629	226	0.0	1,273			31.58	11.94	106	
17-Apr	0	0	0	0	0.00	0.00	0.00	*	140	7,662	1,268	0.0	1,207			30.27	11.34	105	
18-Apr	0	0	0	0	0.00	0.00	0.00	*	106	7,946	610	0.0	1,297			32.29	12.17	110	

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					PM	SO2	Nox						PM	SO2	Nox
PM10EF			7.60E-03	NA						7.60E-03	5.64E+00	5.94E-01			
SO2 EF			6.00E-04	NA						6.00E-04	3.08E+01	2.25E-01			
NOX EF			2.80E-01	NA						9.91E-02	1.98E+00	1.98E+00			
19-Apr	0	0	0	0	0.00	0.00	0.00	138	7,771	274	0.0	1,298	32.21	12.18	108
20-Apr	0	0	0	0	0.00	0.00	0.00	128	7,146	247	0.0	1,194	29.63	11.20	100
21-Apr	0	0	0	0	0.00	0.00	0.00	141	7,336	280	0.0	1,226	30.42	11.50	102
22-Apr	0	0	0	0	0.00	0.00	0.00	111	6,538	354	0.0	1,082	26.89	10.15	91
23-Apr	0	0	0	0	0.00	0.00	0.00	155	6,991	127	0.0	1,182	29.29	11.08	98
24-Apr	0	0	0	0	0.00	0.00	0.00	154	7,153	200	0.0	1,203	29.84	11.28	100
25-Apr	0	0	0	0	0.00	0.00	0.00	197	6,184	221	0.0	1,047	25.99	9.82	87
26-Apr	0	0	0	0	0.00	0.00	0.00	205	7,497	280	0.0	1,263	31.35	11.85	105
27-Apr	0	0	0	0	0.00	0.00	0.00	147	6,742	155	0.0	1,137	28.18	10.66	94
28-Apr	0	0	0	0	0.00	0.00	0.00	129	7,050	182	0.0	1,183	29.34	11.10	98
29-Apr	0	0	0	0	0.00	0.00	0.00	153	8,138	305	0.0	1,359	33.74	12.75	113
30-Apr	0	0	0	0	0.00	0.00	0.00	124	7,191	560	0.0	1,178	29.33	11.06	99
01-May	0	0	0	0	0.00	0.00	0.00	153	7,065	372	0.0	1,176	29.21	11.03	99
02-May	0	0	0	0	0.00	0.00	0.00	203	7,797	1,344	0.0	1,234	30.97	11.60	107
03-May	0	0	0	0	0.00	0.00	0.00	215	7,175	759	0.0	1,176	29.34	11.04	100
04-May	0	0	0	0	0.00	0.00	0.00	186	7,954	974	0.0	1,285	32.11	12.07	110
05-May	0	0	0	0	0.00	0.00	0.00	126	6,236	400	0.0	1,031	25.64	9.67	87
06-May	0	0	0	0	0.00	0.00	0.00	127	7,184	404	0.0	1,189	29.55	11.15	100
07-May	0	0	0	0	0.00	0.00	0.00	77	7,935	667	0.0	1,286	32.04	12.07	109
08-May	0	1,356	1,604	0	0.51	0.04	18.71	114	8,973	1,406	0.0	1,411	35.36	13.26	122
09-May	0	2,013	2,466	0	0.78	0.06	28.77	46	6,464	324	0.0	1,061	26.36	9.96	89
10-May	0	4,425	4,876	0	1.54	0.12	56.89	139	10,389	3,640	0.0	1,486	37.93	14.02	138
11-May	0	3,943	4,297	0	1.36	0.11	50.13	127	9,032	1,809	0.0	1,393	35.05	13.10	122
12-May	0	1,666	2,006	0	0.64	0.05	23.40	154	7,242	965	0.0	1,161	29.05	10.91	100
13-May	0	2,467	3,268	0	1.03	0.08	38.13	170	8,213	1,823	0.0	1,263	31.83	11.88	112
14-May	0	1,593	2,348	0	0.74	0.06	27.39	149	8,332	1,986	0.0	1,267	31.99	11.93	113
15-May	0	2,231	2,821	0	0.89	0.07	32.91	139	7,957	1,234	0.0	1,258	31.53	11.83	109
16-May	0	2,875	3,342	0	1.06	0.08	38.99	127	10,632	3,360	0.0	1,545	39.31	14.57	141
17-May	0	3,283	3,631	0	1.15	0.09	42.36	166	10,884	4,340	0.0	1,521	39.03	14.37	143
18-May	0	0	0	0	0.00	0.00	0.00	235	5,926	112	0.0	1,019	25.25	9.55	84
19-May	0	0	6	0	0.00	0.00	0.07	183	7,077	1,078	0.0	1,130	28.32	10.62	98
20-May	0	0	0	0	0.00	0.00	0.00	120	6,673	259	0.0	1,113	27.63	10.44	93
21-May	0	4,028	4,524	0	1.43	0.11	52.78	49	11,925	5,147	0.0	1,616	41.62	15.28	155
22-May	0	3,651	3,977	0	1.26	0.10	46.40	129	10,708	3,309	0.0	1,562	39.71	14.73	143
23-May	0	3,328	3,582	0	1.13	0.09	41.79	63	4,975	1,728	0.0	1,562	39.21	14.69	136
24-May	0	1,273	1,395	0	0.44	0.03	16.28	71	3,664	534	0.0	583	14.60	5.48	50
25-May	0	0	0	0	0.00	0.00	0.00	131	6,103	178	0.0	1,026	25.45	9.62	85

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DATE	S/B MLbs	Steam MLbs	Gas Mcf	Oil Bbls	Calculated lbs/hr						S/B MLbs	Steam MLbs	Gas Mcf	Rubber Tons	Bark Tons	Calculated lbs/hr			*
					PM	SO2	Nox									PM	SO2	Nox	
PM10EF			7.60E-03	NA									7.60E-03	5.64E+00	5.94E-01				*
SO2 EF			6.00E-04	NA									6.00E-04	3.08E+01	2.25E-01				*
NOX EF			2.80E-01	NA									9.91E-02	1.98E+00	1.98E+00				*
26-May	0	0	0	0	0.00	0.00	0.00	*			153	5,522	570	0.0	904	*	22.55	8.49	77
27-May	0	0	0	0	0.00	0.00	0.00	*			130	5,314	163	0.0	895	*	22.21	8.40	75
28-May	0	0	7	0	0.00	0.00	0.08	*			151	4,501	623	0.0	729	*	18.25	6.85	63
29-May	0	969	1,088	0	0.34	0.03	12.69	*			164	5,870	370	0.0	978	*	24.33	9.18	82
30-May	0	3,925	4,205	0	1.33	0.11	49.06	*			134	8,207	1,852	0.0	1,253	*	31.61	11.80	111
31-May	0	4,450	4,803	0	1.52	0.12	56.04	*			126	11,466	6,643	0.0	1,442	*	37.79	13.68	146
01-Jun	0	3,677	4,009	0	1.27	0.10	46.77	*			132	9,923	4,592	0.0	1,337	*	34.54	12.65	129
02-Jun	0	85	462	0	0.15	0.01	5.39	*			117	4,909	443	0.0	805	*	20.06	7.56	68
03-Jun	0	3,110	3,392	0	1.07	0.08	39.57	*			131	8,884	2,285	0.0	1,334	*	33.74	12.56	119
04-Jun	0	676	769	0	0.24	0.02	8.97	*			122	6,919	222	0.0	1,157	*	28.71	10.85	96
05-Jun	0	0	0	0	0.00	0.00	0.00	*			140	6,579	292	0.0	1,098	*	27.27	10.30	92
06-Jun	0	0	0	0	0.00	0.00	0.00	*			131	7,552	469	0.0	1,246	*	30.98	11.69	105
07-Jun	0	1,232	1,414	0	0.45	0.04	16.50	*			128	8,658	537	0.0	1,425	*	35.43	13.37	120
08-Jun	0	0	0	0	0.00	0.00	0.00	*			141	7,712	726	0.0	1,277	*	31.85	11.99	108
09-Jun	0	0	0	0	0.00	0.00	0.00	*			171	6,569	348	0.0	1,098	*	27.28	10.30	92
10-Jun	0	0	0	0	0.00	0.00	0.00	*			157	6,133	648	0.0	1,001	*	24.97	9.40	85
11-Jun	0	0	0	0	0.00	0.00	0.00	*			105	6,876	2,102	0.0	1,008	*	25.62	9.51	92
12-Jun	0	0	0	0	0.00	0.00	0.00	*			111	5,371	188	0.0	900	*	22.33	8.44	75
13-Jun	0	0	0	0	0.00	0.00	0.00	*			125	7,040	161	0.0	1,182	*	29.31	11.09	98
14-Jun	0	1,650	1,805	0	0.57	0.05	21.06	*			129	9,298	408	0.0	1,541	*	38.27	14.46	129
15-Jun	0	3,633	3,902	0	1.24	0.10	45.52	*			128	8,601	1,945	0.0	1,311	*	33.07	12.34	116
16-Jun	0	0	0	0	0.00	0.00	0.00	*			152	7,309	159	0.0	1,232	*	30.54	11.55	102
17-Jun	0	1,195	1,394	0	0.44	0.03	16.26	*			64	7,308	3,148	0.0	996	*	25.66	9.42	95
18-Jun	0	153	159	0	0.05	0.00	1.86	*			148	5,666	574	0.0	927	*	23.12	8.70	79
19-Jun	0	0	0	0	0.00	0.00	0.00	*			140	6,284	151	0.0	1,060	*	26.27	9.94	88
20-Jun	0	0	0	0	0.00	0.00	0.00	*			145	5,412	167	0.0	914	*	22.67	8.57	76
21-Jun	0	0	0	0	0.00	0.00	0.00	*			125	6,206	370	0.0	1,028	*	25.56	9.65	86
22-Jun	0	0	0	0	0.00	0.00	0.00	*			125	7,657	175	0.0	1,284	*	31.84	12.04	107
23-Jun	0	0	0	0	0.00	0.00	0.00	*			140	5,826	192	0.0	980	*	24.32	9.19	82
24-Jun	0	0	0	0	0.00	0.00	0.00	*			128	6,315	154	0.0	1,062	*	26.34	9.96	88
25-Jun	0	0	0	0	0.00	0.00	0.00	*			154	5,687	189	0.0	960	*	23.81	9.00	80
26-Jun	0	0	0	0	0.00	0.00	0.00	*			155	5,214	186	0.0	881	*	21.87	8.27	73
27-Jun	0	0	0	0	0.00	0.00	0.00	*			201	5,214	158	0.0	891	*	22.10	8.36	74
28-Jun	0	0	0	0	0.00	0.00	0.00	*			157	5,235	1,708	0.0	773	*	19.66	7.29	71
29-Jun	0	0	0	0	0.00	0.00	0.00	*			138	5,977	1,525	0.0	907	*	22.92	8.54	81
30-Jun	0	0	0	0	0.00	0.00	0.00	*			141	6,526	1,819	0.0	977	*	24.75	9.20	88
01-Jul	0	0	0	0	0.00	0.00	0.00	*			123	6,962	2,177	0.0	1,020	*	25.94	9.62	93

GEORGIA-PACIFIC CORPORATION
PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

PAPER MILL UTILITY REPORT

6A Boiler										9A Boiler									
DATE	S/B MLbs	Steam MLbs	Gas Mcf	Oil Bbls	Calculated lbs/hr						S/B MLbs	Steam MLbs	Gas Mcf	Rubber Tons	Bark Tons	Calculated lbs/hr			
					PM	SO2	Nox									PM	SO2	Nox	
PM10EF			7.60E-03	NA									7.60E-03	5.64E+00	5.94E-01				
SO2 EF			6.00E-04	NA									6.00E-04	3.08E+01	2.25E-01				
NOX EF			2.80E-01	NA									9.91E-02	1.98E+00	1.98E+00				
02-Jul	0	0	42	0	0.01	0.00	0.49	*			140	6,345	1,817	0.0	947	*	24.01	8.92	86
03-Jul	0	0	0	0	0.00	0.00	0.00	*			127	7,802	2,055	0.0	1,170	*	29.60	11.02	105
04-Jul	0	0	0	0	0.00	0.00	0.00	*			198	6,327	1,487	0.0	978	*	24.67	9.20	87
05-Jul	0	0	0	0	0.00	0.00	0.00	*			159	6,589	2,088	0.0	971	*	24.68	9.15	89
06-Jul	0	0	0	0	0.00	0.00	0.00	*			121	7,242	2,314	0.0	1,056	*	26.88	9.96	97
07-Jul	0	0	0	0	0.00	0.00	0.00	*			151	7,119	1,982	0.0	1,065	*	27.00	10.04	96
08-Jul	0	0	0	0	0.00	0.00	0.00	*			135	5,308	686	0.0	857	*	21.42	8.05	73
09-Jul	0	0	0	0	0.00	0.00	0.00	*			81	5,806	1,327	0.0	883	*	22.28	8.31	78
10-Jul	0	0	0	0	0.00	0.00	0.00	*			164	5,379	402	0.0	894	*	22.26	8.39	75
11-Jul	0	0	0	0	0.00	0.00	0.00	*			156	5,579	1,250	0.0	864	*	21.77	8.13	76
12-Jul	0	0	0	0	0.00	0.00	0.00	*			157	5,532	1,288	0.0	853	*	21.52	8.03	76
13-Jul	0	0	0	0	0.00	0.00	0.00	*			157	4,845	570	0.0	792	*	19.77	7.44	68
14-Jul	0	0	0	0	0.00	0.00	0.00	*			127	5,228	657	0.0	844	*	21.10	7.93	72
15-Jul	0	0	0	0	0.00	0.00	0.00	*			141	5,993	1,398	0.0	919	*	23.19	8.65	82
16-Jul	0	0	0	0	0.00	0.00	0.00	*			112	5,080	771	0.0	808	*	20.25	7.60	70
17-Jul	0	0	0	0	0.00	0.00	0.00	*			114	7,224	2,318	0.0	1,052	*	26.77	9.92	96
18-Jul	0	0	0	0	0.00	0.00	0.00	*			141	4,970	371	0.0	824	*	20.52	7.74	70
19-Jul	0	1,793	1,921	0	0.61	0.05	22.41	*			42	1,655	273	0.0	263	*	6.59	2.47	23
20-Jul	0	2,273	2,401	0	0.76	0.06	28.01	*			0	0	0	0.0	0	*	0.00	0.00	0
21-Jul	0	1,978	2,191	0	0.69	0.05	25.56	*			27	1,052	1,332	0.0	82	*	2.44	0.80	12
22-Jul	0	0	0	0	0.00	0.00	0.00	*			149	5,513	751	0.0	888	*	22.22	8.35	76
23-Jul	0	0	0	0	0.00	0.00	0.00	*			112	5,464	1,108	0.0	848	*	21.33	7.97	75
24-Jul	0	0	0	0	0.00	0.00	0.00	*			117	5,257	806	0.0	836	*	20.95	7.86	72
25-Jul	0	0	0	0	0.00	0.00	0.00	*			139	4,845	307	0.0	808	*	20.10	7.58	68
26-Jul	0	0	0	0	0.00	0.00	0.00	*			123	5,258	509	0.0	859	*	21.43	8.07	73
27-Jul	0	0	0	0	0.00	0.00	0.00	*			123	5,169	1,290	0.0	787	*	19.88	7.41	70
28-Jul	0	0	0	0	0.00	0.00	0.00	*			173	5,258	1,283	0.0	810	*	20.47	7.63	72
29-Jul	0	0	0	0	0.00	0.00	0.00	*			134	5,081	661	0.0	820	*	20.51	7.71	70
30-Jul	0	0	98	0	0.03	0.00	1.14	*			139	5,152	220	0.0	866	*	21.49	8.12	72
31-Jul	0	3,368	3,281	0	1.04	0.08	38.28	*			124	8,825	1,562	0.0	1,376	*	34.55	12.94	120
01-Aug	0	3,991	3,281	0	1.04	0.08	38.28	*			124	8,824	1,562	0.0	1,376	*	34.55	12.94	120
02-Aug	0	4,579	4,609	0	1.46	0.12	53.77	*			77	5,458	4,770	0.0	570	*	15.63	5.47	67
03-Aug	0	4,476	4,539	0	1.44	0.11	52.96	*			143	8,526	3,883	0.0	1,158	*	29.90	10.96	112
04-Aug	0	374	837	0	0.27	0.02	9.77	*			182	4,496	1,225	0.0	689	*	17.45	6.49	62
05-Aug	0	0	243	0	0.08	0.01	2.84	*			125	4,496	4,030	0.0	473	*	12.98	4.53	56
06-Aug	0	0	0	0	0.00	0.00	0.00	*			101	6,262	993	0.0	987	*	24.75	9.28	86
07-Aug	0	0	0	0	0.00	0.00	0.00	*			119	5,351	543	0.0	872	*	21.74	8.18	74

GEORGIA-PACIFIC CORPORATION
PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

PAPER MILL UTILITY REPORT

6A Boiler								9A Boiler							
DATE	S/B MLbs	Steam MLbs	Gas Mcf	Oil Bbls	Calculated lbs/hr			S/B MLbs	Steam MLbs	Gas Mcf	Rubber Tons	Bark Tons	Calculated lbs/hr		
					PM	SO2	Nox						PM	SO2	Nox
PM10EF			7.60E-03	NA						7.60E-03	5.64E+00	5.94E-01			
SO2 EF			6.00E-04	NA						6.00E-04	3.08E+01	2.25E-01			
NOX EF			2.80E-01	NA						9.91E-02	1.98E+00	1.98E+00			
08-Aug	0	0	0	0	0.00	0.00	0.00	72	7,308	2,851	0.0	1,020	26.14	9.63	96
09-Aug	0	0	0	0	0.00	0.00	0.00	131	6,363	734	0.0	1,028	25.68	9.66	88
10-Aug	0	0	0	0	0.00	0.00	0.00	124	6,424	387	0.0	1,063	26.43	9.97	89
11-Aug	0	0	0	0	0.00	0.00	0.00	126	6,318	345	0.0	1,049	26.06	9.84	88
12-Aug	0	0	0	0	0.00	0.00	0.00	132	6,290	278	0.0	1,050	26.07	9.85	88
13-Aug	0	0	0	0	0.00	0.00	0.00	156	5,870	733	0.0	950	23.75	8.93	81
14-Aug	0	0	106	0	0.03	0.00	1.24	82	2,967	568	0.0	466	11.72	4.39	41
15-Aug	0	0	245	0	0.08	0.01	2.86	109	6,601	623	0.0	1,072	26.74	10.07	91
16-Aug	0	0	25	0	0.01	0.00	0.29	125	6,673	602	0.0	1,089	27.13	10.22	92
17-Aug	0	0	0	0	0.00	0.00	0.00	123	6,842	329	0.0	1,137	28.23	10.66	95
18-Aug	0	0	0	0	0.00	0.00	0.00	123	5,885	503	0.0	964	24.02	9.05	82
19-Aug	0	0	0	0	0.00	0.00	0.00	140	5,667	585	0.0	925	23.07	8.68	79
20-Aug	0	0	0	0	0.00	0.00	0.00	137	6,250	820	0.0	1,004	25.11	9.43	86
21-Aug	0	0	0	0	0.00	0.00	0.00	123	6,628	443	0.0	1,092	27.18	10.25	92
22-Aug	0	0	0	0	0.00	0.00	0.00	154	5,873	642	0.0	957	23.89	8.99	82
23-Aug	0	0	0	0	0.00	0.00	0.00	122	5,956	414	0.0	982	24.45	9.22	83
24-Aug	0	0	0	0	0.00	0.00	0.00	152	6,697	649	0.0	1,094	27.27	10.27	93
25-Aug	0	0	0	0	0.00	0.00	0.00	127	6,840	857	0.0	1,098	27.44	10.31	94
26-Aug	0	0	0	0	0.00	0.00	0.00	127	6,700	783	0.0	1,080	26.98	10.15	92
27-Aug	0	0	0	0	0.00	0.00	0.00	128	6,157	766	0.0	991	24.77	9.31	85
28-Aug	0	0	0	0	0.00	0.00	0.00	129	6,329	388	0.0	1,048	26.05	9.83	88
29-Aug	0	0	0	0	0.00	0.00	0.00	142	5,977	586	0.0	977	24.36	9.17	83
30-Aug	0	0	0	0	0.00	0.00	0.00	130	6,699	824	0.0	1,077	26.93	10.12	92
31-Aug	0	0	0	0	0.00	0.00	0.00	135	7,433	1,296	0.0	1,166	29.26	10.96	102
01-Sep	0	0	0	0	0.00	0.00	0.00	110	6,000	550	0.0	978	24.37	9.18	83
02-Sep	0	0	0	0	0.00	0.00	0.00	106	7,378	941	0.0	1,178	29.45	11.07	101
03-Sep	0	0	0	0	0.00	0.00	0.00	102	8,589	1,577	0.0	1,114	28.08	10.49	98
04-Sep	0	0	0	0	0.00	0.00	0.00	64	7,171	6,112	0.0	745	20.37	7.13	87
05-Sep	0	0	0	0	0.00	0.00	0.00	299	5,987	381	0.0	1,020	25.35	9.57	86
06-Sep	0	0	0	0	0.00	0.00	0.00	103	6,563	358	0.0	1,085	26.96	10.18	91
07-Sep	0	0	0	0	0.00	0.00	0.00	97	7,259	400	0.0	1,196	29.74	11.23	100
08-Sep	0	0	0	0	0.00	0.00	0.00	97	7,389	603	0.0	1,203	29.97	11.29	102
09-Sep	0	254	405	0	0.13	0.01	4.73	39	7,083	621	0.0	1,141	28.44	10.71	97
10-Sep	0	2,023	2,043	0	0.65	0.05	23.84	87	7,083	1,148	0.0	1,110	27.84	10.44	96
11-Sep	0	0	0	0	0.00	0.00	0.00	117	3,146	1,717	0.0	417	10.87	3.95	42
12-Sep	0	0	0	0	0.00	0.00	0.00	108	6,255	617	0.0	1,015	25.32	9.53	86
13-Sep	0	0	0	0	0.00	0.00	0.00	119	5,550	407	0.0	915	22.77	8.59	77

GEORGIA-PACIFIC CORPORATION
PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

PAPER MILL UTILITY REPORT

6A Boiler								9A Boiler					
DATE	S/B MLbs	Steam MLbs	Gas Mcf	Oil Bbls	Calculated lbs/hr			S/B MLbs	Steam MLbs	Gas Mcf	Rubber Tons	Bark Tons	
PM10EF			7.60E-03	NA						7.60E-03	5.64E+00	5.94E-01	
SO2 EF			6.00E-04	NA						6.00E-04	3.08E+01	2.25E-01	
NOX EF			2.80E-01	NA	PM	SO2	Nox			9.91E-02	1.98E+00	1.98E+00	
14-Sep	0	0	0	0	0.00	0.00	0.00	103	6,035	420	0.0	992	24.69
15-Sep	0	0	0	0	0.00	0.00	0.00	121	5,548	672	0.0	895	22.37
16-Sep	0	0	0	0	0.00	0.00	0.00	115	5,069	871	0.0	800	20.07
17-Sep	0	0	0	0	0.00	0.00	0.00	106	6,242	384	0.0	1,030	25.61
18-Sep	0	0	0	0	0.00	0.00	0.00	102	6,124	549	0.0	997	24.85
19-Sep	0	0	176	0	0.06	0.00	2.05	118	6,613	644	0.0	1,074	26.79
20-Sep	0	1,787	1,805	0	0.57	0.05	21.06	52	6,187	1,125	0.0	957	24.04
21-Sep	0	3,565	3,133	0	0.99	0.08	36.55	0	0	291	0.0	0	0.09
22-Sep	0	2,875	2,446	0	0.77	0.06	28.54	26	923	606	0.0	113	3.00
23-Sep	0	0	0	0	0.00	0.00	0.00	151	6,475	571	0.0	1,062	26.47
24-Sep	0	0	0	0	0.00	0.00	0.00	119	6,463	344	0.0	1,072	26.63
25-Sep	0	0	0	0	0.00	0.00	0.00	128	7,000	1,154	0.0	1,103	27.66
26-Sep	0	0	0	0	0.00	0.00	0.00	135	7,755	1,304	0.0	1,219	30.58
27-Sep	0	0	0	0	0.00	0.00	0.00	121	6,471	788	0.0	1,041	26.00
28-Sep	0	0	0	0	0.00	0.00	0.00	112	6,335	902	0.0	1,008	25.23
29-Sep	0	0	0	0	0.00	0.00	0.00	109	5,440	550	0.0	884	22.06
30-Sep	0	0	0	0	0.00	0.00	0.00	117	6,311	440	0.0	1,039	25.85
01-Oct	0	0	0	0	0.00	0.00	0.00	105	6,173	633	0.0	1,000	24.94
02-Oct	0	2,445	2,102	0	0.67	0.05	24.52	51	2,209	565	0.0	335	8.47
03-Oct	0	2,411	1,848	0	0.59	0.05	21.56	57	2,540	704	0.0	381	9.65
04-Oct	0	0	0	0	0.00	0.00	0.00	119	4,954	631	0.0	799	19.97
05-Oct	0	0	0	0	0.00	0.00	0.00	115	4,959	708	0.0	793	19.86
06-Oct	0	0	0	0	0.00	0.00	0.00	143	4,907	566	0.0	800	19.98
07-Oct	0	0	0	0	0.00	0.00	0.00	141	4,734	749	0.0	757	18.98
08-Oct	0	0	0	0	0.00	0.00	0.00	256	4,502	393	0.0	764	19.03
09-Oct	0	0	0	0	0.00	0.00	0.00	55	5,539	392	0.0	903	22.48
10-Oct	0	0	0	0	0.00	0.00	0.00	89	7,610	1,504	0.0	1,172	29.49
11-Oct	0	0	0	0	0.00	0.00	0.00	63	6,001	1,085	0.0	931	23.38
12-Oct	0	0	0	0	0.00	0.00	0.00	51	5,389	396	0.0	877	21.84
13-Oct	0	0	0	0	0.00	0.00	0.00	162	5,101	363	0.0	850	21.16
14-Oct	0	0	0	0	0.00	0.00	0.00	159	5,765	651	0.0	939	23.45
15-Oct	0	0	0	0	0.00	0.00	0.00	131	6,806	1,243	0.0	1,064	26.74
16-Oct	0	0	0	0	0.00	0.00	0.00	57	1,328	2,552	0.0	42	1.86
17-Oct	0	0	0	0	0.00	0.00	0.00	64	6,148	708	0.0	1,337	33.31
18-Oct	0	0	0	0	0.00	0.00	0.00	51	5,726	586	0.0	920	22.95
19-Oct	0	0	0	0	0.00	0.00	0.00	60	5,945	971	0.0	929	23.30
20-Oct	0	0	0	0	0.00	0.00	0.00	123	6,536	507	0.0	1,072	26.70

2002

GEORGIA-PACIFIC CORPORATION
PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

PAPER MILL UTILITY REPORT

6A Boiler										9A Boiler									
DATE	S/B MLbs	Steam MLbs	Gas Mcf	Oil Bbls	Calculated lbs/hr						S/B MLbs	Steam MLbs	Gas Mcf	Rubber Tons	Bark Tons	Calculated lbs/hr			*
					PM	SO2	Nox									PM	SO2	Nox	
PM10EF			7.60E-03	NA									7.60E-03	5.64E+00	5.94E-01				*
SO2 EF			6.00E-04	NA									6.00E-04	3.08E+01	2.25E-01				*
NOX EF			2.80E-01	NA									9.91E-02	1.98E+00	1.98E+00				*
21-Oct	0	0	0	0	0.00	0.00	0.00	*			63	7,351	1,229	0.0	1,145	*	28.73	10.76	100
22-Oct	0	0	0	0	0.00	0.00	0.00	*			40	7,412	1,246	0.0	1,150	*	28.86	10.81	100
23-Oct	0	0	0	0	0.00	0.00	0.00	*			182	6,522	910	0.0	1,050	*	26.28	9.87	90
24-Oct	0	0	0	0	0.00	0.00	0.00	*			158	6,631	1,707	0.0	1,006	*	25.43	9.47	90
25-Oct	0	0	0	0	0.00	0.00	0.00	*			154	8,041	1,085	0.0	1,286	*	32.17	12.08	111
26-Oct	0	0	0	0	0.00	0.00	0.00	*			94	6,929	589	0.0	1,127	*	28.08	10.58	95
27-Oct	0	0	0	0	0.00	0.00	0.00	*			78	6,381	422	0.0	1,045	*	26.01	9.81	88
28-Oct	0	0	0	0	0.00	0.00	0.00	*			70	6,553	529	0.0	1,065	*	26.52	10.00	90
29-Oct	0	2,016	2,168	0	0.69	0.05	25.29	*			78	8,537	2,784	0.0	1,230	*	31.33	11.60	113
30-Oct	0	0	0	0	0.00	0.00	0.00	*			90	8,049	1,507	0.0	1,245	*	31.30	11.71	109
31-Oct	0	0	0	0	0.00	0.00	0.00	*			75	9,038	1,212	0.0	1,429	*	35.76	13.43	123
01-Nov	0	0	0	0	0.00	0.00	0.00	*			80	8,787	2,102	0.0	1,323	*	33.40	12.45	118
02-Nov	0	0	0	0	0.00	0.00	0.00	*			78	8,424	1,438	0.0	1,311	*	32.90	12.33	114
03-Nov	0	0	0	0	0.00	0.00	0.00	*			80	7,851	762	0.0	1,266	*	31.56	11.88	108
04-Nov	0	0	299	0	0.09	0.01	3.49	*			64	8,373	1,484	0.0	1,297	*	32.56	12.19	113
05-Nov	0	517	869	0	0.28	0.02	10.14	*			100	7,342	1,004	0.0	1,166	*	29.18	10.96	100
06-Nov	0	4,862	5,058	0	1.60	0.13	59.01	*			78	9,488	4,505	0.0	1,262	*	32.66	11.94	123
07-Nov	0	634	672	0	0.21	0.02	7.84	*			79	7,944	2,704	0.0	1,138	*	29.01	10.73	105
08-Nov	0	0	0	0	0.00	0.00	0.00	*			77	7,692	1,036	0.0	1,218	*	30.48	11.45	105
09-Nov	0	0	0	0	0.00	0.00	0.00	*			77	6,366	547	0.0	1,033	*	25.75	9.70	88
10-Nov	0	0	0	0	0.00	0.00	0.00	*			76	7,349	555	0.0	1,197	*	29.79	11.23	101
11-Nov	0	0	0	0	0.00	0.00	0.00	*			72	7,545	1,789	0.0	1,137	*	28.72	10.71	101
12-Nov	0	694	922	0	0.29	0.02	10.76	*			73	8,532	1,651	0.0	1,312	*	33.00	12.34	115
13-Nov	0	1,500	1,611	0	0.51	0.04	18.80	*			79	7,054	1,057	0.0	1,111	*	27.83	10.44	96
14-Nov	0	591	934	0	0.30	0.02	10.90	*			83	5,141	2,828	0.0	662	*	17.28	6.28	66
15-Nov	0	0	0	0	0.00	0.00	0.00	*			96	7,284	1,344	0.0	1,131	*	28.41	10.63	99
16-Nov	0	0	0	0	0.00	0.00	0.00	*			77	8,809	1,837	0.0	1,345	*	33.88	12.66	119
17-Nov	0	0	0	0	0.00	0.00	0.00	*			75	8,624	1,371	0.0	1,349	*	33.81	12.68	117
18-Nov	0	0	0	0	0.00	0.00	0.00	*			75	8,355	1,371	0.0	1,304	*	32.70	12.26	113
19-Nov	0	0	0	0	0.00	0.00	0.00	*			75	8,327	1,371	0.0	1,299	*	32.59	12.21	113
20-Nov	0	0	0	0	0.00	0.00	0.00	*			187	7,514	688	0.0	1,233	*	30.73	11.57	105
21-Nov	0	0	0	0	0.00	0.00	0.00	*			79	7,199	2,219	0.0	1,049	*	26.67	9.89	96
22-Nov	0	0	0	0	0.00	0.00	0.00	*			79	8,490	3,331	0.0	1,182	*	30.32	11.17	111
23-Nov	0	0	0	0	0.00	0.00	0.00	*			66	9,867	3,989	0.0	1,361	*	34.95	12.86	129
24-Nov	0	0	0	0	0.00	0.00	0.00	*			77	8,312	2,045	0.0	1,247	*	31.52	11.74	111
25-Nov	0	0	0	0	0.00	0.00	0.00	*			81	8,384	2,316	0.0	1,240	*	31.42	11.68	112
26-Nov	0	40	130	0	0.04	0.00	1.52	*			81	8,461	3,724	0.0	1,149	*	29.61	10.86	110

GEORGIA-PACIFIC CORPORATION
PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

PAPER MILL UTILITY REPORT

6A Boiler								9A Boiler							
DATE	S/B MLbs	Steam MLbs	Gas Mcf	Oil Bbls	Calculated lbs/hr			S/B MLbs	Steam MLbs	Gas Mcf	Rubber Tons	Bark Tons	Calculated lbs/hr		
					PM	SO2	Nox						PM	SO2	Nox
PM10EF			7.60E-03	NA						7.60E-03	5.64E+00	5.94E-01			
SO2 EF			6.00E-04	NA						6.00E-04	3.08E+01	2.25E-01			
NOX EF			2.80E-01	NA						9.91E-02	1.98E+00	1.98E+00			
27-Nov	0	478	473	0	0.15	0.01	5.52	71	8,267	2,628	0.0	1,196	30.43	11.28	110
28-Nov	0	0	0	0	0.00	0.00	0.00	80	8,587	3,763	0.0	1,167	30.07	11.03	112
29-Nov	0	0	0	0	0.00	0.00	0.00	79	7,971	3,274	0.0	1,100	28.26	10.39	104
30-Nov	0	0	0	0	0.00	0.00	0.00	80	7,787	1,915	0.0	1,170	29.56	11.02	104
01-Dec	0	0	0	0	0.00	0.00	0.00	82	7,631	1,535	0.0	1,172	29.50	11.03	103
02-Dec	0	0	0	0	0.00	0.00	0.00	94	8,104	1,728	0.0	1,239	31.21	11.66	109
03-Dec	0	371	479	0	0.15	0.01	5.59	83	8,603	3,085	0.0	1,220	31.17	11.51	113
04-Dec	0	3,084	3,133	0	0.99	0.08	36.55	127	7,746	2,712	0.0	1,112	28.38	10.49	103
05-Dec	0	3,322	3,353	0	1.06	0.08	39.12	131	7,264	2,124	0.0	1,076	27.30	10.14	98
06-Dec	0	0	0	0	0.00	0.00	0.00	81	6,993	1,553	0.0	1,064	26.84	10.02	94
07-Dec	0	0	0	0	0.00	0.00	0.00	79	6,474	1,680	0.0	968	24.49	9.12	87
08-Dec	0	0	0	0	0.00	0.00	0.00	109	7,818	2,255	0.0	1,155	29.29	10.88	105
09-Dec	0	0	0	0	0.00	0.00	0.00	82	7,471	1,600	0.0	1,141	28.74	10.73	101
10-Dec	0	0	0	0	0.00	0.00	0.00	82	7,587	1,203	0.0	1,189	29.82	11.18	103
11-Dec	0	1,328	1,528	0	0.48	0.04	17.83	24	3,914	912	0.0	589	14.87	5.54	52
12-Dec	0	3,656	3,704	0	1.17	0.09	43.21	53	2,396	1,346	0.0	309	8.07	2.93	31
13-Dec	0	0	0	0	0.00	0.00	0.00	82	7,348	2,659	0.0	1,042	26.63	9.84	97
14-Dec	0	0	0	0	0.00	0.00	0.00	68	8,571	2,640	0.0	1,245	31.65	11.74	114
15-Dec	0	0	0	0	0.00	0.00	0.00	75	8,216	1,895	0.0	1,242	31.34	11.69	110
16-Dec	0	0	0	0	0.00	0.00	0.00	78	8,040	1,603	0.0	1,235	31.07	11.62	108
17-Dec	0	0	500	0	0.16	0.01	5.83	79	8,744	2,441	0.0	1,290	32.71	12.16	117
18-Dec	0	3,344	3,329	0	1.05	0.08	38.84	79	8,011	1,456	0.0	1,241	31.17	11.67	108
19-Dec	0	0	395	0	0.13	0.01	4.61	80	8,156	1,781	0.0	1,241	31.28	11.68	110
20-Dec	0	0	0	0	0.00	0.00	0.00	80	7,416	1,053	0.0	1,172	29.33	11.01	101
21-Dec	0	0	0	0	0.00	0.00	0.00	106	7,663	1,742	0.0	1,166	29.42	10.98	103
22-Dec	0	0	0	0	0.00	0.00	0.00	83	6,692	856	0.0	1,116	27.89	10.48	96
23-Dec	0	0	0	0	0.00	0.00	0.00	102	7,987	2,280	0.0	1,180	29.92	11.12	107
24-Dec	0	0	0	0	0.00	0.00	0.00	121	9,191	4,378	0.0	1,229	31.80	11.63	119
25-Dec	0	0	0	0	0.00	0.00	0.00	100	8,830	3,615	0.0	1,222	31.38	11.54	116
26-Dec	0	0	0	0	0.00	0.00	0.00	75	8,941	2,127	0.0	1,346	33.98	12.67	120
27-Dec	0	0	0	0	0.00	0.00	0.00	95	8,657	2,017	0.0	1,310	33.06	12.33	116
28-Dec	0	0	0	0	0.00	0.00	0.00	142	8,595	1,431	0.0	1,351	33.88	12.70	117
			5685		1.80	0	66						42	16	155

GEORGIA-PACIFIC CORPORATION
PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

PAPER MILL UTILITY REPORT

6A Boiler								9A Boiler							
DATE	S/B MLbs	Steam MLbs	Gas Mcf	Oil Bbls				S/B MLbs	Steam MLbs	Gas Mcf	Rubber Tons	Bark Tons			
PM10EF			7.60E-03	NA						7.60E-03	5.64E+00	5.94E-01			
SO2 EF			6.00E-04	NA	Calculated lbs/hr					6.00E-04	3.08E+01	2.25E-01			
NOX EF			2.80E-01	NA	PM	SO2	Nox			9.91E-02	1.98E+00	1.98E+00	PM	SO2	Nox
29-Dec	0	0	0	0	0.00	0.00	0.00	95	8,371	1,547	0.0	1,297	32.59	12.20	113
30-Dec	0	0	0	0	0.00	0.00	0.00	100	6,657	1,322	0.0	1,029	25.88	9.68	90
31-Dec	0	0	0	0	0.00	0.00	0.00	148	7,661	2,966	0.0	1,083	27.73	10.22	102
01-Jan	0	0	0	0	0.00	0.00	0.00	105	7,818	2,918	0.0	1,105	28.28	10.43	103
02-Jan	0	346	482	0	0.15	0.01	5.62	122	8,915	3,109	0.0	1,277	32.58	12.05	118
03-Jan	0	1,554	1,524	0	0.48	0.04	17.78	108	8,813	2,839	0.0	1,277	32.51	12.05	117
04-Jan	0	0	0	0	0.00	0.00	0.00	76	8,509	2,288	0.0	1,262	31.96	11.89	114
05-Jan	0	0	0	0	0.00	0.00	0.00	76	6,696	935	0.0	1,060	26.52	9.96	91
06-Jan	0	0	0	0	0.00	0.00	0.00	104	8,365	2,577	0.0	1,221	31.04	11.51	111
07-Jan	0	0	0	0	0.00	0.00	0.00	110	8,268	2,704	0.0	1,197	30.48	11.29	110
08-Jan	0	3,029	3,341	0	1.06	0.08	38.98	79	9,566	3,540	0.0	1,346	34.44	12.71	126
09-Jan	0	4,235	4,591	0	1.45	0.11	53.56	59	8,325	3,467	0.0	1,141	29.35	10.79	108
10-Jan	0	3,942	4,149	0	1.31	0.10	48.41	123	8,809	4,164	0.0	1,181	30.56	11.18	115
11-Jan	0	100	121	0	0.04	0.00	1.41	104	8,588	2,655	0.0	1,253	31.85	11.81	114
12-Jan	0	0	0	0	0.00	0.00	0.00	120	6,643	1,626	0.0	1,132	28.53	10.65	100
13-Jan	0	0	0	0	0.00	0.00	0.00	99	8,540	1,572	0.0	1,324	33.26	12.45	116
14-Jan	0	0	0	0	0.00	0.00	0.00	117	6,833	1,737	0.0	1,030	26.05	9.70	92
15-Jan	0	0	142	0	0.04	0.00	1.66	91	7,827	5,022	0.0	949	25.08	9.02	99
16-Jan	0	891	1,034	0	0.33	0.03	12.06	190	9,242	3,122	0.0	1,342	34.19	12.66	124
17-Jan	0	4,105	4,046	0	1.28	0.10	47.20	146	9,636	3,586	0.0	1,366	34.94	12.89	127
18-Jan	0	2,772	2,079	0	0.66	0.05	24.26	94	9,113	2,845	0.0	1,325	33.68	12.49	121
19-Jan	0	0	0	0	0.00	0.00	0.00	89	9,141	3,907	0.0	1,250	32.17	11.82	119
20-Jan	0	0	0	0	0.00	0.00	0.00	53	7,750	2,496	0.0	1,116	28.42	10.53	102
21-Jan	0	0	0	0	0.00	0.00	0.00	150	7,944	1,948	0.0	1,205	30.45	11.35	107
22-Jan	0	0	311	0	0.10	0.01	3.63	221	7,039	1,341	0.0	1,111	27.92	10.45	97
23-Jan	0	607	967	0	0.31	0.02	11.28	508	6,923	3,268	0.0	997	25.72	9.43	96
24-Jan	0	2,549	2,879	0	0.91	0.07	33.59	292	12,962	4,163	0.0	1,902	48.39	17.93	174
25-Jan	0	4,328	3,928	0	1.24	0.10	45.83	52	9,899	1,732	0.0	1,531	38.43	14.39	133
26-Jan	0	3,956	4,082	0	1.29	0.10	47.62	121	8,392	1,479	0.0	1,310	32.88	12.32	114
27-Jan	0	1,974	2,440	0	0.77	0.06	28.47	111	8,920	891	0.0	1,439	35.91	13.52	122
28-Jan	0	1,005	1,087	0	0.34	0.03	12.68	24	8,541	1,647	0.0	1,306	32.84	12.28	115
29-Jan	0	0	0	0	0.00	0.00	0.00	206	11,489	965	0.0	1,878	46.78	17.63	159
30-Jan	0	0	0	0	0.00	0.00	0.00	287	10,528	1,844	0.0	1,666	41.83	15.67	145
31-Jan	0	0	0	0	0.00	0.00	0.00	178	9,663	2,706	0.0	1,440	36.51	13.57	130

2003

GEORGIA-PACIFIC CORPORATION
PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

PAPER MILL UTILITY REPORT

6A Boiler								9A Boiler							
DATE	S/B MLbs	Steam MLbs	Gas Mcf	Oil Bbls				S/B MLbs	Steam MLbs	Gas Mcf	Rubber Tons	Bark Tons			
PM10EF			7.60E-03	NA						7.60E-03	5.64E+00	5.94E-01			
SO2 EF			6.00E-04	NA	Calculated lbs/hr					6.00E-04	3.08E+01	2.25E-01			
NOX EF			2.80E-01	NA	PM	SO2	Nox			9.91E-02	1.98E+00	1.98E+00	PM	SO2	Nox
01-Feb	0	0	0	0	0.00	0.00	0.00	130	8,707	1,413	0.0	1,369	34.32	12.87	119
02-Feb	0	0	0	0	0.00	0.00	0.00	135	7,722	1,099	0.0	1,228	30.75	11.54	106
03-Feb	0	0	0	0	0.00	0.00	0.00	201	8,537	1,884	0.0	1,317	33.20	12.40	116
04-Feb	0	0	0	0	0.00	0.00	0.00	282	8,124	1,024	0.0	1,325	33.13	12.45	114
05-Feb	0	0	0	0	0.00	0.00	0.00	298	6,701	1,255	0.0	1,074	26.98	10.10	94
06-Feb	0	232	318	0	0.10	0.01	3.71	303	9,562	2,603	0.0	1,452	36.76	13.68	131
07-Feb	0	863	957	0	0.30	0.02	11.17	306	9,979	3,622	0.0	1,447	36.96	13.65	134
08-Feb	0	0	0	0	0.00	0.00	0.00	304	9,793	3,326	0.0	1,437	36.63	13.56	132
09-Feb	0	0	0	0	0.00	0.00	0.00	288	10,258	3,582	0.0	1,493	38.09	14.09	138
10-Feb	0	0	0	0	0.00	0.00	0.00	254	9,088	2,406	0.0	1,448	36.61	13.64	129
11-Feb	0	0	0	0	0.00	0.00	0.00	162	8,963	2,940	0.0	1,304	33.20	12.30	120
12-Feb	0	0	0	0	0.00	0.00	0.00	231	6,795	1,601	0.0	1,053	26.57	9.91	93
13-Feb	0	0	0	0	0.00	0.00	0.00	227	7,725	2,743	0.0	1,123	28.66	10.60	104
14-Feb	0	0	0	0	0.00	0.00	0.00	56	6,771	1,802	0.0	1,005	25.44	9.47	90
15-Feb	0	0	0	0	0.00	0.00	0.00	144	8,270	1,673	0.0	1,279	32.18	12.03	112
16-Feb	0	0	0	0	0.00	0.00	0.00	323	8,400	1,987	0.0	1,307	32.98	12.30	116
17-Feb	0	0	0	0	0.00	0.00	0.00	243	8,785	2,608	0.0	1,312	33.30	12.37	119
18-Feb	0	0	74	0	0.02	0.00	0.86	241	7,295	2,198	0.0	1,094	27.77	10.31	99
19-Feb	0	200	485	0	0.15	0.01	5.66	201	6,639	1,702	0.0	1,014	25.65	9.55	91
20-Feb	0	0	0	0	0.00	0.00	0.00	292	9,079	2,250	0.0	1,396	35.26	13.14	124
21-Feb	0	0	0	0	0.00	0.00	0.00	250	8,767	2,768	0.0	1,299	33.02	12.24	119
22-Feb	0	0	0	0	0.00	0.00	0.00	282	9,275	3,326	0.0	1,347	34.40	12.71	125
23-Feb	0	0	0	0	0.00	0.00	0.00	269	9,178	2,376	0.0	1,399	35.38	13.18	125
24-Feb	0	1,997	2,295	0	0.73	0.06	26.78	143	3,867	2,135	0.0	511	13.32	4.84	51
25-Feb	0	3,802	4,188	0	1.33	0.10	48.86	0	0	0	0.0	0	0.00	0.00	0
26-Feb	0	3,261	3,547	0	1.12	0.09	41.38	0	0	0	0.0	0	0.00	0.00	0
27-Feb	0	2,660	3,054	0	0.97	0.08	35.63	88	2,388	2,541	0.0	225	6.38	2.17	29
28-Feb	0	0	0	0	0.00	0.00	0.00	296	8,707	3,788	0.0	1,221	31.42	11.54	116
01-Mar	0	0	0	0	0.00	0.00	0.00	299	8,624	4,735	0.0	1,138	29.66	10.78	113
02-Mar	0	0	0	0	0.00	0.00	0.00	321	7,804	2,613	0.0	1,161	29.57	10.95	107
03-Mar	0	0	0	0	0.00	0.00	0.00	293	8,208	1,958	0.0	1,272	32.11	11.98	113
04-Mar	0	0	0	0	0.00	0.00	0.00	220	7,995	1,738	0.0	1,241	31.26	11.68	110
05-Mar	0	0	0	0	0.00	0.00	0.00	296	6,124	1,116	0.0	988	24.80	9.29	86
06-Mar	0	0	0	0	0.00	0.00	0.00	314	7,384	1,391	0.0	1,180	29.65	11.10	103

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GEORGIA-PACIFIC CORPORATION
PULP & PAPER DIVISION
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PAPER MILL UTILITY REPORT

DATE	6A Boiler				*	9A Boiler					*				
	S/B MLbs	Steam MLbs	Gas Mcf	Oil Bbls		S/B MLbs	Steam MLbs	Gas Mcf	Rubber Tons	Bark Tons					
PM10EF			7.60E-03	NA				7.60E-03	5.64E+00	5.94E-01					
SO2 EF			6.00E-04	NA	Calculated lbs/hr			6.00E-04	3.08E+01	2.25E-01		Calculated lbs/hr			
NOX EF			2.80E-01	NA	PM	SO2	Nox	9.91E-02	1.98E+00	1.98E+00		PM	SO2	Nox	
07-Mar	0	0	0	0	0.00	0.00	0.00	276	7,953	3,144	0.0	1,139	29.20	10.76	107
08-Mar	0	0	0	0	0.00	0.00	0.00	238	7,825	1,626	0.0	1,224	30.80	11.51	108
09-Mar	0	0	0	0	0.00	0.00	0.00	317	6,110	858	0.0	1,008	25.22	9.47	87
10-Mar	0	0	0	0	0.00	0.00	0.00	315	6,855	639	0.0	1,148	28.61	10.78	97
11-Mar	0	0	555	0	0.18	0.01	6.48	244	7,831	652	0.0	1,298	32.33	12.18	110
12-Mar	0	0	0	0	0.00	0.00	0.00	211	6,157	510	0.0	1,024	25.50	9.61	87
13-Mar	0	0	0	0	0.00	0.00	0.00	250	5,649	33	0.0	981	24.28	9.20	81
14-Mar	0	0	0	0	0.00	0.00	0.00	302	6,403	1,141	0.0	1,033	25.94	9.72	90
15-Mar	0	0	0	0	0.00	0.00	0.00	271	7,075	1,342	0.0	1,125	28.28	10.58	98
16-Mar	0	0	0	0	0.00	0.00	0.00	228	7,357	793	0.0	1,206	30.09	11.32	103
17-Mar	0	0	0	0	0.00	0.00	0.00	273	5,336	360	0.0	908	22.59	8.52	76
18-Mar	0	0	0	0	0.00	0.00	0.00	255	6,858	1,190	0.0	1,098	27.54	10.32	95
19-Mar	0	0	0	0	0.00	0.00	0.00	241	5,395	372	0.0	912	22.69	8.56	77
20-Mar	0	0	0	0	0.00	0.00	0.00	243	7,158	733	0.0	1,179	29.42	11.08	100
21-Mar	0	0	0	0	0.00	0.00	0.00	315	6,692	552	0.0	1,127	28.07	10.58	95
22-Mar	0	0	0	0	0.00	0.00	0.00	252	7,390	790	0.0	1,215	30.33	11.41	104
23-Mar	0	0	0	0	0.00	0.00	0.00	227	7,217	358	0.0	1,214	30.17	11.39	102
24-Mar	0	0	0	0	0.00	0.00	0.00	258	5,452	291	0.0	930	23.11	8.73	78
25-Mar	0	1,103	1,474	0	0.47	0.04	17.20	215	6,639	1,312	0.0	1,046	26.29	9.83	92
26-Mar	0	3,886	4,587	0	1.45	0.11	53.52	267	8,664	1,635	0.0	1,368	34.37	12.86	120
27-Mar	0	3,250	3,844	0	1.22	0.10	44.85	226	8,731	1,068	0.0	1,414	35.33	13.28	121
28-Mar	0	1,798	2,298	0	0.73	0.06	26.81	278	8,550	1,173	0.0	1,385	34.64	13.01	119
29-Mar	0	0	0	0	0.00	0.00	0.00	316	6,610	749	0.0	1,099	27.44	10.32	94
30-Mar	0	0	0	0	0.00	0.00	0.00	314	5,689	522	0.0	962	23.97	9.03	81
31-Mar	0	0	0	0	0.00	0.00	0.00	254	8,255	1,478	0.0	1,309	32.87	12.31	114
01-Apr	0	0	97	0	0.03	0.00	1.13	304	5,714	494	0.0	967	24.08	9.07	82
02-Apr	0	0	105	0	0.03	0.00	1.23	158	6,178	504	0.0	1,019	25.37	9.56	86
03-Apr	0	0	0	0	0.00	0.00	0.00	101	6,358	694	0.0	1,025	25.60	9.63	87
04-Apr	0	0	0	0	0.00	0.00	0.00	116	6,467	878	0.0	1,032	25.83	9.70	89
05-Apr	0	0	0	0	0.00	0.00	0.00	191	6,958	360	0.0	1,165	28.95	10.93	98
06-Apr	0	0	0	0	0.00	0.00	0.00	221	5,882	857	0.0	954	23.88	8.96	82
07-Apr	0	2,751	3,302	0	1.05	0.08	38.52	210	7,670	1,508	0.0	1,185	29.82	11.15	104
08-Apr	0	2,422	2,811	0	0.89	0.07	32.80	285	8,204	1,783	0.0	1,283	32.33	12.08	113
09-Apr	0	0	0	0	0.00	0.00	0.00	260	7,823	954	0.0	1,277	31.90	11.99	109

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PAPER MILL UTILITY REPORT

6A Boiler								9A Boiler							
DATE	S/B MLbs	Steam MLbs	Gas Mcf	Oil Bbls				S/B MLbs	Steam MLbs	Gas Mcf	Rubber Tons	Bark Tons			
PM10EF			7.60E-03	NA						7.60E-03	5.64E+00	5.94E-01			
SO2 EF			6.00E-04	NA	Calculated lbs/hr					6.00E-04	3.08E+01	2.25E-01			
NOX EF			2.80E-01	NA	PM	SO2	Nox			9.91E-02	1.98E+00	1.98E+00	PM	SO2	Nox
10-Apr	0	0	0	0	0.00	0.00	0.00	258	8,689	1,546	0.0	1,377	34.57	12.95	120
11-Apr	0	0	0	0	0.00	0.00	0.00	143	7,491	988	0.0	1,199	30.00	11.27	103
12-Apr	0	0	0	0	0.00	0.00	0.00	112	6,754	581	0.0	1,101	27.45	10.34	93
13-Apr	0	0	0	0	0.00	0.00	0.00	119	5,726	792	0.0	916	22.91	8.60	79
14-Apr	0	0	0	0	0.00	0.00	0.00	90	6,198	592	0.0	1,004	25.04	9.43	85
15-Apr	0	0	0	0	0.00	0.00	0.00	116	5,635	660	0.0	910	22.73	8.55	78
16-Apr	0	0	0	0	0.00	0.00	0.00	74	5,348	587	0.0	860	21.48	8.08	73
17-Apr	0	0	0	0	0.00	0.00	0.00	167	5,036	337	0.0	842	20.95	7.90	71
18-Apr	0	0	0	0	0.00	0.00	0.00	99	5,261	686	0.0	843	21.07	7.92	72
19-Apr	0	0	0	0	0.00	0.00	0.00	93	5,979	377	0.0	984	24.48	9.24	83
20-Apr	0	0	0	0	0.00	0.00	0.00	175	4,208	381	0.0	702	17.50	6.59	60
21-Apr	0	0	0	0	0.00	0.00	0.00	185	4,959	256	0.0	838	20.83	7.87	70
22-Apr	0	0	0	0	0.00	0.00	0.00	202	5,448	492	0.0	905	22.56	8.50	77
23-Apr	0	0	0	0	0.00	0.00	0.00	128	5,807	2,713	0.0	789	20.39	7.46	76
24-Apr	0	0	0	0	0.00	0.00	0.00	77	7,579	827	0.0	1,215	30.33	11.41	104
25-Apr	0	0	0	0	0.00	0.00	0.00	220	7,316	914	0.0	1,189	29.71	11.17	102
26-Apr	0	0	0	0	0.00	0.00	0.00	225	7,365	929	0.0	1,353	33.78	12.71	115
27-Apr	0	0	0	0	0.00	0.00	0.00	92	7,122	496	0.0	1,166	29.02	10.95	98
28-Apr	0	0	0	0	0.00	0.00	0.00	91	6,683	543	0.0	1,089	27.12	10.22	92
29-Apr	0	0	0	0	0.00	0.00	0.00	90	6,281	463	0.0	1,028	25.58	9.65	87
30-Apr	0	0	0	0	0.00	0.00	0.00	74	5,942	481	0.0	967	24.09	9.08	82
01-May	0	0	0	0	0.00	0.00	0.00	4	6,207	240	0.0	1,017	25.26	9.54	85
02-May	0	0	0	0	0.00	0.00	0.00	22	6,044	345	0.0	986	24.50	9.25	83
03-May	0	0	0	0	0.00	0.00	0.00	165	5,939	433	0.0	985	24.53	9.25	83
04-May	0	3,450	4,144	0	1.31	0.10	48.35	88	8,578	1,778	0.0	1,313	33.06	12.35	116
05-May	0	1,825	2,286	0	0.72	0.06	26.67	142	7,633	1,072	0.0	1,217	30.45	11.43	105
06-May	0	1,080	1,749	0	0.55	0.04	20.41	106	7,181	785	0.0	1,157	28.87	10.86	99
07-May	0	2,243	2,871	0	0.91	0.07	33.50	99	7,291	1,431	0.0	1,126	28.32	10.59	99
08-May	0	815	1,640	0	0.52	0.04	19.13	53	7,092	1,129	0.0	1,108	27.77	10.41	96
09-May	0	1,380	2,314	0	0.73	0.06	27.00	99	7,520	1,200	0.0	1,181	29.62	11.10	102
10-May	0	3,499	4,117	0	1.30	0.10	48.03	89	8,428	1,924	0.0	1,278	32.23	12.02	113
11-May	0	3,358	3,985	0	1.26	0.10	46.49	168	7,992	751	0.0	1,305	32.53	12.25	111
12-May	0	2,629	3,255	0	1.03	0.08	37.98	209	8,720	1,355	0.0	1,388	34.79	13.05	120
13-May	0	0	819	0	0.26	0.02	9.56	119	5,390	686	0.0	868	21.69	8.15	74

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6A Boiler								9A Boiler							
DATE	S/B MLbs	Steam MLbs	Gas Mcf	Oil Bbls	Calculated lbs/hr			S/B MLbs	Steam MLbs	Gas Mcf	Rubber Tons	Bark Tons	Calculated lbs/hr		
					PM	SO2	Nox						PM	SO2	Nox
PM10EF			7.60E-03	NA						7.60E-03	5.64E+00	5.94E-01			
SO2 EF			6.00E-04	NA						6.00E-04	3.08E+01	2.25E-01			
NOX EF			2.80E-01	NA						9.91E-02	1.98E+00	1.98E+00			
14-May	0	0	0	0	0.00	0.00	0.00	153	5,616	685	0.0	911	22.76	8.56	78
15-May	0	0	0	0	0.00	0.00	0.00	98	5,263	495	0.0	857	21.37	8.05	73
16-May	0	0	0	0	0.00	0.00	0.00	106	6,058	903	0.0	961	24.06	9.03	83
17-May	0	0	0	0	0.00	0.00	0.00	105	5,843	643	0.0	944	23.56	8.86	81
18-May	0	0	0	0	0.00	0.00	0.00	134	5,679	628	0.0	922	23.03	8.66	79
19-May	0	2,338	2,985	0	0.95	0.07	34.83	81	7,245	1,888	0.0	1,082	27.37	10.19	97
20-May	0	2,577	3,430	0	1.09	0.09	40.02	187	9,232	3,296	0.0	1,327	33.88	12.52	123
21-May	0	0	0	0	0.00	0.00	0.00	245	6,328	1,731	0.0	968	24.50	9.12	87
22-May	0	0	0	0	0.00	0.00	0.00	203	6,684	456	0.0	1,114	27.72	10.46	94
23-May	0	0	0	0	0.00	0.00	0.00	149	6,165	342	0.0	1,027	25.53	9.64	86
24-May	0	0	0	0	0.00	0.00	0.00	93	5,456	690	0.0	874	21.85	8.21	75
25-May	0	0	0	0	0.00	0.00	0.00	112	4,886	723	0.0	780	19.53	7.33	67
26-May	0	0	0	0	0.00	0.00	0.00	207	5,027	816	0.0	1,721	42.85	16.15	145
27-May	0	0	0	0	0.00	0.00	0.00	145	5,065	1,284	0.0	774	19.55	7.28	69
28-May	0	1,050	1,450	0	0.46	0.04	16.92	94	6,937	1,221	0.0	1,082	27.16	10.17	94
29-May	0	2,388	3,087	0	0.98	0.08	36.02	97	7,539	2,421	0.0	1,094	27.84	10.32	100
30-May	0	0	0	0	0.00	0.00	0.00	83	5,636	1,604	0.0	835	21.17	7.87	75
31-May	0	0	0	0	0.00	0.00	0.00	150	6,431	1,725	0.0	970	24.54	9.13	87
01-Jun	0	0	0	0	0.00	0.00	0.00	113	5,297	981	0.0	829	20.84	7.80	72
02-Jun	0	0	0	0	0.00	0.00	0.00	109	5,281	836	0.0	837	20.97	7.86	72
03-Jun	0	0	0	0	0.00	0.00	0.00	115	4,434	548	0.0	718	17.94	6.74	61
04-Jun	0	0	0	0	0.00	0.00	0.00	131	4,472	544	0.0	727	18.17	6.83	62
05-Jun	0	0	0	0	0.00	0.00	0.00	151	4,183	323	0.0	699	17.39	6.56	59
06-Jun	0	0	0	0	0.00	0.00	0.00	157	4,427	326	0.0	740	18.42	6.95	62
07-Jun	0	0	0	0	0.00	0.00	0.00	129	4,714	378	0.0	779	19.41	7.32	66
08-Jun	0	0	0	0	0.00	0.00	0.00	142	4,099	567	0.0	665	16.64	6.25	57
09-Jun	0	0	0	0	0.00	0.00	0.00	109	4,082	374	0.0	671	16.72	6.30	57
10-Jun	0	0	0	0	0.00	0.00	0.00	125	4,370	516	0.0	711	17.76	6.68	61
11-Jun	0	0	0	0	0.00	0.00	0.00	95	5,108	483	0.0	832	20.73	7.81	71
12-Jun	0	0	0	0	0.00	0.00	0.00	90	4,913	4,423	0.0	507	13.96	4.87	60
13-Jun	0	0	0	0	0.00	0.00	0.00	0	4,771	2,550	0.0	607	15.83	5.75	61
14-Jun	0	0	0	0	0.00	0.00	0.00	108	4,658	334	0.0	770	19.16	7.22	65
15-Jun	0	0	0	0	0.00	0.00	0.00	108	5,196	327	0.0	860	21.39	8.07	72
16-Jun	0	0	0	0	0.00	0.00	0.00	75	4,399	319	0.0	722	17.97	6.78	61

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6A Boiler								9A Boiler							
DATE	S/B MLbs	Steam MLbs	Gas Mcf	Oil Bbls	Calculated lbs/hr			S/B MLbs	Steam MLbs	Gas Mcf	Rubber Tons	Bark Tons	Calculated lbs/hr		
PM10EF			7.60E-03	NA						7.60E-03	5.64E+00	5.94E-01			
SO2 EF			6.00E-04	NA						6.00E-04	3.08E+01	2.25E-01			
NOX EF			2.80E-01	NA	PM	SO2	Nox			9.91E-02	1.98E+00	1.98E+00	PM	SO2	Nox
17-Jun	0	0	0	0	0.00	0.00	0.00	96	5,297	475	0.0	864	21.53	8.11	73
18-Jun	0	0	0	0	0.00	0.00	0.00	92	4,338	324	0.0	714	17.78	6.71	60
19-Jun	0	0	0	0	0.00	0.00	0.00	100	5,097	745	0.0	811	20.31	7.62	70
20-Jun	0	0	0	0	0.00	0.00	0.00	84	5,822	618	0.0	939	23.43	8.82	80
21-Jun	0	0	0	0	0.00	0.00	0.00	87	5,198	349	0.0	855	21.27	8.03	72
22-Jun	0	0	0	0	0.00	0.00	0.00	90	5,412	1,121	0.0	834	21.00	7.85	73
23-Jun	0	0	0	0	0.00	0.00	0.00	77	5,849	397	0.0	958	23.85	8.99	81
24-Jun	0	0	0	0	0.00	0.00	0.00	86	6,123	835	0.0	973	24.35	9.14	84
25-Jun	0	857	612	0	0.19	0.02	7.14	83	5,067	2,930	0.0	642	16.82	6.09	65
26-Jun	0	0	0	0	0.00	0.00	0.00	101	4,633	851	0.0	726	18.24	6.83	63
27-Jun	0	0	0	0	0.00	0.00	0.00	136	4,767	324	0.0	793	19.74	7.44	67
28-Jun	0	0	0	0	0.00	0.00	0.00	106	4,298	313	0.0	711	17.69	6.67	60
29-Jun	0	0	0	0	0.00	0.00	0.00	93	4,343	375	0.0	712	17.73	6.68	60
30-Jun	0	0	0	0	0.00	0.00	0.00	151	5,251	516	0.0	862	21.50	8.10	73
01-Jul	0	0	0	0	0.00	0.00	0.00	145	4,005	321	0.0	668	16.63	6.27	56
02-Jul	0	0	0	0	0.00	0.00	0.00	75	4,415	326	0.0	724	18.03	6.80	61
03-Jul	0	0	0	0	0.00	0.00	0.00	143	4,398	497	0.0	720	17.98	6.76	61
04-Jul	0	0	0	0	0.00	0.00	0.00	87	6,359	929	0.0	1,006	25.19	9.45	87
05-Jul	0	0	0	0	0.00	0.00	0.00	91	7,746	1,082	0.0	1,226	30.69	11.52	106
06-Jul	0	0	0	0	0.00	0.00	0.00	82	5,192	977	0.0	807	20.28	7.59	71
07-Jul	0	0	25	0	0.01	0.00	0.29	102	5,735	2,056	0.0	821	20.97	7.75	76
08-Jul	0	0	0	0	0.00	0.00	0.00	37	3,663	824	0.0	556	14.02	5.23	49
09-Jul	0	735	1,124	0	0.36	0.03	13.11	99	6,304	1,729	0.0	940	23.80	8.85	85
10-Jul	0	0	0	0	0.00	0.00	0.00	76	4,557	358	0.0	746	18.57	7.00	63
11-Jul	0	0	0	0	0.00	0.00	0.00	109	4,126	365	0.0	679	16.92	6.37	58
12-Jul	0	0	0	0	0.00	0.00	0.00	90	4,748	338	0.0	781	19.45	7.33	66
13-Jul	0	0	0	0	0.00	0.00	0.00	160	3,859	355	0.0	644	16.04	6.04	55
14-Jul	0	0	0	0	0.00	0.00	0.00	72	4,367	314	0.0	717	17.84	6.73	60
15-Jul	0	0	0	0	0.00	0.00	0.00	60	5,310	1,711	0.0	769	19.57	7.25	70
16-Jul	0	0	0	0	0.00	0.00	0.00	101	3,988	374	0.0	654	16.30	6.14	55
17-Jul	0	0	0	0	0.00	0.00	0.00	90	4,813	507	0.0	780	19.46	7.32	66
18-Jul	0	0	0	0	0.00	0.00	0.00	108	5,643	634	0.0	912	22.77	8.56	78
19-Jul	0	0	0	0	0.00	0.00	0.00	81	5,191	730	0.0	1,219	30.39	11.44	104
20-Jul	0	0	0	0	0.00	0.00	0.00	82	4,504	324	0.0	740	18.43	6.95	62

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GEORGIA-PACIFIC CORPORATION
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6A Boiler								9A Boiler							
DATE	S/B MLbs	Steam MLbs	Gas Mcf	Oil Bbls	Calculated lbs/hr			S/B MLbs	Steam MLbs	Gas Mcf	Rubber Tons	Bark Tons	Calculated lbs/hr		
PM10EF			7.60E-03	NA						7.60E-03	5.64E+00	5.94E-01			
SO2 EF			6.00E-04	NA						6.00E-04	3.08E+01	2.25E-01			
NOX EF			2.80E-01	NA	PM	SO2	Nox			9.91E-02	1.98E+00	1.98E+00	PM	SO2	Nox
21-Jul	0	0	0	0	0.00	0.00	0.00	125	5,259	868	0.0	833	20.90	7.83	72
22-Jul	0	0	0	0	0.00	0.00	0.00	127	4,105	362	0.0	679	16.91	6.37	57
23-Jul	0	0	0	0	0.00	0.00	0.00	94	4,720	430	0.0	771	19.21	7.24	65
24-Jul	0	0	0	0	0.00	0.00	0.00	114	4,079	381	0.0	671	16.72	6.30	57
25-Jul	0	0	0	0	0.00	0.00	0.00	109	4,474	358	0.0	737	18.36	6.92	62
26-Jul	0	0	0	0	0.00	0.00	0.00	95	4,866	394	0.0	798	19.87	7.49	67
27-Jul	0	0	0	0	0.00	0.00	0.00	99	4,156	400	0.0	680	16.95	6.38	58
28-Jul	0	1,181	1,511	0	0.48	0.04	17.63	91	5,824	1,055	0.0	908	22.81	8.54	79
29-Jul	0	3,307	4,001	0	1.27	0.10	46.68	83	7,762	1,309	0.0	970	24.42	9.12	85
30-Jul	0	468	591	0	0.19	0.01	6.90	77	4,269	430	0.0	693	17.28	6.50	59
31-Jul	0	0	0	0	0.00	0.00	0.00	89	4,179	448	0.0	678	16.93	6.37	58
01-Aug	0	0	0	0	0.00	0.00	0.00	81	4,883	370	0.0	800	19.92	7.51	68
02-Aug	0	0	0	0	0.00	0.00	0.00	81	4,075	421	0.0	662	16.51	6.21	56
03-Aug	0	0	0	0	0.00	0.00	0.00	107	6,167	1,118	0.0	963	24.19	9.06	84
04-Aug	0	0	0	0	0.00	0.00	0.00	89	5,503	716	0.0	879	21.99	8.26	75
05-Aug	0	0	0	0	0.00	0.00	0.00	90	4,508	423	0.0	735	18.33	6.90	62
06-Aug	0	0	0	0	0.00	0.00	0.00	108	5,701	1,310	0.0	871	21.98	8.20	77
07-Aug	0	0	0	0	0.00	0.00	0.00	81	5,217	1,158	0.0	798	20.11	7.51	71
08-Aug	0	0	0	0	0.00	0.00	0.00	103	4,644	394	0.0	762	18.99	7.15	64
09-Aug	0	0	0	0	0.00	0.00	0.00	73	4,379	376	0.0	714	17.80	6.71	60
10-Aug	0	0	0	0	0.00	0.00	0.00	90	4,354	371	0.0	713	17.77	6.70	60
11-Aug	0	0	0	0	0.00	0.00	0.00	110	4,709	602	0.0	759	18.97	7.13	65
12-Aug	0	0	0	0	0.00	0.00	0.00	106	4,742	480	0.0	773	19.27	7.25	66
13-Aug	0	0	0	0	0.00	0.00	0.00	102	6,957	1,364	0.0	1,076	27.06	10.12	94
14-Aug	0	170	338	0	0.11	0.01	3.94	92	4,643	806	0.0	730	18.31	6.86	64
15-Aug	0	2,600	2,468	0	0.78	0.06	28.79	25	1,359	384	0.0	202	5.13	1.91	18
16-Aug	0	2,944	3,464	0	1.10	0.09	40.41	0	0	0	0.0	0	0.00	0.00	0
17-Aug	0	2,352	2,934	0	0.93	0.07	34.23	14	922	542	0.0	116	3.04	1.10	12
18-Aug	0	0	0	0	0.00	0.00	0.00	44	6,414	1,887	0.0	937	23.79	8.83	85
19-Aug	0	0	0	0	0.00	0.00	0.00	138	4,720	595	0.0	766	19.14	7.19	66
20-Aug	0	0	0	0	0.00	0.00	0.00	69	5,437	1,443	0.0	811	20.53	7.64	73
21-Aug	0	0	0	0	0.00	0.00	0.00	74	6,806	1,167	0.0	1,061	26.62	9.97	92
22-Aug	0	0	0	0	0.00	0.00	0.00	83	5,550	1,060	0.0	861	21.64	8.09	75
23-Aug	0	0	0	0	0.00	0.00	0.00	75	4,265	657	0.0	675	16.91	6.34	58

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6A Boiler								9A Boiler							
DATE	S/B MLbs	Steam MLbs	Gas Mcf	Oil Bbls				S/B MLbs	Steam MLbs	Gas Mcf	Rubber Tons	Bark Tons			
PM10EF			7.60E-03	NA						7.60E-03	5.64E+00	5.94E-01			
SO2 EF			6.00E-04	NA	Calculated lbs/hr					6.00E-04	3.08E+01	2.25E-01			
NOX EF			2.80E-01	NA	PM	SO2	Nox			9.91E-02	1.98E+00	1.98E+00	PM	SO2	Nox
24-Aug	0	0	0	0	0.00	0.00	0.00	74	4,856	674	0.0	772	19.32	7.25	66
25-Aug	0	0	0	0	0.00	0.00	0.00	73	7,767	3,057	0.0	1,081	27.72	10.21	102
26-Aug	0	385	1,035	0	0.33	0.03	12.08	74	7,878	1,851	0.0	1,189	30.01	11.19	106
27-Aug	0	3,151	3,819	0	1.21	0.10	44.56	60	8,617	2,318	0.0	1,275	32.29	12.01	115
28-Aug	0	1,387	1,792	0	0.57	0.04	20.91	62	5,368	2,870	0.0	693	18.07	6.57	69
29-Aug	0	634	874	0	0.28	0.02	10.20	59	3,953	861	0.0	605	15.25	5.69	53
30-Aug	0	0	0	0	0.00	0.00	0.00	75	5,051	423	0.0	823	20.50	7.73	70
31-Aug	0	0	0	0	0.00	0.00	0.00	76	4,845	341	0.0	795	19.78	7.46	67
01-Sep	0	42	433	0	0.14	0.01	5.05	54	6,579	1,960	0.0	961	24.40	9.06	87
02-Sep	0	0	238	0	0.08	0.01	2.78	73	5,897	548	0.0	955	23.80	8.96	81
03-Sep	0	0	142	0	0.04	0.00	1.66	75	6,665	1,735	0.0	995	25.18	9.37	89
04-Sep	0	0	55	0	0.02	0.00	0.64	103	5,338	395	0.0	878	21.85	8.24	74
05-Sep	0	1,026	1,606	0	0.51	0.04	18.74	66	2,639	552	0.0	410	10.32	3.86	36
06-Sep	0	3,354	2,787	0	0.88	0.07	32.52	0	0	76	0.0	0	0.02	0.00	0
07-Sep	0	151	191	0	0.06	0.00	2.23	97	4,256	693	0.0	674	16.91	6.34	58
08-Sep	0	0	0	0	0.00	0.00	0.00	77	4,308	374	0.0	703	17.52	6.60	60
09-Sep	0	0	0	0	0.00	0.00	0.00	75	3,955	305	0.0	649	16.16	6.09	55
10-Sep	0	0	0	0	0.00	0.00	0.00	75	4,379	529	0.0	695	17.37	6.53	60
11-Sep	0	0	0	0	0.00	0.00	0.00	71	3,667	295	0.0	601	14.97	5.64	51
12-Sep	0	0	0	0	0.00	0.00	0.00	96	4,566	304	0.0	755	18.77	7.08	64
13-Sep	0	0	0	0	0.00	0.00	0.00	71	6,237	1,218	0.0	961	24.18	9.04	84
14-Sep	0	0	0	0	0.00	0.00	0.00	122	6,395	806	0.0	1,027	25.67	9.65	88
15-Sep	0	0	0	0	0.00	0.00	0.00	80	4,331	302	0.0	713	17.74	6.69	60
16-Sep	0	0	0	0	0.00	0.00	0.00	64	4,289	293	0.0	704	17.51	6.61	59
17-Sep	0	0	0	0	0.00	0.00	0.00	62	5,434	443	0.0	883	22.00	8.29	75
18-Sep	0	0	0	0	0.00	0.00	0.00	50	5,896	577	0.0	948	23.66	8.91	81
19-Sep	0	0	0	0	0.00	0.00	0.00	133	4,906	2,859	0.0	629	16.47	5.97	64
20-Sep	0	0	0	0	0.00	0.00	0.00	122	3,619	294	0.0	602	14.99	5.65	51
21-Sep	0	0	0	0	0.00	0.00	0.00	139	5,839	977	0.0	924	23.18	8.69	80
22-Sep	0	0	0	0	0.00	0.00	0.00	137	5,352	427	0.0	883	22.00	8.29	75
23-Sep	0	0	0	0	0.00	0.00	0.00	119	4,427	399	0.0	728	18.15	6.84	62
24-Sep	0	0	0	0	0.00	0.00	0.00	187	3,500	291	0.0	593	14.77	5.57	50
25-Sep	0	0	0	0	0.00	0.00	0.00	92	4,274	331	0.0	703	17.51	6.60	59
26-Sep	0	0	0	0	0.00	0.00	0.00	57	5,646	557	0.0	909	22.68	8.54	77

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DATE	6A Boiler					9A Boiler								
	S/B MLbs	Steam MLbs	Gas Mcf	Oil Bbls		S/B MLbs	Steam MLbs	Gas Mcf	Rubber Tons	Bark Tons		Calculated lbs/hr		
PM10EF			7.60E-03	NA				7.60E-03	5.64E+00	5.94E-01				
SO2 EF			6.00E-04	NA	Calculated lbs/hr			6.00E-04	3.08E+01	2.25E-01				
NOX EF			2.80E-01	NA	PM SO2 Nox			9.91E-02	1.98E+00	1.98E+00		PM SO2 Nox		
27-Sep	0	0	0	0	0.00 0.00 0.00	105	5,642	551	0.0	917		22.87 8.61 78		
28-Sep	0	0	0	0	0.00 0.00 0.00	226	4,307	1,747	0.0	627		16.06 5.92 59		
29-Sep	0	0	0	0	0.00 0.00 0.00	232	5,589	6,631	0.0	481		14.00 4.67 67		
30-Sep	0	0	0	0	0.00 0.00 0.00	149	5,701	1,855	0.0	838		21.33 7.90 77		
01-Oct	0	0	167	0	0.05 0.00 1.95	243	5,152	853	0.0	836		20.97 7.86 73		
02-Oct	0	0	0	0	0.00 0.00 0.00	201	5,353	553	0.0	885		22.08 8.31 75		
03-Oct	0	0	205	0	0.06 0.01 2.39	71	5,721	514	0.0	927		23.12 8.71 79		
04-Oct	0	3,652	4,544	0	1.44 0.11 53.01	88	7,896	1,228	0.0	694		17.55 6.53 62		
05-Oct	0	3,198	3,917	0	1.24 0.10 45.70	103	8,798	2,674	0.0	782		20.21 7.40 76		
06-Oct	0	3,230	3,816	0	1.21 0.10 44.52	88	8,090	1,017	0.0	1,535		38.32 14.42 131		
07-Oct	0	3,463	4,114	0	1.30 0.10 48.00	92	7,441	2,083	0.0	1,477		37.22 13.90 130		
08-Oct	0	3,513	4,171	0	1.32 0.10 48.66	88	7,387	2,391	0.0	1,423		35.97 13.40 127		
09-Oct	0	3,964	4,798	0	1.52 0.12 55.98	102	7,157	2,366	0.0	1,368		34.60 12.88 123		
10-Oct	0	2,089	2,806	0	0.89 0.07 32.74	110	6,923	1,666	0.0	921		23.33 8.68 83		
11-Oct	0	834	1,253	0	0.40 0.03 14.62	100	5,410	1,147	0.0	834		21.00 7.84 74		
12-Oct	0	0	0	0	0.00 0.00 0.00	132	6,247	901	0.0	997		24.95 9.37 86		
13-Oct	0	0	0	0	0.00 0.00 0.00	93	5,781	657	0.0	931		23.24 8.74 79		
14-Oct	0	0	0	0	0.00 0.00 0.00	181	4,886	372	0.0	817		20.34 7.67 69		
15-Oct	0	0	0	0	0.00 0.00 0.00	132	6,047	657	0.0	981		24.50 9.22 84		
16-Oct	0	0	0	0	0.00 0.00 0.00	103	5,458	572	0.0	885		22.08 8.31 75		
17-Oct	0	0	0	0	0.00 0.00 0.00	226	5,819	995	0.0	934		23.43 8.78 81		
18-Oct	0	0	0	0	0.00 0.00 0.00	194	5,892	424	0.0	983		24.46 9.23 83		
19-Oct	0	0	0	0	0.00 0.00 0.00	88	5,487	344	0.0	904		22.48 8.48 76		
20-Oct	0	0	0	0	0.00 0.00 0.00	103	6,168	1,081	0.0	965		24.24 9.08 84		
21-Oct	0	418	726	0	0.23 0.02 8.47	78	4,963	585	0.0	797		19.91 7.49 68		
22-Oct	0	1,446	2,024	0	0.64 0.05 23.61	119	5,954	704	0.0	960		23.99 9.02 82		
23-Oct	0	0	169	0	0.05 0.00 1.97	98	5,999	813	0.0	956		23.92 8.98 82		
24-Oct	0	0	0	0	0.00 0.00 0.00	90	7,187	1,147	0.0	1,128		28.29 10.61 98		
25-Oct	0	0	0	0	0.00 0.00 0.00	91	7,184	1,147	0.0	1,128		28.28 10.60 98		
26-Oct	0	0	0	0	0.00 0.00 0.00	266	7,715	1,276	0.0	1,236		31.00 11.62 107		
27-Oct	0	0	0	0	0.00 0.00 0.00	188	7,254	984	0.0	1,168		29.21 10.97 100		
28-Oct	0	0	0	0	0.00 0.00 0.00	121	5,819	1,348	0.0	891		22.47 8.38 79		
29-Oct	0	0	0	0	0.00 0.00 0.00	86	6,022	607	0.0	973		24.28 9.14 83		
30-Oct	0	0	0	0	0.00 0.00 0.00	128	7,102	1,702	0.0	1,079		27.25 10.16 96		

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6A Boiler								9A Boiler							
DATE	S/B MLbs	Steam MLbs	Gas Mcf	Oil Bbls	Calculated lbs/hr			S/B MLbs	Steam MLbs	Gas Mcf	Rubber Tons	Bark Tons	Calculated lbs/hr		
					PM	SO2	Nox						PM	SO2	Nox
PM10EF			7.60E-03	NA						7.60E-03	5.64E+00	5.94E-01			
SO2 EF			6.00E-04	NA						6.00E-04	3.08E+01	2.25E-01			
NOX EF			2.80E-01	NA						9.91E-02	1.98E+00	1.98E+00			
31-Oct	0	0	0	0	0.00	0.00	0.00	119	6,512	520	0.0	1,067	26.57	10.01	90
01-Nov	0	0	0	0	0.00	0.00	0.00	105	6,429	468	0.0	1,054	26.25	9.90	89
02-Nov	0	0	0	0	0.00	0.00	0.00	102	6,175	549	0.0	1,006	25.06	9.44	85
03-Nov	0	0	0	0	0.00	0.00	0.00	109	5,946	387	0.0	981	24.39	9.20	82
04-Nov	0	0	0	0	0.00	0.00	0.00	164	5,190	609	0.0	847	21.17	7.96	72
05-Nov	0	0	0	0	0.00	0.00	0.00	155	4,727	648	0.0	766	19.16	7.20	66
06-Nov	0	0	0	0	0.00	0.00	0.00	294	5,541	635	0.0	913	22.80	8.58	78
07-Nov	0	0	0	0	0.00	0.00	0.00	288	6,939	1,274	0.0	1,110	27.89	10.44	97
08-Nov	0	0	0	0	0.00	0.00	0.00	295	6,871	980	0.0	1,122	28.08	10.54	97
09-Nov	0	0	0	0	0.00	0.00	0.00	293	6,906	1,132	0.0	1,116	27.99	10.49	97
10-Nov	0	0	0	0	0.00	0.00	0.00	208	6,046	662	0.0	993	24.80	9.33	85
11-Nov	0	0	0	0	0.00	0.00	0.00	113	5,677	687	0.0	914	22.85	8.59	78
12-Nov	0	0	0	0	0.00	0.00	0.00	142	5,476	925	0.0	868	21.78	8.16	75
13-Nov	0	273	451	0	0.14	0.01	5.26	284	5,342	635	0.0	891	22.25	8.37	76
14-Nov	0	3,105	3,636	0	1.15	0.09	42.42	230	6,515	708	0.0	1,072	26.75	10.07	91
15-Nov	0	2,874	3,434	0	1.09	0.09	40.06	105	6,182	335	0.0	1,023	25.43	9.60	86
16-Nov	0	2,794	3,326	0	1.05	0.08	38.80	107	5,909	324	0.0	979	24.33	9.18	82
17-Nov	0	2,821	3,395	0	1.08	0.08	39.61	198	5,847	849	0.0	945	23.65	8.88	81
18-Nov	0	3,167	3,833	0	1.21	0.10	44.72	237	6,467	1,700	0.0	992	25.09	9.34	89
19-Nov	0	2,803	3,367	0	1.07	0.08	39.28	289	6,290	1,657	0.0	974	24.64	9.17	87
20-Nov	0	2,849	3,524	0	1.12	0.09	41.11	280	5,787	923	0.0	943	23.63	8.86	82
21-Nov	0	3,295	3,901	0	1.24	0.10	45.51	251	6,946	1,384	0.0	1,097	27.60	10.32	96
22-Nov	0	3,116	3,756	0	1.19	0.09	43.82	254	6,567	833	0.0	1,075	26.88	10.10	92
23-Nov	0	3,157	3,848	0	1.22	0.10	44.89	286	7,383	2,933	0.0	1,062	27.21	10.03	100
24-Nov	0	3,325	4,152	0	1.31	0.10	48.44	301	9,539	6,064	0.0	1,192	31.43	11.33	123
25-Nov	0	3,944	4,818	0	1.53	0.12	56.21	295	12,346	8,918	0.0	1,449	38.68	13.80	156
26-Nov	0	3,250	4,124	0	1.31	0.10	48.11	255	6,126	583	0.0	1,020	25.44	9.58	87
27-Nov	0	2,365	3,479	0	1.10	0.09	40.59	294	8,171	1,656	0.0	1,289	32.42	12.12	113
28-Nov	0	3,272	4,173	0	1.32	0.10	48.69	290	8,604	1,990	0.0	1,335	33.68	12.57	118
29-Nov	0	2,738	3,724	0	1.18	0.09	43.45	272	7,977	1,528	0.0	1,262	31.72	11.87	110
30-Nov	0	3,000	3,724	0	1.18	0.09	43.45	273	7,977	1,529	0.0	1,262	31.72	11.87	110
01-Dec	0	3,265	4,409	0	1.40	0.11	51.44	298	8,050	1,733	0.0	1,263	31.82	11.89	111
02-Dec	0	4,181	5,039	0	1.60	0.13	58.79	280	9,327	3,506	0.0	1,342	34.34	12.67	125
03-Dec	0	3,802	4,590	0	1.45	0.11	53.55	222	8,411	2,541	0.0	1,251	31.77	11.79	114

2003

GEORGIA-PACIFIC CORPORATION
PULP & PAPER DIVISION
CROSSETT PAPER OPERATIONS

PAPER MILL UTILITY REPORT

DATE	6A Boiler					9A Boiler								
	S/B MLbs	Steam MLbs	Gas Mcf	Oil Bbls		S/B MLbs	Steam MLbs	Gas Mcf	Rubber Tons	Bark Tons				
PM10EF			7.60E-03	NA				7.60E-03	5.64E+00	5.94E-01				
SO2 EF			6.00E-04	NA	Calculated lbs/hr			6.00E-04	3.08E+01	2.25E-01		Calculated lbs/hr		
NOX EF			2.80E-01	NA	PM SO2 Nox			9.91E-02	1.98E+00	1.98E+00		PM SO2 Nox		
04-Dec	0	2,635	3,347	0	1.06 0.08 39.05	250	6,648	745	0.0	1,095		27.33 10.28 93		
05-Dec	0	3,710	4,421	0	1.40 0.11 51.58	308	7,926	1,889	0.0	1,233		31.11 11.61 110		
06-Dec	0	671	894	0	0.28 0.02 10.43	279	7,476	1,416	0.0	1,188		29.85 11.17 104		
07-Dec	0	936	1,295	0	0.41 0.03 15.11	279	7,719	1,325	0.0	1,235		30.99 11.61 107		
08-Dec	0	727	1,264	0	0.40 0.03 14.75	250	5,837	820	0.0	954		23.87 8.96 82		
09-Dec	0	3,713	4,445	0	1.41 0.11 51.86	247	8,621	2,609	0.0	1,285		32.64 12.12 117		
10-Dec	0	2,018	2,685	0	0.85 0.07 31.33	263	7,195	1,367	0.0	1,142		28.70 10.74 100		
11-Dec	0	2,272	2,910	0	0.92 0.07 33.95	302	6,901	1,724	0.0	1,073		27.11 10.11 96		
12-Dec	0	1,635	2,101	0	0.67 0.05 24.51	302	6,019	733	0.0	999		24.97 9.39 85		
13-Dec	0	0	0	0	0.00 0.00 0.00	294	7,115	2,291	0.0	1,066		27.10 10.05 97		
14-Dec	0	0	0	0	0.00 0.00 0.00	292	8,141	3,094	0.0	1,177		30.11 11.11 110		
15-Dec	0	0	245	0	0.08 0.01 2.86	268	7,847	2,052	0.0	1,201		30.38 11.31 108		
16-Dec	0	1,198	1,733	0	0.55 0.04 20.22	303	8,397	2,875	0.0	1,238		31.55 11.68 114		
17-Dec	0	429	548	0	0.17 0.01 6.39	305	7,349	1,051	0.0	1,198		29.99 11.26 103		
18-Dec	0	0	0	0	0.00 0.00 0.00	322	7,876	2,345	0.0	1,193		30.28 11.25 108		
19-Dec	0	0	0	0	0.00 0.00 0.00	310	7,473	2,118	0.0	1,141		28.91 10.75 103		
20-Dec	0	0	0	0	0.00 0.00 0.00	312	6,836	1,474	0.0	1,083		27.26 10.19 95		
21-Dec	0	0	0	0	0.00 0.00 0.00	274	6,999	1,493	0.0	1,102		27.75 10.37 97		
22-Dec	0	0	0	0	0.00 0.00 0.00	261	6,989	1,518	0.0	1,096		27.61 10.32 97		
23-Dec	0	0	0	0	0.00 0.00 0.00	304	5,830	709	0.0	970		24.23 9.11 83		
24-Dec	0	0	0	0	0.00 0.00 0.00	322	6,579	712	0.0	1,098		27.39 10.31 93		
25-Dec	0	0	0	0	0.00 0.00 0.00	318	7,317	1,336	0.0	1,174		29.48 11.04 102		
26-Dec	0	0	0	0	0.00 0.00 0.00	316	7,279	1,073	0.0	1,187		29.71 11.15 102		
27-Dec	0	0	0	0	0.00 0.00 0.00	297	7,191	1,572	0.0	1,132		28.51 10.65 100		
28-Dec	0	0	0	0	0.00 0.00 0.00	277	6,540	865	0.0	1,072		26.81 10.07 92		
29-Dec	0	1,523	1,922	0	0.61 0.05 22.42	172	2,310	1,364	0.0	313		8.18 2.97 31		
30-Dec	0	2,971	3,741	0	1.18 0.09 43.65	43	664	915	0.0	50		1.53 0.49 8		
31-Dec	0	1,075	1,380	0	0.44 0.03 16.10	100	3,656	522	0.0	587		14.71 5.52 51		
01-Jan	0	0	0	0	0.00 0.00 0.00	85	5,628	359	0.0	926		23.02 8.69 78		
02-Jan	0	0	0	0	0.00 0.00 0.00	89	5,827	739	0.0	931		23.29 8.75 80		
03-Jan	0	0	0	0	0.00 0.00 0.00	89	4,723	410	0.0	772		19.23 7.25 65		
	0	4,328.00	5,039.00	0	1.60 0.13 58.79	58,170	2,344,793	472,484	0	367,133		48.39 17.93 174.09		

Maximum Daily Gas Usage for 6A Boiler

Month	2001		2002		2003	
	High Day	Gas Usage	High Day	Gas Usage	High Day	Gas Usage
January	19	4921	20	5156	9	4591
February	2	4569	27	2579	24	4188
March	10	6032	22	5685	26	4587
April	9	5415	5	4295	7	3302
May	12	7772	10	4876	4	4144
June	5	3303	31	4803	25	612
July	10	4026	31	3281	29	4001
August	22	5178	2	4609	27	3819
September	13	1201	21	3133	6	2787
October	22	5023	29	2168	9	4798
November	30	2989	6	5058	25	4818
December	28	4321	12	3704	2	5039

Maximum Gas	7772	5685	5039
Usage Per Day	MCF	MCF	MCF

Emissions			
PM	2.4611333	1.80025	1.5956833
SO2	0.1943	0.142125	0.125975
NOX	32.383333	23.6875	20.995833
NOX (low NOX)	16.191667	11.84375	10.497917

Sample Calculation			
7772 MCF	1 MMCF	7.6 lb PM	1 day
day	1000 MCF	MMCF	24 hr

AP-42 Factors

PM	7.6
SO2	0.6
NOX	100
NOX	50 for Low NOX burners

Crossett Paper Operations
Title V Renewal Application May 2008
Emission Calculations:

Emissions from the 6A Boiler are directly tied to the amount and combination of fuels combusted in the boiler. For each pollutant, the two fuels used can be sorted in terms of their potential to generate the highest emissions. Therefore, for each pollutant, a hierarchy of the available fuels is established starting with the fuel with the highest emission factor. As natural gas can be fired at the maximum rating of the boiler, if the natural gas emission factor is greater than the specification oil factor, only emissions associated with natural gas use are needed. If, however, the specification oil emission factor is greater, emissions will be calculated using the maximum firing rate of specification oil and emissions associated with the remaining capacity of the boiler (357 MMBtu/hr - 280.8 MMBtu/hr) will be calculated using natural gas emission factors.

PM/PM₁₀

PM/PM₁₀ emissions from the 6A Boiler are not limited by any NSPS or other standard. As such, potential emissions have been calculated by applying the calculation hierarchy previously described and including a safety factor.

Fuel Hierarchy	Emission Factor (lb/MMBtu)	Maximum Firing Rate (MMBtu/hr)	Safety Factor	Emission Rates^A (lb/hr) (tpy)	
Specification Oil (Short-term)	0.11	280.8	1.2	36.7	-
Specification Oil (Long-term)	0.08	280.8	1.2	-	117.4
Natural Gas	7.6E-03	76.2	1.2	0.7	3.0
Total Emissions =				37.4	120.4

A. Emission Rates (lb/hr) = Emission Factor (lb/MMBtu) * Maximum Firing Rate (MMBtu/hr) * Safety Factor
 Emission Rates (tpy) = Emission Rate (lb/hr) * (8,760 hr/yr) * (ton/2,000 lb)

SO₂

SO₂ emissions from the 6A Boiler are not limited by any NSPS or other standard. As such, potential emissions have been calculated by applying the calculation hierarchy previously described. A safety factor is not included in calculating potential emissions of SO₂.

Fuel Hierarchy	Emission Factor (lb/MMBtu)	Maximum Firing Rate (MMBtu/hr)	Emission Rates^A (lb/hr) (tpy)	
Specification Oil (Short-term)	1.51	280.8	423.9	-
Specification Oil (Long-term)	1.01	280.8	-	1,237.8
Natural Gas	6.0E-04	76.2	4.6E-02	0.2
Total Emissions =			423.9	1,238.0

A. Emission Rates (lb/hr) = Emission Factor (lb/MMBtu) * Maximum Firing Rate (MMBtu/hr)
 Emission Rates (tpy) = Emission Rate (lb/hr) * (8,760 hr/yr) * (ton/2,000 lb)

Crossett Paper Operations
Title V Renewal Application May 2008

VOC

VOC emissions from the 6A Boiler are not limited by any NSPS or other standard. As such, potential emissions have been calculated by applying the calculation hierarchy previously described and including a safety factor.

Fuel Hierarchy	Emission Factor (lb/MMBtu)	Maximum Firing Rate (MMBtu/hr)	Safety Factor	Emission Rates^A (lb/hr) (tpy)	
Natural Gas	5.5E-03	357.0	1.2	2.4	10.5
Total Emissions =				2.4	10.5

- A. Emission Rates (lb/hr) = Emission Factor (lb/MMBtu) * Maximum Firing Rate (MMBtu/hr) * Safety Factor
 Emission Rates (tpy) = Emission Rate (lb/hr) * (8,760 hr/yr) * (ton/2,000 lb)

CO

CO emissions from the 6A Boiler are not limited by any NSPS or other standard. As such, potential emissions have been calculated by applying the calculation hierarchy previously described and including a safety factor.

Fuel Hierarchy	Emission Factor (lb/MMBtu)	Maximum Firing Rate (MMBtu/hr)	Safety Factor	Emission Rates^A (lb/hr) (tpy)	
Natural Gas	8.4E-02	357.0	1.2	36.0	157.7
Total Emissions =				36.0	157.7

- A. Emission Rates (lb/hr) = Emission Factor (lb/MMBtu) * Maximum Firing Rate (MMBtu/hr) * Safety Factor
 Emission Rates (tpy) = Emission Rate (lb/hr) * (8,760 hr/yr) * (ton/2,000 lb)

NO_x

NO_x emissions from the 6A Boiler are not limited by any NSPS or other standard. As such, potential emissions have been calculated by applying the calculation hierarchy previously described and including a safety factor.

Fuel Hierarchy	Emission Factor (lb/MMBtu)	Maximum Firing Rate (MMBtu/hr)	Safety Factor	Emission Rates^A (lb/hr) (tpy)	
Specification Oil	0.30	0.0	1.2	0.0	0.0
Natural Gas	0.28	357.0	1.0	100.0	438.0
Total Emissions =				100.0	438.0

- A. Emission Rates (lb/hr) = Emission Factor (lb/MMBtu) * Maximum Firing Rate (MMBtu/hr) * Safety Factor
 Emission Rates (tpy) = Emission Rate (lb/hr) * (8,760 hr/yr) * (ton/2,000 lb)



Crossett Paper Operations

Title V Renewal Application May 2008

Pb

Lead emissions are not limited by any NSPS or other standard; therefore, potential emissions are estimated using the calculation hierarchy previously described.

Fuel Hierarchy	Emission Factor (lb/MMBtu)	Maximum Firing Rate (MMBtu/hr)	Safety Factor	Emission Rates ^A (lb/hr) (tpy)	
Specification Oil	9.7E-06	280.8	1.2	3.3E-03	1.4E-02
Natural Gas	5.0E-07	76.2	1.2	4.6E-05	2.0E-04
Total Emissions =				3.3E-03	1.4E-02

- A. Emission Rates (lb/hr) = Emission Factor (lb/MMBtu) * Maximum Firing Rate (MMBtu/hr) * Safety Factor
Emission Rates (tpy) = Emission Rate (lb/hr) * (8,760 hr/yr) * (ton/2,000 lb)

9A (SN-22) Stack Test Results

lbs/hr	2008	2009	2010
SO2 (11/2/2006)	96.32	96.32	96.32
NOx	149.36	105.73	136.49
PM	61.11	78.07	61.92

11/18/2008 12/4/2009 12/17/2010

9A Operating Time	min/quarter	1	2	3	4	Total (Hrs)
	2008	130680	127695	116160	129840	8406.25
	2009	127879.8	129294	113478	131904	8375.93
	2010	129504	128034	131700	122484	8528.7

9A (SN-22)

TPY	2008	2009	2010
SO2	404.85	403.38	410.74
NOx	627.78	442.79	582.04
PM	256.85	326.95	264.05

	lb PM/hr	MMBtu/hr	lb/MMBtu
Run 1	68.21	588.78	0.11585
Run 2	57.32	613.65	0.093408
Run 3	57.45	574.36	0.100024

	lb NOx/hr	MMBtu/hr	lb/MMBtu
Run 1	45.47	475.15	0.095696
Run 2	45.66	475.07	0.096112
Run 3	45.35	429.54	0.105578

Emission Factors and Throughputs:

Emission factors and throughputs have been researched and are summarized in the following tables.

Table 6A-1

Summary of Criteria Pollutant Emission Factors for the 6A Boiler (SN-19) (lb/MMBtu)												
Fuel	PM ₁₀	Note	SO ₂	Note	VOC	Note	CO	Note	NO _x	Note	Pb	Note
Natural Gas	7.6E-03	A	6.0E-04	A	5.5E-03	A	8.4E-02	B	0.28	B	5.0E-07	A
Specification Oil (Short-term)	0.11	C	1.51	C	1.8E-03	D	3.2E-02	C	0.30	C	9.7E-06	E
Specification Oil (Long-term)	0.08	C	1.01	C	1.8E-03	D	3.2E-02	C	0.30	C	9.7E-06	E

- A. Emission factor obtained from AP-42 Section 1.4, Table 1.4-2, given in terms of lb/MMscf and converted to lb/MMBtu.
- B. Emission factor obtained from AP-42 Section 1.4, Table 1.4-1 for uncontrolled post-NSPS large wall-fired boilers, given terms of lb/MMscf and converted to lb/MMBtu.
- C. Emission factor obtained from AP-42 Section 1.3, Table 1.3-1, boilers >100 MMBtu/hr firing No. 6 fuel oil, converted from lb/mgal to lb/MMBtu.
AP-42 PM₁₀ emission factor (lb/mgal) = 9.19 * Sulfur Content (% by weight) + 3.22
AP-42 SO₂ emission factor (lb/mgal) = 157 * Sulfur Content (% by weight)
Short-term maximum sulfur content: 1.5 %
Long-term average sulfur content: 1.0 %
- D. Emission factor obtained from AP-42 Section 1.3, Table 1.3-3 for industrial boilers firing No. 6 fuel oil, converted from lb/mgal to lb/MMBtu.
- E. Emission factor obtained from AP-42 Section 1.3, Table 1.3-11 for industrial boilers firing No. 6 fuel oil, converted from lb/mgal to lb/MMBtu.

Table 6A-2

Maximum Fuel Firing Rates and Heating Values for the 6A Boiler (SN-19)				
Fuel	Maximum Rate (MMBtu/hr)	Note	Heating Value	Note
Natural Gas	357.0	A	1,000 Btu/scf	B
Specification Oil	280.8	C	156 MMBtu/mgal	D

- A. Maximum rating of the unit.
- B. Heating value obtained from AP-42 Section 1.4, Page 1.4-1.
- C. Based on a permit limit of 1,800 gallons per hour.
- D. Mill-specific data.

Emission Factors and Throughputs:

Emission factors and throughputs have been researched and are summarized in the following tables.

Table 9A-1

Summary of Criteria Pollutant Emission Factors for the 9A Boiler (SN-22) (lb/MMBtu)										
Fuel	PM ₁₀	Note	SO ₂	Note	VOC	Note	CO	Note	NO _x	Note
Woodwaste	0.066	A	0.025	B	0.017	C	0.6	B	0.22	B
Natural Gas	7.6E-03	E	6.0E-04	E	5.5E-03	E	8.4E-02	F	0.19	F
Specification Oil (Short-term)	0.11	G	1.51	G	0.002	H	3.2E-02	G	0.30	G
Specification Oil (Long-term)	0.08	G	1.01	G	0.002	H	3.2E-02	G	0.30	G
TDF	0.188	J	1.03	K	-	L	-	L	-	L
ADF	0.066	M	0.025	M	0.017	M	0.6	M	0.22	M
RDF	0.15	N	0.25	N	-	O	2.0	N	0.2	N
Sludge	-	Q	-	Q	-	Q	-	Q	-	Q
NCGs	-	-	(lb/ADTP) 0.76	R	-	-	-	-	-	-

- A. Woodwaste PM₁₀ emission factor obtained from AP-42 Section 1.6, Table 1.6-1 for boilers with a wet scrubber control device.
- B. Emission factor obtained from AP-42 Section 1.6, Table 1.6-2, for "bark/bark and wet wood/wet wood-fired boiler".
- C. Emission factor obtained from AP-42 Section 1.6, Table 1.6-3.
- D. Emission factor obtained from AP-42 Section 1.6, Table 1.6-4.
- E. Emission factor obtained from AP-42 Section 1.4, Table 1.4-2, given in terms of lb/MMscf and converted to lb/MMBtu.
- F. Emission factor obtained from AP-42 Section 1.4, Table 1.4-1 for uncontrolled post-NSPS large wall-fired boilers, given in terms of lb/MMscf and converted to lb/MMBtu.
- G. Emission factor obtained from AP-42 Section 1.3, Table 1.3-1, boilers >100 MMBtu/hr firing No. 6 fuel oil, converted from lb/mgal to lb/MMBtu.
AP-42 PM₁₀ emission factor (lb/mgal) = 9.19 * Sulfur Content (% by weight) + 3.22
AP-42 SO₂ emission factor (lb/mgal) = 157 * Sulfur Content (% by weight)
- Short-term maximum sulfur content 1.5 %
Long-term maximum sulfur content 1.0 %
- H. Emission factor obtained from AP-42 Section 1.3, Table 1.3-3 for industrial boilers firing No. 6 fuel oil, converted from lb/mgal to lb/MMBtu.
- I. Emission factor obtained from AP-42 Section 1.3, Table 1.3-11 for industrial boilers firing No. 6 fuel oil, converted from lb/mgal to lb/MMBtu of lb/mgal and converted to lb/MMBtu.
- J. Emission factor obtained from NCASI Technical Bulletin No. 906: Alternative Fuels Used In The Forest Products Industry: Their Composition and Impact On Emissions (September 2005), Table 3.8, Boiler L (venturi scrubber) Run 2 where fuel composition was 93% wood and 7% TDF.
- K. SO₂ emission factor is based on % sulfur in the TDF. For calculation of potential emissions, the average % sulfur given in NCASI Technical Bulletin No. 906: Alternative Fuels Used In The Forest Products Industry: Their Composition And Impact On Emissions (September 2005), of 1.8% is used to determine the SO₂ potential emission factor. The Crossett facility conducted a TDF composition analysis in November 2006 and found that the % sulfur was 1.1%. As stated in Section 3.3, Page 14 of NCASI TB No. 906, it is conservatively assumed that 30% of the sulfur in TDF is absorbed by the woodwaste as these fuels are co-fired. SO₂ emission factor calculation details are as follows:
SO₂ Emission Factor (lb/MMBtu) = 1.8 lb S/100 lb TDF * 2 lb SO₂/lb S * ton TDF/30 MMBtu * (2,000 lb/ton) * (1 - 30% S absorbed)
Where: % Sulfur in TDF = 1.1% November 2006 TDF composition analysis
lb SO₂/lb S = 2 Stoichiometric analysis
Sulfur absorbed in wood = 30% NCASI Technical Bulletin No. 906, Page 14.
- L. Per NCASI Technical Bulletin No. 906, Pages 13-14, VOC, CO, NO_x and trace metals (other than zinc) emissions are generally expected to be lowered or unchanged by burning TDF in a wood-fired boiler. Therefore, no emission factor is chosen for these pollutants.
- M. Emission factors for ADF are assumed equal to woodwaste emission factors.
- N. Emission factor from AP-42 Section 2.1, Refuse Combustion (Oct 1996), Table 2.1-12. The factors given in AP-42 are uncontrolled; therefore, a control efficiency of 90% is assumed for PM₁₀.
- O. No emission factor for VOC is given in AP-42 Section 2.1, Refuse Combustion; only total organic matter is presented.
- P. Emission factor from AP-42 Section 2.1, Refuse Combustion, Table 2.1-8. The factors given in AP-42 are uncontrolled; therefore, a control efficiency of 90% is assumed for Pb.
- Q. Per NCASI Technical Bulletin No. 906, Section 8.1, burning of WWTP residuals (sludge) is not expected to lead to an increase in any crit or related pollutant including metals. While sulfur in the sludge could result in higher SO₂ emissions, when sludge is co-fired with woodwaste (as is done at the Crossett Mill), the sulfur removal capability of the woodwaste reduces the SO₂ emitted such that it is not discernible.
- R. The 9A Boiler is permitted as an alternate incinerator for NCGs and SOGs during periods when the incinerator or its associated control equipment is inoperative. NCASI Technical Bulletin No. 849 (August 2002), Table 9 gives mean sulfur contents of 0.34 lb/ADTP for hardwood and 0.46 lb/ADTP for softwood. The normal pulp mix is 66% hardwood and 34% softwood, resulting in an emission factor of:
SO₂ emission factor = [0.34 lb/ADTP * 66% + 0.46 lb/ADTP * 34%] * 2 lb SO₂/lb S = 0.76 lb SO₂/ADTP

Table 9A-2

Maximum Fuel Firing Rates and Heating Values for the 9A Boiler (SN-22)				
Fuel	Maximum Rate (MMBtu/hr)	Note	Heating Value	Note
Woodwaste	475.2	A	9 MMBtu/ton	B
Natural Gas	720.0	C	1,000 Btu/scf	D
Specification Oil	249.0	A	156 MMBtu/mgal	E
TDF	31.5	F	30 MMBtu/ton	G
ADF	475.2	H	9 MMBtu/ton	H
RDF	104.2	I	10 MMBtu/ton	J
Sludge	405.0	K	9 MMBtu/BDT	-

A. Based on information provided in the August 21, 1980 letter submitted by GP to EPA.

B. Heating value obtained from AP-42 Section 1.6, Page 1.6-1, given as 4,500 Btu/lb and converted to MMBtu/ton.

C. Maximum boiler rating.

D. Heating value obtained from AP-42 Section 1.4, Page 1.4-1.

E. Mill-specific data.

F. Based on permit limit of 35 lb/min. Maximum Rate (MMBtu/hr) = 35 lb/min * 30 MMBtu/ton * (60 min/hr) * (ton/2,000 lb)

G. Heating value obtained from NCASI Technical Bulletin No. 906: Alternative Fuels Used In The Forest Products Industry: Their Composition and Impact On Emissions (September 2005), Page 2, given as 15,000 Btu/lb and converted to MMBtu/ton.

H. Data for ADF is assumed to be equal to woodwaste.

I. Based on permit limit of 250 tons/day. Maximum Rate (MMBtu/hr) = 250 tons/day * 10 MMBtu/ton * (day/24 hr)

J. A heating value of 5,000 Btu/lb is assumed for RDF.

K. Based on permit limit of 45 BDT/hr. Maximum Rate (MMBtu/hr) = 45 BDT/hr * 9 MMBtu/BDT



Georgia-Pacific

Georgia-Pacific LLC
Consumer Products

CERTIFIED MAIL 7011-1150-0000-8947-6853
Return Receipt Requested

May 18, 2012

Crossett Paper Operations
100 Mill Supply Rd.
P.O. Box 3333
Crossett, AR 71635
(870) 567-8000
(870) 364-9076 fax
www.gp.com

Ms. Mary Pettyjohn
Arkansas Department of Environmental Quality
Epidemiologist
5301 Northshore Drive
North Little Rock, AR 72118

**Re: Georgia-Pacific LLC Crossett Paper Operations
Best Available Retrofit Technology Five Factor Analysis
AFIN: 02-00013 Title V Permit No. 0597-AOP-R14**

Dear Ms. Pettyjohn:

Georgia-Pacific LLC Crossett Paper Operations (GP) received Mike Bates' letter of May 14, 2012 requesting submittal of a five factor analysis for GP Boilers 6A and 9A located at the mill. Based on the letter and the attached April 26, 2012 letter from EPA, we understand that there are questions regarding the BART eligibility of these two boilers. With this letter we would like to summarize the background of this issue and explain why GP believes submitting a five-factor analysis is not appropriate in this case.

As we discussed in our meeting on October 26, 2011 the Mill has prepared additional CALPUFF modeling to demonstrate that our Title V permitted emission rates do not cause or contribute to an impact above the screening threshold of 0.5 deciviews (dv) in regional Class I Areas. In our 2006 CALPUFF analyses, we modeled highest actual daily rates instead of the Title V permit allowable emission rates. As submitted in December, we re-analyzed our BART-eligible sources using our current Title V Permit limits and reducing our maximum hourly emission rate of sulfur dioxide (SO₂) for the 9A Boiler (SN-22) from 502.5 pounds per hour to 200.0 pounds per hour. This limit is now enforceable in Permit #0579-AOP-R14. Section 169A(c) of the Clean Air Act allows sources to be screened out of further requirements including a five-factor analysis. Specifically:

(c) Exemptions

(1) The Administrator may, by rule, after notice and opportunity for public hearing, exempt any major stationary source from the requirement of subsection (b)(2)(A) of this section, upon his determination that such source does not or will not, by itself or in combination with other sources, emit any air pollutant which may reasonably be anticipated to cause or contribute to a significant impairment of visibility in any mandatory class I Federal area.

(2) Paragraph (1) of this subsection shall not be applicable to any fossil-fuel fired powerplant with total design capacity of 750 megawatts or more, unless the owner or operator of any such plant demonstrates to the satisfaction of the Administrator that such powerplant is located at such distance from all areas listed by the Administrator under subsection (a)(2) of this section that such powerplant does not or will not, by itself or in combination with other sources,

emit any air pollutant which may reasonably be anticipated to cause or contribute to significant impairment of visibility in any such area.

(3) An exemption under this subsection shall be effective only upon concurrence by the appropriate Federal land manager or managers with the Administrator's determination under this subsection.

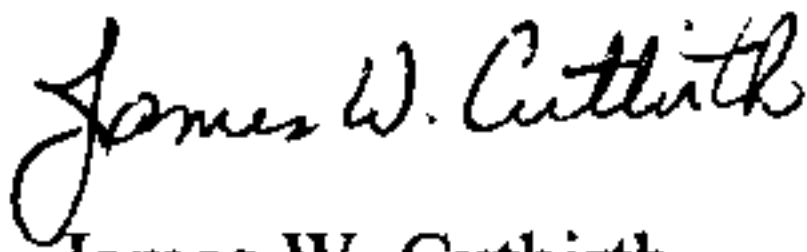
GP believes the 2011 analysis and the current air permit which enforces those limits is sufficient to demonstrate no cause or contribution to an impairment of visibility by BART-eligible source at our Crossett operations. Thus, the state is afforded by 169A(c)(1) to not require analyses under 169A Section or Appendix Y to 40 CFR Part 51, Section V.E.2:

As we discuss in detail in these guidelines, the regional haze rule codifies and clarifies the BART provisions in the CAA. The rule requires that States identify and list "BART-eligible sources," that is, that States identify and list those sources that fall within the 26 source categories, were put in place during the 15-year window of time from 1962 to 1977, and have potential emissions greater than 250 tons per year. Once the State has identified the BART-eligible sources, the next step is to identify those BART-eligible sources that may "emit any air pollutant which may reasonably be anticipated to cause or contribute to any impairment of visibility." Under the rule, a source which fits this description is "subject to BART."

If the visibility impairment modeling protocol and techniques require an updated demonstration for EPA and ADEQ's review, we believe that is the next step to affirm our request for screening out of a Five-factor analysis using the most up-to-date methodology. EPA's disapproval of ADEQ's regional haze SIP does not affect the definition of a subject-to-BART source nor our ability to demonstrate that the allowable emissions from these sources do not cause impairment sufficient to require a five-factor analysis.

To follow-up on this letter, we will contact you in the near future to further discuss and clarify the appropriate steps forward to properly address the BART eligibility of Boilers 6A and 9A. If you have any questions regarding this matter, please do not hesitate to contact me at (870) 567-8144.

Sincerely,



James W. Cutbirth
Superintendent, Environmental Services

JWC/wjg

Enclosure:

Previously submitted BART Golder Modeling Analysis Summary
Page 54 of current Title V Permit depicting lower SO₂ emission rate of 9A Boiler.

SN-22
9A Boiler

Source Description

The 9A Boiler is a 720 million Btu per hour combination fuel boiler used to generate steam. The source is equipped with a wet venturi scrubber. The boiler may serve as backup combustion unit during times when the incinerator (SN-83) is offline.

The 9A Boiler is capable of firing tire derived fuel (TDF), agriculture derived fuel (ADF), refuse derived fuel (RDF), non-condensable gases (NCGs), woodwaste, specification grade oil, natural gas and sludge. A woodwaste storage pile is associated with the 9A Boiler. Woodwaste consists of bark, wood scraps, wax coated paper, wax coated cardboard, wax coated sawdust, creosote treated railroad crossties and paper pellets (waste paper and wax paper). Bark from the debarker in the Woodyard is pneumatically transferred to the 9A pile. A cyclone is located at the end of the pneumatic transfer line to control particulate matter emissions. The majority of the woodwaste is delivered by truck and occasionally by rail. It is then transferred by conveyors to either the 9A or the 10A woodwaste storage pile.

RDF, ADF and sludge are directly added to the chip piles. RDF consists of pelletized paper, lawn clippings and similar materials. TDF and other scrap rubber products are stored in segregated piles near the woodwaste piles. TDF is loaded several times a day by a front end loader into feeder bins in the vicinity. These solid fuels are then fed onto a conveyor system and delivered to the boilers. ADF consists of, but is not limited to, corn cobs, shucks, and vegetable starch.

Specification grade oil consists of new oil, used oil, used oil absorbent material and pitch from the production of tall oil. Used oil absorbent material shall include used oil filter paper, used rags, sorbant booms, etc. that meet the specification grade oil criteria (40 CFR 279.11).

Specific Conditions

33. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #43, #47, #48, #49, #50, and #53. [Regulation No. 19 §19.501 et seq. and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM ₁₀	77.4	339.0
SO ₂	199.8	484.6
VOC	11.3	49.5
CO	366.8	1,606.7



December 14, 2011

113-87721
Via Electronic Delivery

James Cutbirth
Georgia-Pacific Consumer Products LLC
Superintendent – Environmental Services
100 Mill Supply Road
Crossett, AR 71635

RE: BART AIR MODELING ANALYSIS FOR THE CROSSETT (AR) MILL

Dear Mr. Cutbirth:

At the request of Georgia-Pacific, LLC (GP), Golder Associates, Inc. (Golder) performed an air modeling analysis to revise the Best Available Retrofit Technology (BART) Application for the Crossett Mill (Mill). The original application was provided to the Arkansas Department of Environmental Quality (ADEQ) in 2006 and used the California Puff modeling system to address the maximum 24-hour visibility impairment due to the Mill's BART-eligible sources. The analysis followed the procedures as outlined in the BART Modeling Protocol (ADEQ, June, 2006) to determine if the Mill could qualify for an exemption under the BART regulations. The following paragraphs summarize the modeling inputs and results.

Source and Emission Data

Emission and source parameter data for the BART modeling analysis were provided by GP. The 6A and 9A Boilers are the only BART-eligible sources at the Mill and the emissions for these sources were provided for sulfur dioxide, nitrogen oxides and particulate matter with diameters less than or equal to 10 microns. These emissions represent the maximum 24-hour emissions allowed by air permit except for sulfur dioxide emissions for SN-22 which were lowered to 200 lbs/hr to match emission rate in GP's December 2011 application for a permit modification.

Meteorological Data

The modeling analysis used three years of gridded 3-dimensional wind field meteorological data developed by the Central Regional Air Planning Association (CENRAP) for the years 2001 to 2003.

Receptor Locations

In accordance with the Air Protocol, predictions of visibility impairment were made at the following Prevention of Significant Deterioration (PSD) Class I areas that are located within 300-km of Arkansas:

- Caney Creek (AR, 235 km) Wilderness Area (WA)
- Upper Buffalo (AR, 325 km) WA
- Hercules-Glade (MO, 398 km) WA
- Mingo (MO, 448 km) WA, and
- Sipsey (AL, 442 km) WA

Golder Associates Inc.
6026 NW 1st Place
Gainesville, FL 32607 USA
Tel: (352) 336-5600 Fax: (352) 336-6603 www.golder.com

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Receptors for each PSD Class I area were obtained from the National Park Service. All source and receptor locations were based in the Lambert Conformal Coordinate (LCC) system for input to CALPUFF.

Modeling Results

The air modeling results are summarized in Table 1. The maximum predicted 24-hour visibility impairment of 0.359 deciview (dv) was predicted at the Caney Creek WA in 2002. This impact is less than the BART exemption criteria of 0.5 dv.

The air modeling files used to perform the analysis are included with this submittal and include the CALPUFF, POSTUTIL and CALPOST input and list files for years 2001 to 2003, the hourly ozone files for each year, and the executable files.

If you have any questions regarding this analysis please contact me at (352) 336-5600. Thank you.

Sincerely,

GOLDER ASSOCIATES INC.



Steven R. Marks, CCM
Associate, Project Manager



Robert C. McCann, Jr.
Principal

Enclosures

TABLE 1

Maximum Predicted 24-Hour Visibility Impairment (dV) From BART Eligible Sources

PSD Class I Area Area	Highest Deciview for Year		
	2001	2002	2003
Caney Creek (AR) NWA	0.16	0.359	0.296
Upper Buffalo (AR) NWA	0.099	0.074	0.099
Hercules-Glade (MO) NWA	0.08	0.288	0.125
Mingo (MO) NWA	0.123	0.093	0.168
Sipsey (AL) NWA	0.171	0.184	0.119
BART Exemption Criterion	0.5	0.5	0.5

NWA = National Wilderness Area

Notes: All emitted PM emissions assumed as PMF per AR BART protocol