

## **RESPONSE TO COMMENTS**

**Georgia-Pacific LLC - Crossett Paper Operations**

**AFIN#: 02-00013**

**Permit #: 597-AOP-R11**

On, September 12, 2007, the Director of the Arkansas Department of Environmental Quality gave notice of a draft permitting decision for the above referenced facility. During the comment period, one interested party submitted written comments, data, views, or arguments on the draft permitting decision. The Department's response to these issues is as follows:

*Comment #1: In the source Description for the 9A Boiler (SN-22), the last paragraph includes a reference to the Boiler MACT Subpart DDDDD. While GP realizes that Source Descriptions are not enforceable conditions, we request that this paragraph be removed to prevent possible confusion in the future.*

**Response #1:** The statement regarding MACT DDDDD has been removed from the permit as requested.

*Comment #2: The Department notes that the effective date for Regulation 19 has changed from July 15, 2007 to September 28, 2007, since the draft permit was issued.*

**Response #2:** All notations in the permit for the effective date of Regulation 19 have been changed to September 28, 2007.

# ADEQ OPERATING AIR PERMIT

Pursuant to the Regulations of the Arkansas Operating Air Permit Program,  
Regulation No. 26:

**Permit No. : 597-AOP-R11**

**IS ISSUED TO:**

Georgia-Pacific LLC – Crossett Paper Operations

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:

November 12, 2003

AND

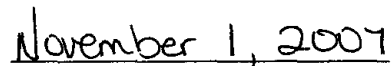
November 11, 2008

IS SUBJECT TO ALL LIMITS AND CONDITIONS CONTAINED HEREIN.

Signed:



Mike Bates  
Chief, Air Division



Date Modified

## Table of Contents

SECTION I: FACILITY INFORMATION.....	9
SECTION II: INTRODUCTION.....	10
SECTION III: PERMIT HISTORY .....	34
SECTION IV: EMISSION UNIT INFORMATION.....	39
SN-03, 10A Boiler .....	39
SN-18, 5A Boiler .....	49
SN-19, 6A Boiler .....	51
SN-22, 9A Boiler .....	54
SN-#57F and #58F, Woodyard .....	60
SN-#59, Batch Digesters.....	62
SN-#33, #34, #60 and #61, Pulp Mill Operations.....	65
SN-#30, Bleach Plant.....	68
SN-26 and 96, 8R Recovery Furnace and Salt Cake Mix Tank.....	73
SN-#27A and #27B, Smelt Dissolving Tanks .....	81
SN-#55F, 56F, 94, 98, 99, 100 103, 105, 106, 107, 108, 109, and 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 .....	93
SN-#62 and #63, Fine Paper Machines No. 1 and No. 2 .....	94
SN-#64 and #65, Board Machine No. 3.....	99
SN-#46, #66 and #67, Tissue Machine No. 4.....	103
SN-#47, #54 and #68, Tissue Machine No. 5 .....	107
SN-#48, #51, #52 and #69, Tissue Machine No. 6.....	112
SN-#49, #50 and #70, Tissue Machine No. 7 .....	117
SN-79, 80 and 81, Tissue Machine No. 8.....	121

SN-71 and SN-72, No. 8 and No. 9 Extruder Machines .....	126
SN-35F, Aeration Stabilization Basin.....	128
SN-40, 75, 76F, 78F, 82F, and SN-97, Tanks and Miscellaneous Activities .....	129
SN-#93, Repulpers A, B, and C .....	132
SN-83, Incinerator.....	134
SECTION V: COMPLIANCE PLAN AND SCHEDULE .....	142
SECTION VI: PLANTWIDE CONDITIONS .....	143
SECTION VII: INSIGNIFICANT ACTIVITIES.....	148
SECTION VIII: GENERAL PROVISIONS .....	149
APPENDIX A - CONTINUOUS EMISSION MONITORING SYSTEMS .....	176
APPENDIX B - NSPS D .....	177
APPENDIX C - NSPS BB.....	178
APPENDIX D - NSPS Kb .....	179
APPENDIX E - NESHAP M.....	180
APPENDIX F - NESHAP S.....	181
APPENDIX G - 10A BOILER ALTERNATIVE MONITORING EXEMPTION .....	182
APPENDIX H - BLEACH PLANT ALTERNATIVE MONITORING EXEMPTION.....	183
APPENDIX I - NESHAP MM.....	184
APPENDIX J- LINE WASHER ALTERNATIVE MONITORING EXEMPTION.....	185



## Table of Tables

Table 1 - List of Acronyms .....	4
Table 2- Regulations .....	12
Table 3 – Emission Summary .....	13
Table 4 - Maximum SO <sub>2</sub> , VOC, and Pb Emission Rates for SN-03.....	39
Table 5 - Maximum NO <sub>x</sub> Emission Rates for SN-03 .....	40
Table 6 - Maximum CO Emission Rates for SN-03 .....	41
Table 7 - Maximum Particulate Emission Rates for SN-03 .....	42
Table 8 - Maximum Non-Criteria Emission Rates for SN-03 .....	42
Table 9 - Maximum Criteria Pollutant Emission Rates for SN-18.....	49
Table 10 - Maximum Non-Criteria Pollutant Emission Rates for SN-18.....	49
Table 11- Maximum Criteria Pollutant Emission Rates for SN-19.....	51
Table 12- Maximum Non-Criteria Pollutant Emission Rates for SN-19.....	51
Table 13- Maximum Criteria Pollutant Emission Rates for SN-22.....	54
Table 14- Maximum Non-Criteria Pollutant Emission Rates for SN-22.....	55
Table 15- Maximum Criteria Pollutant Emission Rates for SN- SN-57F, 58F, 101, and 102 .....	60
Table 16- Maximum Non-Criteria Pollutant Emission Rates for SN-57F, 58F, 101, and 102 ....	61
Table 17- Maximum Criteria Pollutant Emission Rates for SN-59.....	62
Table 18- Maximum Non-Criteria Pollutant Emission Rates for SN-59.....	63
Table 19 - Maximum TRS Emission Rates for SN-59 .....	63
Table 20 - Maximum Criteria Pollutant Emission Rates for SN-33, 34, 60, and 61 .....	65
Table 21 - Maximum Non-Criteria Pollutant Emission Rates for SN-33, 34, 60, and 61 .....	74
Table 22 - Maximum Criteria Pollutant Emission Rates for SN-30.....	74
Table 23 - Maximum Non-Criteria Pollutant Emission Rates for SN-30.....	74
Table 24 - Maximum Criteria Pollutant Emission Rates for SN-26.....	75

Table 25 - Maximum NO <sub>x</sub> Emission Rates for SN-26 .....	75
Table 26- Maximum SO <sub>2</sub> Emission Rates for SN-26 .....	75
Table 27 – Maximum CO Emission Rates for SN-26 .....	75
Table 28 - Maximum PM/PM <sub>10</sub> Emission Rates for SN-26 .....	75
Table 29 - Maximum TRS Emission Rates for SN-26 .....	75
Table 30 - Maximum Sulfuric Acid Emission Rates for SN-26.....	75
Table 31 - Maximum Non-Criteria Pollutant Emission Rates for SN-26.....	76
Table 32 - Maximum Criteria Pollutant Emission Rates for SN-27A and B .....	76
Table 33 - Maximum PM/PM <sub>10</sub> Emission Rates for SN-27A and B .....	82
Table 34 - Maximum TRS Emission Rates for SN-27A and B .....	82
Table 35 - Maximum Non-Criteria Pollutant Emission Rates for SN-27A and B .....	82
Table 36 - Control Equipment Parameters for SN-27A and B .....	84
Table 37 - Maximum Criteria Pollutant Emission Rates for SN-25 .....	87
Table 38 - Maximum PM/PM <sub>10</sub> Emission Rates for SN-25 .....	88
Table 39 - Maximum TRS Emission Rates for SN-25 .....	88
Table 40 - Maximum Non-Criteria Pollutant Emission Rates for SN-25 .....	88
Table 41 – Control Equipment Parameters for SN-25 .....	89
Table 42 – Maximum Criteria Pollutant Emission Rates for SN-#55F, 56F, 94, 98, 99, 100, 103 105, 106, 107, 108, 109, and 110.....	93
Table 43 – Maximum Non-Criteria Pollutant Emission Rates for SN-#55F, 56F, 94, 98, 99, 100 103, 105, 106, 107, 108, 109, and 110.....	93
Table 44 – BACT Emission Rates for SN-62 and 63 .....	97
Table 45 – Maximum Non-Criteria Pollutant Emission Rates for SN-62 and 63 .....	97
Table 46 – Maximum Criteria Pollutant Emission Rates for SN-64 and 65 .....	99
Table 47 – BACT Emission Rates for SN-64 and 65 .....	99
Table 48– Maximum Non-Criteria Pollutant Emission Rates for SN-64 and 65 .....	100

Table 49 – Maximum Criteria Pollutant Emission Rates for SN-46, 66, and 67 .....	103
Table 50 – BACT Emission Rates for Emission Rates for SN-66 .....	103
Table 51 – Maximum Non-Criteria Pollutant Emission Rates for SN-46, 66, and 67 .....	104
Table 52 – Control Equipment Parameters for SN-54.....	106
Table 53 – Maximum Criteria Pollutant Emission Rates for SN-47, SN-54, and 68.....	107
Table 54 – BACT Emission Rates for SN-47 and SN-68.....	107
Table 55 – Maximum Non-Criteria Pollutant Emission Rates for SN-46, 47, 66, and 67 .....	108
Table 56 – Control Equipment Parameters for SN-54.....	110
Table 57– Maximum Criteria Pollutant Emission Rates for SN-48, SN-51, 52, and 69.....	112
Table 58 – BACT Emission Rates for SN-48.....	112
Table 59 – Maximum Non-Criteria Pollutant Emission Rates for SN-48, 51, 52, and 69 .....	113
Table 60 –Control Equipment Parameters for SN-52.....	115
Table 61 – Maximum Criteria Pollutant Emission Rates for SN-49, 50, and 70 .....	117
Table 62 – BACT Emission Rates for SN-70.....	117
Table 63 – Maximum Non-Criteria Pollutant Emission Rates for SN-49, 50, and 70 .....	118
Table 64 – Maximum Pb Emission Rates for SN-79.....	121
Table 65 –BACT Emission Rates for SN-79, 80, and 81 .....	121
Table 66 – Maximum Non-Criteria Pollutant Emission Rates for SN-79 and 80 .....	122
Table 67 – Maximum Criteria Pollutant Emission Rates for SN-71 and 72 .....	126
Table 68 – Maximum Non-Criteria Pollutant Emission Rates for SN-71 and 72 .....	126
Table 69 – Maximum Criteria Pollutant Emission Rates for SN-35F .....	128
Table 70 – Maximum Non-Criteria Pollutant Emission Rates for SN-35F.....	128
Table 71 – Maximum Criteria Pollutant Emission Rates for SN-40, 75, 76F, 78F, 82F, and SN-97 .....	129
Table 72 – Maximum Non-Criteria Pollutant Emission Rates for SN-40, 75, 76F, 78F, 82F, and SN-97 .....	130

Table 73 – Tanks Table.....	131
Table 74 – Maximum Criteria Pollutant Emission Rates for SN-93 .....	132
Table 75 – Maximum Non-Criteria Pollutant Emission Rates for SN-93 .....	132
Table 76 – Maximum Criteria Pollutant Emission Rates for SN-83 .....	136
Table 77 – Maximum Non-Criteria Pollutant Emission Rates for SN-83 .....	136
Table 78 - Insignificant Activities .....	148

**Table 1 - List of Acronyms**

A.C.A.	Arkansas Code Annotated
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CSN	County Serial Number
HAP	Hazardous Air Pollutant
lb/hr	Pound per hour
MVAC	Motor Vehicle Air Conditioner
No.	Number
NO <sub>x</sub>	Nitrogen Oxide
PM	Particulate matter
PM <sub>10</sub>	Particulate matter smaller than ten microns
SNAP	Significant New Alternatives Program (SNAP)
SO <sub>2</sub>	Sulfur dioxide
SSM	Startup, Shutdown, and Malfunction Plan
Tpy	Ton per year
UTM	Universal Transverse Mercator
VOC	Volatile Organic Compound

**Section I: FACILITY INFORMATION**

PERMITTEE: Georgia-Pacific LLC - Crossett Paper Operations

AFIN: 02-00013

PERMIT NUMBER: 597-AOP-R11

FACILITY ADDRESS: 100 Paper Mill Road  
Crossett, AR 71635

MAILING ADDRESS Same as Above

COUNTY: Ashley

CONTACT POSITION: Ms. Karen Dickinson

TELEPHONE NUMBER: (870) 567-8305

REVIEWING ENGINEER: Paula Parker

UTM North - South (Y): Zone 15 3667.5

UTM East - West (X): Zone 15 595.8

## **Section II: INTRODUCTION**

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.

### **Summary of Proposed Modification**

The facility has requested a permit modification for the replacement of the No. 6 Tissue Machine Burners (SN-48). At the time of permitting of the No. 6 Tissue Machine Burners, the units were believed to be rated at 58.4 MMBTU/hr, total. The source was required to undergo CO and NO<sub>x</sub> testing every three years. A recent engineer assessment of these burners revealed that the source could not continue to meet its permitted BACT limits and that its actual heat rating was 41 MMBTU/hr.

The facility is replacing the existing Hauck burners with Maxon burners rated at 20.5 MMBTU/hr each. With this revision, the PM/PM<sub>10</sub> and VOC BACT limits for the No. 6 Tissue Machine are decreasing. SO<sub>2</sub>, CO, NO<sub>x</sub> factors and associated BACT limits will stay the same. Permitted emissions are decreasing by 2.4 tpy PM/PM<sub>10</sub>, 3.5 tpy VOC, 8.5 tpy CO, and 6.7 tpy NO<sub>x</sub> due to a decrease in burner size.

In addition to this modification, the Health Based Compliance conditions for the Boiler MACT (NESHAP DDDDD) were removed since that subpart has been vacated.

### **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.

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.



## Regulations

The following table contains the regulations applicable to this permit.

**Table 2 – Regulations**

Source (SN)	Regulation
All Sources	Arkansas Air Pollution Code (Regulation 18) effective February 15, 1999
All Sources	Regulations of the Arkansas Plan of Implementation for Air Pollution Control (Regulation 19) effective October 15, 2007
All Sources	Regulations of Arkansas Air Permit Operating Program (Regulation 26) effective September 26, 2002
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

Georgia-Pacific LLC -Crossett Paper Operations is classified as a major stationary source under the regulations of 40 CFR Part 52.21, *Prevention of Significant Deterioration of Air Quality* (PSD). Georgia-Pacific is potentially subject to 40 CFR Part 61 *National Emissions Standards for Hazardous Air Pollutants (NESHAP) Subpart M--National Emission Standard for Asbestos*, depending on future asbestos removal and demolition activities.

The following table is a summary of emissions from the facility. The following table contains cross-references to the pages containing specific conditions and emissions for each source. This table, in itself, is not an enforceable condition of the permit.

**Table 3 – Emission Summary**

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
	Total Allowance Emissions	PM	413.8	1,735.4	N/A
		PM <sub>10</sub>	381.3	1,599.1	
		SO <sub>2</sub>	1,173.5	4,123.6	
		VOC	1,231.2	5,046.7	
		CO	3,064.4	13,440.8	
		NO <sub>x</sub>	1,403.1	6,114.6	
		TRS	37.2	132.0	
		Pb	6.4	23.7	

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
03	10A Boiler	PM	103.0	451.2	39
		PM <sub>10</sub>	103.0	451.2	
		SO <sub>2</sub>	21.0	92.0	
		VOC	151.0	661.4	
		CO	600.0	2,628.0	
		NO <sub>x</sub>	500.5	2,192.2	
		Pb	2.6	11.1	
		Acetone	0.3	1.0	
		Acetaldehyde	0.84	3.64	
		Acrolein	4.01	17.54	
		Arsenic	0.03	0.12	
		Benzene	4.21	18.42	
		Beryllium	0.01	0.01	
		Cadmium	0.02	0.06	
		Carbon Tetrachloride	0.05	0.20	
		Chlorine	0.80	3.47	
		Chloroform	0.03	0.13	
		Chromium, Hex	0.01	0.02	
		Chromium, Total	0.04	0.15	
		Cobalt	0.01	0.03	
		Formaldehyde	4.41	19.30	
		Hexane	1.77	7.74	
		Hydrogen Chloride	24.31	106.45	
		Manganese	0.21	0.92	
		Mercury	0.01	0.03	
		Napthalene	0.10	0.43	
		Nickel	0.04	0.15	
		Pentachlorophenol	0.01	0.01	
		Phenol	0.06	0.23	
		Selenium	0.03	0.13	
		Styrene	1.91	8.31	
		2,3,7,8-tetrachlorodibenzo-p-dioxin	8.61E-09	3.77E-08	
		Tetrachloroethylene	0.04	0.17	
		Toluene	0.93	4.04	
		Vinyl Chloride	0.02	0.08	

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
18	5A Boiler	PM	2.1	8.8	49
		PM <sub>10</sub>	2.1	8.8	
		SO <sub>2</sub>	0.2	0.9	
		VOC	0.4	1.6	
		CO	14.0	61.0	
		NO <sub>x</sub>	74.0	323.8	
		Pb	0.1	0.1	
		Arsenic	0.01	0.01	
		Benzene	0.01	0.01	
		Beryllium	0.01	0.01	
		Cadmium	0.01	0.01	
		Chromium, Total	0.01	0.01	
		Cobalt	0.01	0.01	
		Formaldehyde	0.02	0.08	
		n-Hexane	0.39	1.71	
		Mercury	0.01	0.01	
		Napthalene	0.01	0.01	
		Nickel	0.01	0.01	
		Toluene	0.01	0.01	
19	6A Boiler	PM	36.8	117.5	51
		PM <sub>10</sub>	36.8	117.5	
		SO <sub>2</sub>	431.1	1,888.3	
		VOC	2.4	10.2	
		CO	35.3	154.7	
		NO <sub>x</sub>	117.6	515.1	
		Pb	0.1	0.3	
		Sulfuric Acid	15.4	45.0	
		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	
		Chromium, Total	0.01	0.01	
		Chromium, Hex	0.01	0.01	
		Cobalt	0.02	0.05	
		Formaldehyde	0.06	0.27	
		n-Hexane	0.63	2.76	
		Manganese	0.02	0.09	
		Mercury	0.01	0.01	

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
		Napthalene	0.01	0.01	
		Nickel	0.16	0.67	
		Phosphorus	0.02	0.08	
		Selenium	0.01	0.01	
		Toluene	0.02	0.05	
22	9A Boiler	PM	90.0	394.2	54
		PM <sub>10</sub>	90.0	394.2	
		SO <sub>2</sub>	613.3	1,679.6	
		VOC	49.7	217.7	
		CO	518.4	2,270.6	
		NO <sub>x</sub>	345.0	1,511.1	
		Pb	2.6	11.2	
		TRS	2.6	1.2	
		Sulfuric Acid	27.0	74.0	
		Acetone	0.2	0.8	
		Acetaldehyde	0.60	2.62	
		Acrolein	2.88	12.62	
		Arsenic	0.02	0.09	
		Benzene	3.03	13.25	
		Beryllium	0.01	0.01	
		Cadmium	0.02	0.06	
		Carbon Tetrachloride	0.04	0.15	
		Chlorine	0.59	2.50	
		Chloroform	0.03	0.09	
		Chromium, Hex	0.01	0.02	
		Chromium, Total	0.03	0.13	
		Cobalt	0.02	0.07	
		Formaldehyde	3.17	13.88	
		Hexane	0.79	3.45	
		Hydrogen Chloride	18.97	83.06	
		Manganese	0.29	1.28	
		Mercury	0.01	0.04	
		Napthalene	0.07	0.31	
		Nickel	0.17	0.74	
		Pentachlorophenol	0.01	0.01	
		Phenol	0.04	0.17	
		Selenium	0.03	0.09	
		Styrene	1.37	6.00	
		2,3,7,8-			

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
		tetrachlorodibenzo-p-dioxin	6.19E-09	2.71E-08	
		Tetrachloroethylene	0.03	0.12	
		Toluene	0.67	2.91	
		Vinyl Chloride	0.02	0.06	
25	No. 4 Lime Kiln	PM	28.3	124.0	87
		PM <sub>10</sub>	28.3	124.0	
		SO <sub>2</sub>	10.9	41.1	
		VOC	7.2	27.2	
		CO	4.8	41.9	
		NO <sub>x</sub>	44.6	169.2	
		Pb	0.1	0.1	
		TRS	2.2	9.6	
		Sulfuric Acid	0.7	2.6	
		Acetone	0.1	0.1	
		Acetaldehyde	0.18	0.67	
		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	
		Chloroform	0.01	0.01	
		Chromium, Hex	0.01	0.01	
		Chromium, Total	0.01	0.03	
		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	
		Methanol	0.04	0.15	
		Mercury	0.01	0.01	
		Methylene Chloride	0.01	0.01	
		Napthalene	0.42	1.57	
		Nickel	0.01	0.02	
		Phenol	0.01	0.04	
		Selenium	0.01	0.01	
		Styrene	0.01	0.01	
		Tetrachloroethylene	0.01	0.04	
		Toluene	0.01	0.01	

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
		o-Xylene	0.01	0.03	
26	8R Recovery Furnace	PM	60.0	262.8	73
		PM <sub>10</sub>	60.0	262.8	
		SO <sub>2</sub>	84.7	371.0	
		VOC	25.9	98.6	
		CO	1,704.0	7463.5	
		NO <sub>x</sub>	276.0	1208.6	
		TRS	11.2	40.7	
		Pb	0.1	0.1	
		Sulfuric Acid	7.3	27.6	
		Acetone	0.5	1.9	
		Acetaldehyde	0.09	0.33	
		Arsenic	0.01	0.01	
		Benzene	0.11	0.42	
		Beryllium	0.01	0.01	
		Cadmium	0.01	0.01	
		Chloroform	0.01	0.03	
		Chromium, Hex	0.01	0.02	
		Chromium, Total	0.01	0.01	
		Formaldehyde	1.35	5.13	
		Hexane	0.07	0.25	
		Hydrogen Chloride	10.36	39.42	
		Manganese	0.01	0.04	
		Methanol	0.87	3.29	
		Mercury	0.01	0.02	
		Methylene Chloride	0.14	0.51	
		Nickel	0.01	0.03	
		PAH	0.07	0.25	
		Selenium	0.01	0.01	
		Styrene	0.10	0.37	
		Tetrachloroethylene	0.10	0.39	
		Toluene	0.05	0.20	
		1,2,4-Trichlorobenzene	0.19	0.73	
		o-Xylene	0.06	0.22	

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
27A	Smelt Dissolving Tank (East)	PM	14.4	54.8	81
		PM <sub>10</sub>	14.4	54.8	
		SO <sub>2</sub>	1.3	5.0	
		VOC	5.7	21.7	
		NO <sub>x</sub>	2.9	11.0	
		TRS	2.4	9.1	
		Pb	0.1	0.1	
		Acetone	0.1	0.1	
		Acetaldehyde	0.05	0.19	
		Acrolein	0.01	0.01	
		Arsenic	0.01	0.01	
		Benzene	0.01	0.01	
		Beryllium	0.01	0.01	
		Chloroform	0.01	0.01	
		Chromium , Hex	0.01	0.01	
		Chromium, total	0.01	0.03	
		Formaldehyde	0.45	1.71	
		n-Hexane	0.01	0.01	
		Manganese	0.01	0.02	
		Mercury	0.01	0.01	
		Methanol	0.87	3.29	
		Methylene Chloride	0.01	0.01	
		Napthalene	0.05	0.17	
		Selenium	0.01	0.01	
		Styrene	0.02	0.04	
		Tetrachloroethylene	0.01	0.02	
		Toluene	0.01	0.01	
		1,2,4-Trichlorobenzene	0.02	0.07	
		o-Xylene	0.01	0.01	
27B	Smelt Dissolving Tank (West)	PM	14.4	54.8	81
		PM <sub>10</sub>	14.4	54.8	
		SO <sub>2</sub>	1.3	5.0	
		VOC	5.7	21.7	
		NO <sub>x</sub>	2.9	11.0	
		TRS	2.4	9.1	
		Pb	0.1	0.1	
		Acetone	0.1	0.1	
		Acetaldehyde	0.05	0.19	
		Acrolein	0.01	0.01	



Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
		Arsenic	0.01	0.01	
		Benzene	0.01	0.01	
		Beryllium	0.01	0.01	
		Chloroform	0.01	0.01	
		Chromium , Hex	0.01	0.01	
		Chromium, total	0.01	0.03	
		Formaldehyde	0.45	1.71	
		n-Hexane	0.01	0.01	
		Manganese	0.01	0.02	
		Mercury	0.01	0.01	
		Methanol	0.87	3.29	
		Methylene Chloride	0.01	0.01	
		Napthalene	0.05	0.17	
		Selenium	0.01	0.01	
		Styrene	0.02	0.04	
		Tetrachloroethylene	0.01	0.02	
		Toluene	0.01	0.01	
		1,2,4-Trichlorobenzene	0.02	0.07	
		o-Xylene	0.01	0.01	
30	Bleach Plant	VOC	20.9	79.1	
		CO	136.1	596.1	
		Acetone	0.4	1.4	
		Acetaldehyde	0.11	0.39	
		Acrolein	0.01	0.01	
		Benzene	0.01	0.01	
		Carbon tetrachloride	0.01	0.01	
		Chlorine	2.65	10.05	
		Chloroform	7.13	27.08	
		Formaldehyde	0.03	0.11	
		Hexane	0.01	0.01	
		Hexachlorocyclo- pentadiene	0.19	0.70	
		Hexachloroethane	0.25	0.92	
		Hydrogen chloride	2.65	10.05	
		o-Cresol	0.07	0.25	
		Methanol	13.80	52.41	
		Methylene Chloride	0.01	0.03	
		Phenol	0.04	0.13	
		Propionaldehyde	0.06	0.23	

68

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
		Styrene	0.03	0.10	
		Tetrachloroethylene	0.02	0.04	
		Toluene	0.01	0.01	
		Trichloroethylene	0.01	0.02	
		1,2,4-Trichlorobenzene	0.01	0.03	
		o-Xylene	0.01	0.01	
33	Line 1 Washer	VOC	5.7	21.7	65
		TRS	2.9	10.9	
		Acetone	0.3	1.1	
		Acetaldehyde	0.12	0.44	
		Acrolein	0.01	0.01	
		Benzene	0.01	0.01	
		Carbon Tetrachloride	0.03	0.12	
		Chloroform	0.01	0.01	
		Formaldehyde	0.01	0.01	
		n-Hexane	0.01	0.03	
		Methanol	4.32	16.38	
		Styrene	0.01	0.04	
		Toluene	0.01	0.04	
		Trichloroethylene	0.01	0.01	
		1,2,4-Trichlorobenzene	0.03	0.10	
		o-Xylene	0.01	0.02	
34	Line 2 Washer	VOC	5.7	21.7	65
		TRS	2.9	10.9	
		Acetone	0.3	1.1	
		Acetaldehyde	0.12	0.44	
		Acrolein	0.01	0.01	
		Benzene	0.01	0.01	
		Carbon Tetrachloride	0.03	0.12	
		Chloroform	0.01	0.01	
		Formaldehyde	0.01	0.01	
		n-Hexane	0.01	0.03	
		Methanol	4.32	16.38	
		Styrene	0.01	0.04	
		Toluene	0.01	0.04	
		Trichloroethylene	0.01	0.01	
		1,2,4-Trichlorobenzene	0.03	0.10	
		o-Xylene	0.01	0.02	

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
35F	Aeration Stabilization Basin	VOC	16.5	70.8	128
		Chloroform	1.53	6.69	
		Methanol	0.08	0.36	
		Napthalene	0.01	0.05	
40	Methanol Storage Tank	VOC	37.5	1.2	129
		Methanol	37.50	1.20	
46	Tissue Machine No. 4 Burners	PM	0.2	0.8	103
		PM <sub>10</sub>	0.2	0.8	
		SO <sub>2</sub>	0.1	0.1	
		VOC	1.2	5.0	
		CO	4.3	18.8	
		NO <sub>x</sub>	2.4	10.6	
		Pb	0.1	0.1	
		Arsenic	0.01	0.01	
		Benzene	0.01	0.01	
		Cadmium	0.01	0.01	
		Chromium, total	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	
		Napthalene	0.01	0.01	
		Nickel	0.01	0.01	
		Toluene	0.01	0.01	
47	Tissue Machine No. 5 Burners	PM	0.4	1.5	107
		PM <sub>10</sub>	0.4	1.5	
		SO <sub>2</sub>	0.1	0.1	
		VOC	1.2	5.2	
		CO	4.5	19.7	
		NO <sub>x</sub>	2.0	8.4	
		Pb	0.1	0.1	
		Arsenic	0.01	0.01	
		Benzene	0.01	0.01	
		Cadmium	0.01	0.01	
		Chromium, total	0.01	0.01	
		Cobalt	0.01	0.01	
		Formaldehyde	0.01	0.01	

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
		Hexane	0.05	0.20	
		Manganese	0.01	0.01	
		Mercury	0.01	0.01	
		Napthalene	0.01	0.01	
		Nickel	0.01	0.01	
		Toluene	0.01	0.01	
48	Tissue Machine No. 6 Burners	PM	0.4	1.8	112
		PM <sub>10</sub>	0.4	1.8	
		SO <sub>2</sub>	0.1	0.2	
		VOC	0.3	1.4	
		CO	4.7	20.6	
		NO <sub>x</sub>	3.8	16.7	
		Pb	0.1	0.1	
		Arsenic	0.01	0.01	
		Benzene	0.01	0.01	
		Cadmium	0.01	0.01	
		Chromium, total	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	
		Napthalene	0.01	0.01	
		Nickel	0.01	0.01	
		Toluene	0.01	0.01	
49	Tissue Machine No. 7 Burners	PM	0.4	1.8	117
		PM <sub>10</sub>	0.4	1.8	
		SO <sub>2</sub>	0.1	0.1	
		VOC	2.4	10.1	
		CO	8.8	38.5	
		NO <sub>x</sub>	2.3	9.7	
		Pb	0.1	0.1	
		Arsenic	0.01	0.01	
		Benzene	0.01	0.01	
		Cadmium	0.01	0.01	
		Chromium, total	0.01	0.01	
		Cobalt	0.01	0.01	
		Formaldehyde	0.01	0.02	
		Hexane	0.09	0.39	

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
		Manganese Mercury Napthalene Nickel Toluene	0.01 0.01 0.01 0.01 0.01	0.01 0.01 0.01 0.01 0.01	
50	Tissue Machine No. 7 Dust System	PM PM <sub>10</sub>	0.5 0.5	2.1 2.1	117
51	Tissue Machine No. 6 Rewinder	PM PM <sub>10</sub>	0.5 0.5	1.9 1.9	112
52	Tissue Machine No. 6 Dust System	PM PM <sub>10</sub>	0.5 0.5	1.9 1.9	112
54	Tissue Machine No. 5 Dust System	PM PM <sub>10</sub>	0.3 0.3	1.1 1.1	107
55F	Slaker Vent #1	PM PM <sub>10</sub> VOC TRS Acetone Acetaldehyde Benzene Methanol Styrene Toluene	0.5 0.5 0.7 0.8 0.4 0.85 0.01 0.81 0.02 0.01	1.9 1.9 2.5 2.8 1.2 3.21 0.01 3.10 0.07 0.02	93
56F	Slaker Vent #2	PM PM <sub>10</sub> VOC TRS Acetone Acetaldehyde Benzene Methanol Styrene Toluene	0.5 0.5 0.7 0.8 0.4 0.85 0.01 0.81 0.02 0.01	1.9 1.9 2.5 2.8 1.2 3.21 0.01 3.10 0.07 0.02	93

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
57F	Woodyard Debarking Drum and Associated Woodyard Chip Handling System	PM PM <sub>10</sub> VOC	1.2 0.6 640.2	5.3 2.6 2,803.7	60
58F	Woodyard Chip Storage Piles & Chippers	PM PM <sub>10</sub> VOC	2.1 1.1 2.1	9.0 4.5 8.8	60
59	Batch Digesters (13)	VOC TRS Acetone Acetaldehyde Acrolein Benzene Carbon Tetrachloride Chloroform Formaldehyde Hexane Methanol Methylene Chloride Styrene Tetrachloroethylene Toluene Trichloroethylene 1,2,4-Trichlorobenzene	55.9 4.3 0.1 0.03 0.01 0.01 0.01 0.03 0.01 0.01 0.57 0.01 0.01 0.01 0.01 0.01 0.01	244.7 18.9 0.2 0.08 0.01 0.01 0.01 0.10 0.01 0.01 2.16 0.01 0.02 0.01 0.01 0.01 0.01	62
60	Line 1 Decker	Emissions are routed to the Incinerator (SN-83)			
61	Line 2 Decker	VOC TRS Acetone Acetaldehyde Acrolein Benzene Carbon Tetrachloride Formaldehyde o-Cresol Methanol Propionaldehyde	2.4 1.4 1.0 0.13 0.01 0.01 0.04 0.01 0.57 5.87 0.19	8.8 5.3 3.6 0.49 0.04 0.01 0.14 0.04 2.13 22.28 0.70	65

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
		Styrene Tetrachloroethylene Toluene Trichloroethylene 1,2,4-Trichlorobenzene o-Xylene	0.03 0.05 0.01 0.10 0.17 0.01	0.11 0.18 0.03 0.37 0.62 0.03	
62	Fine Paper Machine No. 1	VOC Acetone Acetaldehyde Acrolein Methanol Tetrachloroethylene 1,2,4-Trichlorobenzene	18.6 0.8 1.00 0.04 0.86 0.05 0.04	81.3 3.3 4.38 0.17 3.75 0.22 0.15	94
63	Fine Paper Machine No. 2	VOC Acetone Acetaldehyde Acrolein Methanol Tetrachloroethylene 1,2,4-Trichlorobenzene	11.3 0.9 1.10 0.05 0.94 0.06 0.04	49.3 3.9 4.82 0.19 4.12 0.25 0.17	94
64	Board Paper Machine No. 3	VOC Acetone Acetaldehyde Acrolein Methanol Tetrachloroethylene 1,2,4-Trichlorobenzene	10.6 1.3 1.70 0.07 1.46 0.09 0.06	46.4 5.6 7.45 0.29 6.37 0.38 0.25	99
65	Board Paper Machine No. 3 Burners	PM PM <sub>10</sub> SO <sub>2</sub> VOC CO NO <sub>x</sub> Pb Arsenic Benzene Cadmium	0.2 0.2 0.1 0.1 1.3 1.5 0.1 0.01 0.01 0.01	0.5 0.5 0.1 0.4 5.4 6.5 0.1 0.01 0.01 0.01	99

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
		Chromium, total	0.01	0.01	
		Cobalt	0.01	0.01	
		Formaldehyde	0.01	0.02	
		Hexane	0.03	0.12	
		Manganese	0.01	0.01	
		Mercury	0.01	0.01	
		Napthalene	0.01	0.01	
		Nickel	0.01	0.01	
		Toluene	0.01	0.01	
66	Tissue Machine No. 4	PM	0.5	2.0	103
		PM <sub>10</sub>	0.5	2.0	
		VOC	17.0	74.5	
		TRS	0.1	0.2	
		Acetone	0.3	1.2	
		Acetaldehyde	0.35	1.52	
		Acrolein	0.02	0.06	
		Formaldehyde	0.05	0.21	
		Methanol	0.35	1.53	
		Methylene Chloride	0.03	0.12	
		Tetrachloroethylene	0.02	0.08	
		1,2,4-Trichlorobenzene	0.02	0.06	
67	Tissue Machine No. 4 Dust System	PM	0.3	1.1	103
		PM <sub>10</sub>	0.3	1.1	
68	Tissue Machine No. 5	PM	0.3	1.1	107
		PM <sub>10</sub>	0.3	1.1	
		VOC	13.0	57.0	
		TRS	0.1	0.2	
		Acetone	0.2	0.7	
		Acetaldehyde	0.20	0.85	
		Acrolein	0.01	0.04	
		Formaldehyde	0.03	0.12	
		Methanol	0.20	0.86	
		Methylene Chloride	0.02	0.08	
		Tetrachloroethylene	0.01	0.05	
		1,2,4-Trichlorobenzene	0.01	0.03	
69	Tissue Machine	PM	0.7	3.1	112



Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
	No. 6	PM <sub>10</sub> VOC TRS Acetone Acetaldehyde Acrolein Formaldehyde Methanol Methylene Chloride Tetrachloroethylene 1,2,4-Trichlorobenzene	0.7 26.7 0.1 0.5 0.54 0.03 0.08 0.55 0.05 0.03 0.02	3.1 116.6 0.3 1.9 2.37 0.09 0.32 2.39 0.19 0.12 0.08	
70	Tissue Machine No. 7	PM PM <sub>10</sub> VOC TRS Acetone Acetaldehyde Acrolein Formaldehyde Methanol Methylene Chloride Tetrachloroethylene 1,2,4-Trichlorobenzene	0.7 0.7 17.7 0.1 0.4 0.50 0.02 0.07 0.51 0.04 0.03 0.02	2.9 2.9 77.4 0.3 1.8 2.19 0.09 0.30 2.21 0.17 0.11 0.08	117
71	No. 8 Extruder Electrostatic Treaters (A&B)	PM PM <sub>10</sub> Ozone	0.4 0.4 1.8	1.4 1.4 7.9	126
72	No. 9 Extruder Electrostatic Treater	PM PM <sub>10</sub> Ozone	0.6 0.6 1.5	2.5 2.5 6.3	126
75	Pulp Storage Chests	VOC Methanol	9.3 2.16	40.7 9.47	129
76F	Black Liquor Storage Basin No. 1	VOC Acetaldehyde Acetone Methanol	28.1 1.31 2.3 16.07	122.8 5.72 9.9 70.38	129

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
78F	Road Emissions	PM PM <sub>10</sub>	44.8 15.3	195.8 67.1	129
79	Tissue Machine No. 8 Burners	PM PM <sub>10</sub> SO <sub>2</sub> VOC CO NO <sub>x</sub> Pb Arsenic Benzene Cadmium Chromium, total Cobalt Formaldehyde Hexane Manganese Mercury Napthalene Nickel Toluene	0.9 0.9 0.1 1.0 5.7 4.6 0.1 0.01 0.01 0.01 0.01 0.01 0.01 0.11 0.01 0.01 0.01 0.01 0.01	3.6 3.6 0.2 4.2 24.9 20.0 0.1 0.01 0.01 0.01 0.01 0.01 0.02 0.47 0.01 0.01 0.01 0.01 0.01	121
80	Tissue Machine No. 8	PM PM <sub>10</sub> VOC TRS Acetone Acetaldehyde Acrolein Formaldehyde Methanol Methylene Chloride Tetrachloroethylene 1,2,4-Trichlorobenzene	0.6 0.6 8.5 0.1 0.4 0.43 0.02 0.06 0.43 0.04 0.03 0.02	2.4 2.4 47.7 0.3 1.5 1.86 0.08 0.25 1.88 0.15 0.10 0.07	121
81	Tissue Machine No. 8 Dust System	PM PM <sub>10</sub>	1.7 1.7	7.2 7.2	121

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
82F	Landfill Operations	PM PM <sub>10</sub> VOC	2.7 1.3 4.3	0.5 0.3 18.7	129
83	Incinerator	PM PM <sub>10</sub> SO <sub>2</sub> VOC CO NO <sub>x</sub> TRS Methanol	2.7 2.7 9.1 0.8 6.0 23.0 0.9 0.80	11.8 11.8 39.9 3.5 26.3 100.7 3.8 3.50	134
84 through 92	Sources Removed -- Never Installed				
93	Repulper C (All VOCs are Chloroform)	VOC Chloroform	0.6 0.60	2.3 2.3	132
94	Green Liquor Clarifier A	VOC Acetone Acetaldehyde Benzene Chloroform Hexane Methanol Tetrachloroethylene	0.2 0.1 0.01 0.01 0.01 0.01 0.01 0.01	0.8 0.1 0.01 0.01 0.01 0.01 0.02 0.01	93
95	Replaced by SN-105				
96	Salt Cake Mix Tank	VOC TRS Acetone Acetaldehyde Acrolein Carbon Tetrachloride Benzene Formaldehyde Hexane	0.6 0.7 0.1 0.03 0.01 0.01 0.01 0.01 0.01	2.0 2.6 0.2 0.10 0.01 0.01 0.01 0.01 0.01	73

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
		Methanol	0.06	0.21	
		Styrene	0.01	0.01	
		Tetrachloroethylene	0.01	0.01	
		Toluene	0.01	0.01	
		1,2,4-trichlorobenzene	0.01	0.01	
		o-Xylene	0.01	0.01	
97	Storage Tanks	VOC	33.0	6.8	129
		Methanol	1.5	6.0	
98	"A" Side Causticizers	VOC	0.1	0.2	93
		TRS	0.4	1.2	
		Acetone	0.1	0.1	
		Acetaldehyde	0.02	0.06	
		Benzene	0.01	0.01	
		Methanol	0.01	0.04	
		Styrene	0.01	0.01	
99	"B" Side Causticizers	VOC	0.1	0.2	93
		TRS	0.4	1.2	
		Acetone	0.1	0.1	
		Acetaldehyde	0.02	0.06	
		Benzene	0.01	0.01	
		Methanol	0.01	0.04	
		Styrene	0.01	0.01	
100	White Liquor Storage Tanks (4 total)	VOC	0.6	2.2	93
		Acetone	0.1	0.1	
		Benzene	0.01	0.01	
		Formaldehyde	0.07	0.26	
		Methanol	0.50	1.80	
		Styrene	0.01	0.10	
101	10A Boiler Bark Transfer System	PM	0.1	0.3	60
		PM <sub>10</sub>	0.1	0.1	
102	9A Boiler Bark Transfer System	PM	0.1	0.1	60
		PM <sub>10</sub>	0.1	0.1	
103	Green Liquor Clarifier B	VOC	0.2	0.8	93
		Acetone	0.1	0.1	
		Acetaldehyde	0.01	0.01	
		Benzene	0.01	0.01	

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
		Chloroform	0.01	0.01	
		Hexane	0.01	0.01	
		Methanol	0.01	0.02	
		Tetrachloroethylene	0.01	0.01	
105	White Liquor Clarifier	VOC	0.2	0.7	93
		Acetone	0.1	0.1	
		Benzene	0.01	0.01	
		Formaldehyde	0.07	0.27	
		Methanol	0.05	0.18	
		Styrene	0.01	0.01	
		o-Xylene	0.01	0.01	
106	Mud Washer A	VOC	1.4	5.2	93
		TRS	0.1	0.1	
		Acetone	0.1	0.3	
		Benzene	0.01	0.01	
		Methanol	0.30	1.12	
		Toluene	0.01	0.01	
		o-Xylene	0.01	0.01	
		Styrene	0.01	0.02	
107	Mud Washer B	VOC	1.4	5.2	93
		TRS	0.1	0.1	
		Acetone	0.1	0.3	
		Benzene	0.01	0.01	
		Methanol	0.30	1.12	
		Toluene	0.01	0.01	
		o-Xylene	0.01	0.01	
		Styrene	0.01	0.02	
108	Pre-Coats Filter	VOC	0.1	0.2	93
		TRS	0.1	0.1	
		Acetone	0.1	0.1	
		Benzene	0.01	0.01	
		Formaldehyde	0.07	0.27	
		Methanol	0.05	0.18	
		Styrene	0.01	0.01	
		o-Xylene	0.01	0.01	
109	Green Liquor Stabilization	VOC	0.6	2.4	93
		TRS	0.1	0.3	

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
	Tank	Acetone	0.2	0.7	
		Acetaldehyde	0.04	0.17	
		o-Cresol	0.03	0.14	
		Methanol	0.45	1.95	
		Phenol	0.03	0.11	
110	White Liquor Splitter Box	VOC	0.2	0.7	93

\*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<sub>x</sub> 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<sub>x</sub> 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.

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<sub>x</sub> was not attainable. The allowable emission rate of NO<sub>x</sub> 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 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 PM<sub>10</sub>, VOC, CO, and NO<sub>x</sub>.

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.

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 O<sub>2</sub> 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*.

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

Georgia-Pacific LLC - Crossett Paper Operations

Permit #: 597-AOP-R11

AFIN #: 02-00013

on Machines 6, 7 and 8; upgrades and changes in the causticizing area; and modifications to the pine and hardwood screen rooms.

#### **Section IV: EMISSION UNIT INFORMATION**

**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 that will not have a plastics content greater than 10%. 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 can not 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<sub>x</sub> 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 SO<sub>2</sub> is not required under 40 CFR 60.45(b)(1). The CO and NO<sub>x</sub> 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 #15 through #19. [Regulation No. 19 §19.501 et seq. October 15, 2007 and 40 CFR Part 52, Subpart E]

**Table 4 - Maximum SO<sub>2</sub>, VOC, and Pb Emission Rates for SN-03**

Pollutant	lb/hr	ton/yr
Scenario #1: Natural gas only (669 MMBtu/hr)		
SO <sub>2</sub>	1.0	4.4
VOC	2.0	8.8
Pb	0.1	0.1
Scenario #2: Any combination of woodwaste, sludge, TDF, RDF & ADF (1001 MMBtu/hr)		
SO <sub>2</sub>	21.0	92.0
VOC	151.0	661.4
Pb	0.3	1.2
Scenario #3: Natural gas and any combination of woodwaste, sludge, TDF, RDF & ADF (1001 MMBtu/hr)		
SO <sub>2</sub>	21.0	92.0
VOC	151.0	661.4
Pb	0.3	1.2

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 #13 and #13. [§19.304, §19.501 et seq. and §19.901 of Regulation #19, 40 CFR Part 52 Subpart E, and 40 CFR §60.44]

**Table 5 - Maximum NO<sub>x</sub> Emission Rates for SN-03**

Pollutant	lb/hr	ton/yr
Scenario #1: Natural gas only (669 MMBtu/hr)		
NO <sub>x</sub>	200.2	586.1
	0.2 lb/MMBtu	
Scenario #2: Scenario #2: Any combination of woodwaste,		

Pollutant	lb/hr	ton/yr
sludge,TDF, RDF & ADF (1001 MMBtu/hr)		
NO <sub>x</sub>	500.5	2,192.2
	0.5 lb/MMBtu	
Scenario #3: Natural gas and any combination of woodwaste, sludge, TDF, RDF & ADF (1001 MMBtu/hr)		
NO <sub>x</sub>	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 #13 and #13. [§19.501 et seq. and §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]

**Table 6 - Maximum CO Emission Rates for SN-03**

Pollutant	lb/hr	ton/yr
Scenario #1: Natural gas only (669 MMBtu/hr)		
CO	133.8	596.1
	0.2 lb/MMBtu	
Scenario #2: Any combination of woodwaste, sludge, TDF, RDF & ADF (1001 MMBtu/hr)		
CO	600.0	2,628.0
	0.6 lb/MMBtu	
Scenario #3: Natural gas and any combination of woodwaste, sludge, TDF, RDF & ADF (1001 MMBtu/hr)		
CO	600.0	2,628.0
	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 #15 through #19 and #21. [§19.304 and §19.501 et seq. of Regulation #19, 40 CFR Part 52 Subpart E, and 40 CFR §60.42]

**Table 7 - Maximum Particulate Emission Rates for SN-03**

Pollutant	lb/hr	ton/yr
Scenario #1: Natural gas only (669 MMBtu/hr)		
PM	66.9	293.1
PM <sub>10</sub>	0.1 lb/MMBtu	
Scenario #2: Any combination of woodwaste, sludge, TDF, RDF & ADF (1001 MMBtu/hr)		
PM	103.0	451.2
PM <sub>10</sub>	0.1 lb/MMBtu	
Scenario #3: Natural gas and any combination of woodwaste, sludge, TDF, RDF & ADF (1001 MMBtu/hr)		
PM	100.1	438.4
PM <sub>10</sub>	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 #15 through #19. [§18.801 of Regulation #18 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Table 8 - Maximum Non-Criteria Emission Rates for SN-03**

Pollutant	lb/hr	ton/yr
Acetone	0.3	1.0
Acetaldehyde	0.84	3.64
Acrolein	4.01	17.54
Arsenic	0.03	0.12
Benzene	4.21	18.42
Beryllium	0.01	0.01
Cadmium	0.02	0.06
Carbon Tetrachloride	0.05	0.20
Chlorine	0.80	3.47
Chloroform	0.03	0.13
Chromium, Hex	0.01	0.02
Chromium, Total	0.04	0.15
Cobalt	0.01	0.03
Formaldehyde	4.41	19.30
Hexane	1.77	7.74
Hydrogen Chloride	24.31	106.45
Manganese	0.21	0.92
Mercury	0.01	0.03

Pollutant	lb/hr	ton/yr
Napthalene	0.10	0.43
Nickel	0.04	0.15
Pentachlorophenol	0.01	0.01
Phenol	0.06	0.23
Selenium	0.03	0.13
Styrene	1.91	8.31
2,3,7,8-tetrachlorodibenzo-p-dioxin	8.61E-09	3.77E-08
Tetrachloroethylene	0.04	0.17
Toluene	0.93	4.04
Vinyl Chloride	0.02	0.08

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)]
7. 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]

Compliance shall be demonstrated by compliance with Specific Condition #21 for fuel Scenarios #2 and #3. Compliance shall be demonstrated during fuel Scenario #1 by the use of natural gas only. The opacity shall be measured in accordance with EPA Reference Method 9.

8. 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 appear to be in excess of the permitted opacity are detected, the permittee shall:
  - A. Take immediate action to identify the cause of the visible emissions.
  - B. Implement all necessary corrective action.
  - C. Reassess the visible emissions after corrective action is taken.
    - i. If excessive visible emissions are still detected, an opacity reading shall be conducted in accordance with EPA Reference Method 9. If the opacity reading exceeds the permitted limit, further corrective measures shall be taken.
    - ii. If no excessive visible emissions are detected, the incident shall be noted in the records as described below.



The permittee shall maintain records related to all Method 9 Readings, to be updated on a weekly basis. The records shall be kept on site and made available to Department personnel upon request. The records shall contain the following items:

- 1) The date and time of each observation/reading.
- 2) Any observance of visible emissions appearing to be above permitted limits, or any Method 9 reading which indicates exceedance.
- 3) The cause of any observed exceedance of opacity limits, corrective action taken, and results of the reassessment.
- 4) The name of the person conducting the observation/reading.

[§19.705 of Regulation 19 and 40 CFR Part 52, Subpart E]

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 NO<sub>2</sub>, 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 NO<sub>2</sub>, 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 G. [§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. All quarterly reports shall be postmarked by the 30<sup>th</sup> 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)]
10. The permittee shall continue to submit quarterly excess emission reports to the following address:
- Arkansas Department of Environmental Quality  
Air Division  
ATTN: Compliance Inspector Supervisor  
5301 Northshore Drive  
North Little Rock, AR 72118-5317
- [§19.304 of Regulation #19 and 40 CFR §60.7(c)]
11. The permittee shall operate the Continuous Emission Monitor (CEM) for CO using O<sub>2</sub> 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]
12. The permittee shall properly maintain and operate the following existing continuous monitoring instrumentation: O<sub>2</sub>, pressure drop across the scrubber and the liquid supply flow 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]
13. All continuous monitoring data for O<sub>2</sub> may, at the discretion of the Department, be used to determine violations of NO<sub>x</sub> 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]
14. Compliance with the NO<sub>x</sub> and CO limits for the 10A Boiler shall be demonstrated by monitoring flue gas O<sub>2</sub> and maintaining the hourly average percent O<sub>2</sub> 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% O<sub>2</sub>
  - 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% O<sub>2</sub>
  - C. Full load on gas only: not less than 1.5% nor more than 6.0% O<sub>2</sub>
  - 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% O<sub>2</sub>

[§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 O<sub>2</sub> 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.

15. The permittee may use as fuel in the 10A Boiler, TDF, ADF, RDF, woodwaste, sludge, and natural gas. Creosote treated railroad cross ties 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]
16. The permittee shall not burn in excess of 669 thousand standard cubic feet (scf) of natural gas per hour or 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]
17. 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]
18. 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]
19. 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]
20. The permittee shall maintain records which demonstrate compliance with Specific Conditions #15, #16, #17, #18, and #19. The permittee shall maintain records of the types and quantities of fuels being used in the 10A Boiler. These records 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 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]
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.

- A. The permittee shall maintain a scrubber liquid flowrate of at least 1500 gallons per minute. [40 CFR Part §64.6(c)(1)]
  - B. The permittee shall maintain a gas pressure drop of at least 5 inches of water. [40 CFR Part §64.6(c)(1)]
  - C. The permittee shall monitor and maintain daily records to demonstrate compliance with Specific Condition #20 (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 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)]
23. The permittee shall annually test particulate matter emissions from the 10A Boiler (SN-03) using Method 5 and 202. The permittee shall test at the minimum scrubber parameters of Specific Condition 21. Testing shall be completed no later than 180 days from the date of permit issuance. Results from the Method 5 test shall be compared to the NSPS limit of 0.1 lb/MMBTU for compliance purposes. The permittee shall submit an application to correct emission rates, if corrections are necessary. 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 throughout capacity cannot be achieved, the permittee shall be limited to 10 percent. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]

24. The permittee shall test sulfur dioxide emissions from the 10A Boiler (SN-03). Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 6. The testing shall be conducted using the maximum TDF and RDF firing rates. 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. Testing on these fuels shall be completed within 30 days upon achieving sufficient inventory levels but no later than 180 days after permit issuance. This condition was satisfied as a requirement of Air Permit #597-AOP-R8. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]
25. The permittee shall submit a Title V Air Permit application to modify the CAM parameters contained in Specific Condition 21. The proposed parameters must assure compliance with the maximum particulate and sulfur dioxide emission rates of Specific Conditions 1 and 4. The parameters must be based upon recent stack tests while operating at 90% or greater capacity and while firing a representative, worst-case fuel mixture. This application shall be submitted no later than 180 days from issuance of Air Permit #597-AOP-R9. [§19.304 of Regulation 19 and 40 CFR Part 52 Subpart E and Part §64.6]

## SN-18

### 5A Boiler

#### Source Description

The 5A Boiler (SN-18) is a 220 million Btu per hour boiler. The boiler is able 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

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 #29. [Regulation No. 19 §19.501 et seq. effective October 15, 2007 and 40 CFR Part 52, Subpart E]

**Table 9 - Maximum Criteria Pollutant Emission Rates for SN-18**

Pollutant	lb/hr	tpy
PM <sub>10</sub>	2.1	8.8
SO <sub>2</sub>	0.2	0.9
VOC	0.4	1.6
CO	14.0	61.0
NO <sub>x</sub>	74.0	323.8
Pb	0.1	0.1

27. 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 #29. [Regulation No. §18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Table 10 - Maximum Non-Criteria Pollutant Emission Rates for SN-18**

Pollutant	lb/hr	tpy
PM	2.1	8.8
Arsenic	0.01	0.01
Benzene	0.01	0.01
Beryllium	0.01	0.01
Cadmium	0.01	0.01
Chromium, Total	0.01	0.01
Cobalt	0.01	0.01
Formaldehyde	0.02	0.08
n-Hexane	0.39	1.71
Mercury	0.01	0.01
Napthalene	0.01	0.01

Pollutant	lb/hr	tpy
Nickel	0.01	0.01
Toluene	0.01	0.01

28. 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 while using natural gas only shall be demonstrated by the use of natural gas. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
29. 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 specification grade oil and natural gas as fuel. Specification grade oil consists of new oil, used oil, used oil absorbent material and pitch from the production of tall oil. However, used oil absorbent material is not used as a fuel in the 6A Boiler.

**Specific Conditions**

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 Conditions #35 and #36. [Regulation No. 19 §19.501 et seq. effective October 15, 2007 and 40 CFR Part 52, Subpart E]

**Table 11 - Maximum Criteria Pollutant Emission Rates for SN-19**

Pollutant	lb/hr	ton/yr
PM <sub>10</sub>	36.8	117.5
SO <sub>2</sub>	431.1	1,888.3
VOC	2.4	10.2
CO	35.3	154.7
NO <sub>x</sub>	117.6	515.1
Pb	0.1	0.3

31. 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 #35. [Regulation No. §18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Table 12 - Maximum Non-Criteria Pollutant Emission Rates for SN-19**

Pollutant	lb/hr	ton/yr
PM	36.8	117.5
Sulfuric Acid	15.4	45.0
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
Chromium, Total	0.01	0.01
Chromium, Hex	0.01	0.01



Pollutant	lb/hr	ton/yr
Cobalt	0.02	0.05
Formaldehyde	0.06	0.27
n-Hexane	0.63	2.76
Manganese	0.02	0.04
Mercury	0.01	0.01
Napthalene	0.01	0.01
Nickel	0.16	0.67
Phosphorus	0.02	0.08
Selenium	0.01	0.01
Toluene	0.02	0.05

32. When using specification grade oils or a combination of specification grade oils and natural gas, the permittee shall not cause to be discharged to the atmosphere from the 6A 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]

33. When operating using natural gas only, the permittee shall not cause to be discharged to the atmosphere from the 6A 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]

Compliance with this opacity limit while using specification grade oils or a combination of specification grade oils and natural gas shall be demonstrated by compliance with Specific Condition #34. Compliance with this opacity limit while using natural gas only shall be demonstrated by the use of natural gas. The opacity shall be measured in accordance with EPA Reference Method 9 as found in 40 CFR Part 60 Appendix A.

34. When using specification grade oils or a combination of specification grade oils and natural gas, the permittee shall conduct daily observations of the opacity from the 6A Boiler, and keep a record of these observations. If visible emissions are detected, then the permittee shall conduct a 6-minute opacity reading in accordance with EPA Reference Method 9. The results of these observations shall be kept on site and shall be made available to Department personnel upon request. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]

35. Specification grade oils and natural gas may 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]

36. The sulfur content of the specification grade oils used at this source shall not exceed 1.5% by weight. [§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]

37. The permittee is limited to 1,800 gallons per hour of specification grade oils. [§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]

38. 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]
39. The permittee shall maintain records which demonstrate compliance with Specific Condition #38. The permittee shall maintain records of the types and quantities of fuels being used in the 6A 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 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]

**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 that will not have a plastics content greater than 10%. 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**

40. 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 #51 through #55, #57, #58, #60 and #61. [Regulation No. 19 §19.501 et seq. effective October 15, 2007 and 40 CFR Part 52, Subpart E]

**Table 13 - Maximum Criteria Pollutant Emission Rates for SN-22**

Pollutant	lb/hr	ton/yr
PM <sub>10</sub>	90.0	394.2
SO <sub>2</sub>	613.3	1,679.6
VOC	49.7	217.7
CO	518.4	2,270.6
NO <sub>x</sub>	345.0	1,511.1
Pb	2.6	11.2

Pollutant	lb/hr	ton/yr
TRS	2.6	1.2

41. 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 #51 thru #55 and #58. [Regulation No. §18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Table 14 - Maximum Non-Criteria Pollutant Emission Rates for SN-22**

Pollutant	lb/hr	ton/yr
PM	90.0	394.2
Sulfuric Acid	27.0	74.0
Acetone	0.2	0.8
Acetaldehyde	0.60	2.62
Acrolein	2.88	12.62
Arsenic	0.02	0.09
Benzene	3.03	13.25
Beryllium	0.01	0.01
Cadmium	0.02	0.06
Carbon Tetrachloride	0.04	0.15
Chlorine	0.59	2.50
Chloroform	0.03	0.09
Chromium, Hex	0.01	0.02
Chromium, Total	0.03	0.13
Cobalt	0.02	0.07
Formaldehyde	3.17	13.88
Hexane	0.79	3.45
Hydrogen Chloride	18.97	83.06
Manganese	0.29	1.28
Mercury	0.01	0.04
Napthalene	0.07	0.31
Nickel	0.17	0.74
Pentachlorophenol	0.01	0.01
Phenol	0.04	0.17
Selenium	0.03	0.09
Styrene	1.37	6.00
2,3,7,8-tetrachlorodibenzo-p-dioxin	6.19E-09	2.71E-08
Tetrachloroethylene	0.03	0.12
Toluene	0.67	2.91
Vinyl Chloride	0.02	0.06

42. 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%. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Compliance with this opacity limit shall be demonstrated by compliance with Specific Condition #48 for all fuel scenarios other than using natural gas only. Compliance with the opacity limit while using natural gas only shall be demonstrated by the use of natural gas. The opacity shall be measured in accordance with EPA Reference Method 9 as found in 40 CFR Part 60 Appendix A.

43. 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]
44. The Continuous Emission Monitor (CEM) for CO using O<sub>2</sub> 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]
45. The permittee shall properly maintain and operate the following existing continuous monitoring instrumentation: O<sub>2</sub>, 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]
46. Continuous monitoring data from the continuous monitoring instrumentation listed in Specific Condition #45 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]
47. Compliance with the CO limit for the 9A Boiler shall be demonstrated by monitoring flue gas O<sub>2</sub> and maintaining the O<sub>2</sub> setpoint at not less than 2.0% O<sub>2</sub> (dry basis). Any operation outside this hourly average limit shall constitute noncompliance with this Specific Condition. The permittee shall maintain records of flue gas O<sub>2</sub> 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,

48. 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:
- A. The permittee shall maintain a scrubber liquid flowrate of at least 1500 gallons per minute. [40 CFR Part §64.6(c)(1)]
  - B. The permittee shall maintain a gas pressure drop of at least 5 inches of water. [40 CFR Part §64.6(c)(1)]
  - C. The permittee shall monitor and maintain daily records to demonstrate compliance with Specific Condition #48 (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 scrubber in good working condition at all times so that pollutant removal is maintained. [40 CFR Part §64.6(c)(1)]
49. 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)]
50. The permittee may use the 9A Boiler as an alternate incinerator for NCGs and SOGs during periods when the Incinerator (SN-83) or its associated control equipment is inoperative. [§19.304 of Regulation #19 and 40 CFR §63.443(d)(4)]

51. Specification grade oils, natural gas, woodwaste, TDF, ADF, RDF and wastewater sludge may be used as fuel in the 9A Boiler. Creosote treated railroad crossties 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]
52. 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]
53. 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]
54. 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]
55. 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]
56. The permittee shall maintain records which demonstrate compliance with Specific Conditions #51, #52, #53, #54, and #55. 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]
57. The sulfur content of the specification grade oils used at this source shall not exceed 1.5% by weight. [§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]
58. 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]
59. The permittee shall annually test particulate matter emissions from the 9A Boiler (SN-22) using Method 5 and 202. The permittee shall test at the minimum scrubber parameters of Specific Condition 48. Testing shall be completed no later than 180 days from the date of permit issuance. The permittee shall submit an application to correct emission rates, if corrections are necessary. 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 above the actual tested throughput. This test was completed as a requirement of Air Permit #597-AOP-R8.

[§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]

60. 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 #57, 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]
61. The permittee shall annually test nitrogen oxides emissions from the 9A Boiler (SN-22). 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 throughput capacity can not be achieved, the permittee shall be limited to 10 percent above the actual tested throughput. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]
62. The permittee shall test sulfur dioxide emissions from the 9A Boiler (SN-22). Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 6. The testing shall be conducted using the maximum TDF and RDF firing rates. 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. Testing on these fuels shall be completed within 30 days upon achieving sufficient inventory levels but no later than 180 days after permit issuance. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]
63. The permittee shall submit a request to EPA for a determination regarding the applicability of NSPS Subpart D limits and testing requirements during fossil fuel firing scenarios. Within 30 days of permit issuance, this request shall be submitted to EPA and a copy shall be submitted to the Department. The permittee may burn any currently permitted fossil fuel until a determination is made by EPA. This condition was satisfied as a requirement of Air Permit #597-AOP-R8. [A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
64. The permittee shall submit a Title V Air Permit application to modify the CAM parameters contained in Specific Condition 48. The proposed parameters must assure compliance with the maximum particulate and sulfur dioxide of Specific Condition 40. The parameters must be based upon recent stack tests while operating at 90% or greater capacity and while firing a representative, worst-case fuel mixture. This application shall be submitted no later than 180 days from issuance of Air Permit #597-AOP-R9. [§19.304 of Regulation 19 and 40 CFR Part 52 Subpart E and Part §64.6]



**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 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 is the use of a totally enclosed building for the new pine and hardwood screen room equipment, with no specific PM/PM<sub>10</sub> emission limits.

**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 #67. [Regulation No. 19 §19.501 et seq. effective October 15, 2007 and 40 CFR Part 52, Subpart E]

**Table 15 - Maximum Criteria Pollutant Emission Rates for SN-57F, 58F, 101, and 102**

SN	Description	Pollutant	lb/hr	ton/yr
57F	Woodyard Debarking Drum and Associated Woodyard Chip	PM <sub>10</sub> VOC	0.6 640.2	2.6 2,803.7

SN	Description	Pollutant	lb/hr	ton/yr
	Handling System			
58F	Woodyard Chip Storage Piles & Chippers	PM <sub>10</sub> VOC	1.1 2.1	4.5 8.8
101	10A Boiler Bark Transfer System	PM <sub>10</sub>	0.1	0.1
102	9A Boiler Bark Transfer System	PM <sub>10</sub>	0.1	0.1

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. [Regulation No. §18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Table 16 - Maximum Non-Criteria Pollutant Emission Rates for SN-57F, 58F, 101, and 102**

SN	Pollutant	lb/hr	ton/yr
57F	PM	1.2	5.3
58F	PM	2.1	9.0
101	PM	0.1	0.3
102	PM	0.1	0.1

67. The permittee shall not process in excess of 8400 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]
68. The permittee shall maintain records which demonstrate compliance with the limit in Specific Condition #67. 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]
69. 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 (primary until the Incinerator is installed, backup afterwards) and/or the 9A Boiler (backup) for thermal destruction.

During the loading of chips the digester caps are opened allowing for emissions.

**Specific Conditions**

70. 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 #75. [Regulation No. 19 §19.501 et seq. effective October 15, 2007 and 40 CFR Part 52, Subpart E]

**Table 17 - Maximum Criteria Pollutant Emission Rates for SN-59**

Pollutant	lb/hr	ton/yr
VOC	55.9	244.7
TRS	4.3	18.9

71. The permittee estimates the pollutant emission rates set forth in the following table will not be exceeded. The pollutant emission rates are effectively limited by Specific Condition #75.

[Regulation No. §18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Table 18 - Maximum Non-Criteria Pollutant Emission Rates for SN-59**

Pollutant	lb/hr	ton/yr
Acetone	0.1	0.2
Acetaldehyde	0.03	0.08
Acrolein	0.01	0.01
Benzene	0.01	0.01
Carbon Tetrachloride	0.01	0.01
Chloroform	0.03	0.10
1,2 Dichloroethylene	0.01	0.01
Formaldehyde	0.01	0.01
Hexane	0.01	0.01
Methanol	0.57	2.16
Methylene Chloride	0.01	0.01
Styrene	0.01	0.02
Tetrachloroethylene	0.01	0.01
Toluene	0.01	0.01
Trichloroethylene	0.01	0.01
1,2,4-Trichlorobenzene	0.01	0.01

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 #73. [§19.304 and §19.501 et seq. of Regulation #19, 40 CFR Part 52 Subpart E, and 40 CFR §60.283]

**Table 19 - Maximum TRS Emission Rates for SN-59**

Pollutant	lb/hr	ton/yr
TRS	4.3	18.9
	5 ppmdv corrected to 10% O <sub>2</sub>	

73. 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*. A copy of Subpart BB is provided in Appendix C. Applicable provisions of Subpart BB include, but are not limited to, the following:
- A. 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. [40 CFR §60.283(a)(1)]
  - B. 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 20 percent oxygen for the continuous oxygen monitoring system. [40 CFR §60.284(a)(2)]

- C. 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. [40 CFR §284(c)(1), except where the provisions of 40 CFR §60.283(a)(1)(iv) or (a)(4) apply]
  - D. The permittee shall report semiannually periods of excess emissions. [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. [40 CFR §60.285(a)]
74. The permittee may use the 9A Boiler or Lime Kiln (SN-25) as an incinerator for Low Volume High Concentration (LVHC) NCGs only during periods when the incinerator (SN-83) or its associated control equipment is inoperative. [§19.801 of Regulation #19]
75. 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]
76. The permittee shall maintain records which demonstrate compliance with the limits specified in Specific Condition #75. 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]

**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 Lime Kiln scrubber operating as a backup control device. The Line 1 and Line 2 Washers (SN-33 and SN-34) are not equipped with any control equipment. 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**

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 #75. [Regulation No. 19 §19.501 et seq. effective October 15, 2007 and 40 CFR Part 52, Subpart E]

**Table 20 - Maximum Criteria Pollutant Emission Rates for SN-33, 34, 60, and 61**

SN	Description	Pollutant	lb/hr	ton/yr
33	Line 1 Washer	VOC TRS	5.7 2.9	21.7 10.9
34	Line 2 Washer	VOC TRS	5.7 2.9	21.7 10.9
60	Line 1 Decker	Emissions are routed to the Incinerator (SN-83)		
61	Line 2 Decker	VOC TRS	2.4 1.4	8.8 5.3

78. 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 #75. [Regulation No. §18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Table 21 - Maximum Non-Criteria Pollutant Emission Rates for SN-33, 34, 60, and 61**

SN	Description	Pollutant	lb/hr	ton/yr
33	Line 1 Washer	Acetone	0.3	1.1
		Acetaldehyde	0.12	0.44
		Acrolein	0.01	0.01
		Benzene	0.01	0.01
		Carbon Tetrachloride	0.03	0.12
		Chloroform	0.01	0.01
		Formaldehyde	0.01	0.01
		n-Hexane	0.01	0.03
		Methanol	4.32	16.38
		Styrene	0.01	0.04
		Toluene	0.01	0.04
		Trichloroethylene	0.01	0.01
		1,2,4-Trichlorobenzene	0.03	0.10
		o-Xylene	0.01	0.02
34	Line 2 Washer	Acetone	0.3	1.1
		Acetaldehyde	0.12	0.44
		Acrolein	0.01	0.01
		Benzene	0.01	0.01
		Carbon Tetrachloride	0.03	0.12
		Chloroform	0.01	0.01
		Formaldehyde	0.01	0.01
		n-Hexane	0.01	0.03
		Methanol	4.32	16.38
		Styrene	0.01	0.04
		Toluene	0.01	0.04
		Trichloroethylene	0.01	0.01
		1,2,4-Trichlorobenzene	0.03	0.10
		o-Xylene	0.01	0.02
60	Line 1 Decker	Emissions are routed to the Incinerator (SN-83)		
61	Line 2 Decker	Acetone	1.0	3.6
		Acetaldehyde	0.13	0.49
		Acrolein	0.01	0.04
		Benzene	0.01	0.01
		Carbon Tetrachloride	0.04	0.14
		Formaldehyde	0.01	0.04
		o-Cresol	0.57	2.13
		Methanol	5.87	22.28
		Propionaldehyde	0.19	0.70
		Styrene	0.03	0.11
		Tetrachloroethylene	0.05	0.18
		Toluene	0.01	0.03

SN	Description	Pollutant	lb/hr	ton/yr
		Trichloroethylene	0.10	0.37
		1,2,4-Trichlorobenzene	0.17	0.62
		o-Xylene	0.01	0.03

79. 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*.
80. A copy of Subpart BB is provided in Appendix C. See also Compliance Plan on page 142. Applicable provisions of Subpart BB include, but are not limited to, the following:
- A. 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. [40 CFR §60.283(a)(1)]
  - B. 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 20 percent oxygen for the continuous oxygen monitoring system. [40 CFR §60.284(a)(2)]
  - C. 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. [40 CFR §60.284(c)(1), except where the provisions of 40 CFR §60.283(a)(1)(iv) or (a)(4) apply]
  - D. For the purpose of reports required under 40 CFR §60.7(c), the permittee shall report semiannually periods of excess emissions. The applicant must also report the nature and cause of the excess emissions in accordance with 40 CFR §60.7(c)(2). [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. [40 CFR §60.285(a)]



81. 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 F. Applicable provisions include, but are not limited to, the following:

- 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 J, 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 Cl<sub>2</sub> 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**

82. 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 #84. [Regulation No. 19 §19.501 et seq. effective October 15, 2007 and 40 CFR Part 52, Subpart E]

**Table 22 - Maximum Criteria Pollutant Emission Rates for SN-30**

Pollutant	lb/hr	ton/yr
VOC	20.9	79.1
CO	136.1	596.1

83. The permittee shall not exceed the pollutant emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #84. [Regulation No. §18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Table 23 - Maximum Non-Criteria Pollutant Emission Rates for SN-30**

Pollutant	lb/hr	ton/yr
Acetone	0.4	1.3
Acetaldehyde	0.10	0.37
Acrolein	0.01	0.01
Benzene	0.01	0.01
Carbon tetrachloride	0.01	0.01
Chlorine	2.53	9.63
Chloroform	6.82	26.00
Formaldehyde	0.03	0.11
Hexane	0.01	0.01
Hexachlorocyclopentadiene	0.18	0.67
Hexachloroethane	0.24	0.88
Hydrogen chloride	2.53	9.63
o-Cresol	0.07	0.24
Methanol	13.20	50.20
Methylene Chloride	0.06	0.25
Phenol	0.04	0.12
Propionaldehyde	0.06	0.22
Styrene	0.03	0.10
Tetrachloroethylene	0.02	0.04
Toluene	0.01	0.01
Trichloroethylene	0.01	0.02
1,2,4-trichlorobenzene	0.01	0.03

84. 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]
85. The permittee shall maintain records which demonstrate compliance with the limits listed in Specific Condition #84. 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]
86. The permittee shall annually determine emissions of chlorine and chloroform using NCASI Methods TB 520 and TB 531 or an alternative method approved by the Air Division. Records of emission tests shall be kept onsite, provided to Department personnel upon request and may be used for enforcement purposes. The annual total shall be submitted in accordance with General Provision #7. 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 can not be achieved, the permittee shall be limited to 10 percent above the actual tested throughput. [§18.1002 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

87. The permittee shall annually test for carbon monoxide emissions from the Bleach Plant Scrubber (SN-30). 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. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]
88. 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 F. Applicable provisions include, but are not limited to, the following.

- 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)]
89. 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 F. Applicable provisions include, but are not limited to, the following.
90. The 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 H. [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. Testing shall be completed and reported to the Department no more than six months from final permit.
- 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 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/PM<sub>10</sub>, SO<sub>2</sub>, VOC, CO, and NO<sub>x</sub>. BACT is defined as the use of an ESP, boiler design, and combustion control.

### Specific Conditions

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 Specific Conditions #102 and #105. [Regulation No. 19 §19.501 et seq. effective October 15, 2007 and 40 CFR Part 52, Subpart E]

**Table 24 - Maximum Criteria Pollutant Emission Rates for SN-26 and SN-96**

SN	Description	Pollutant	lb/hr	ton/yr
26	8R Recovery Furnace	Pb	0.1	0.1
96	Salt Cake Mix Tank	VOC	0.7	2.2
		TRS	0.7	2.5

92. 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 #102, #103, #105, #106, #107. [§19.501 et seq. and §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]

**Table 25- Maximum SO<sub>2</sub> Emission Rates for SN-26**

Pollutant	lb/hr	ton/yr
Startup – Specification Oil Only		
SO <sub>2</sub>	989.1	371.0
Normal Operation – BLS with Supplemental Specification Oil Firing		
SO <sub>2</sub>	84.7	371.0

93. 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 #102, #103, and #109. [§19.501 et seq. and §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]

**Table 26 - Maximum NO<sub>x</sub> Emission Rates for SN-26**

Pollutant	lb/hr	ton/yr
NO <sub>x</sub>	276.0	1,208.6
	110 ppm <sub>dv</sub> @ 8% O <sub>2</sub>	

94. 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 #102 and #103 [§19.501 et seq. , §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]

**Table 27 - Maximum CO Emission Rates for SN-26**

Pollutant	lb/hr	ton/yr
CO	1,704.0	7,463.5
	930 ppm <sub>dv</sub>	

95. 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 #102, #103, #105, and #108. [§19.304, §19.501 et seq., §19.901 of Regulation #19, 40 CFR Part 52 Subpart E]

**Table 28 - Maximum PM/PM<sub>10</sub> Emission Rates for SN-26**

Pollutant	lb/hr	ton/yr
PM PM <sub>10</sub>	60.0	262.8
	0.02 gr/dscf @ 8% O <sub>2</sub>	

96. 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 #102 and #113. [§19.304, §19.501 et seq., and §19.801 of Regulation #19; 40 CFR Part 52 Subpart E; and 40 CFR §60.283]

**Table 29 - Maximum TRS Emission Rates for SN-26**

Pollutant	lb/hr	ton/yr
TRS	12.4	54.2
	5 ppm @ 8% O <sub>2</sub>	

97. 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 #102, #103, #105, #106, #107. [§19.501 et seq. and §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]

**Table 30 - Maximum Sulfuric Acid Emission Rates for SN-26**

SN	Description	Pollutant	lb/hr	ton/yr
26	8R Recovery Furnace	Sulfuric Acid	7.3	27.6

98. 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 #102, #103, and #105. [Regulation No. §18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Table 31- Maximum Non-Criteria Pollutant Emission Rates for SN-26 and SN-96**

SN	Pollutant	lb/hr	ton/yr
26	PM	14.4	54.8
	Acetone	0.1	0.1
	Acetaldehyde	0.05	0.19
	Acrolein	0.01	0.01
	Arsenic	0.01	0.01
	Benzene	0.01	0.01
	Beryllium	0.01	0.01
	Chloroform	0.01	0.01
	Chromium , Hex	0.01	0.01
	Chromium, total	0.01	0.03
	Formaldehyde	0.45	1.71
	n-Hexane	0.01	0.01
	Manganese	0.01	0.02
	Mercury	0.01	0.01
	Methanol	0.87	3.29
	Methylene Chloride	0.01	0.01
	Napthalene	0.05	0.17
	Selenium	0.01	0.01
	Styrene	0.02	0.04
	Tetrachloroethylene	0.01	0.02
	Toluene	0.01	0.01
96	1,2,4-Trichlorobenzene	0.02	0.07
	o-Xylene	0.01	0.01
	Acetone	0.1	0.2
	Acetaldehyde	0.03	0.10
	Acrolein	0.01	0.01
	Carbon Tetrachloride	0.01	0.01
	Benzene	0.01	0.01
	Formaldehyde	0.01	0.01
	Hexane	0.01	0.01
	Methanol	0.06	0.21
	Styrene	0.01	0.01
	Tetrachloroethylene	0.01	0.01
	Toluene	0.01	0.01
	1,2,4-Trichlorobenzene	0.01	0.01
	o-Xylene	0.01	0.01

99. The permittee shall not cause to be discharged to the atmosphere from the 8R Recovery Furnace gases which exhibit opacity greater than 20%. The opacity shall be measured in accordance with EPA Reference Method 9 as found in 40 CFR Part 60 Appendix A.

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]

100. 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. A copy of Subpart MM is provided in Appendix I. Applicable provisions of both subparts include, but are not limited to, the following:

- 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. [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. [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. [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. 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 20 percent oxygen for the continuous oxygen monitoring system. [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. [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. [40 CFR §60.284(c)(2)]

- G. The permittee shall report semiannually periods of excess emissions. [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. [40 CFR §60.285(a)]
  - I. The permittee is limited to a particulate concentration of no more than 0.044 gr/scf at 8% O<sub>2</sub>. [40 CFR §60.282, and 40 CFR §63.862(a)(i)(A)]
101. In accordance with §19.304 of Regulation #19, 40 CFR §60.7(c), and 40 CFR §60.284, the permittee shall continue to quarterly submit excess emission reports to the following address:
- Arkansas Department of Environmental Quality  
Air Division  
ATTN: Compliance Inspector Supervisor  
5301 Northshore Drive  
North Little Rock, AR 72118-5317
102. 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]
103. Specification grade oil 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]
104. The permittee shall maintain records which demonstrate compliance with Specific Conditions #102 and #103. 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]
105. The sulfur content of the specification grade oils received by the facility shall not exceed 1.5% by weight. [§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]
106. 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]

107. Sulfur dioxide emission 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 #105. 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]
108. The permittee shall annually test particulate matter emissions from the 8R Recovery Furnace (SN-26). Annual testing shall be performed in accordance with Plantwide Condition #3 and using EPA Reference Method 5 and 202 as found in 40 CFR Part 60 Appendix A. 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 can not be achieved, the permittee shall be limited to 10 percent above the actual tested throughput. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]
109. The permittee shall perform annual testing of the hourly NO<sub>x</sub> emissions rate on the 8R Recovery Furnace (SN-26) for compliance and enforcement purposes. Compliance with the NO<sub>x</sub> limit will be based on the average of three one-hour tests. Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 7E as found in 40 CFR Part 60 Appendix A. 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 rated to 10 percent above the actual tested throughput. [§19.702 and §19.901 Regulation #19, and 40 CFR Part 52, Subpart E]
110. The permittee shall continue to operate and maintain opacity, TRS and O<sub>2</sub> 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]
111. The continuous emission monitors for TRS and O<sub>2</sub> 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]
112. 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]
113. The TRS concentration of gases leaving the 8R Recovery Furnace (SN-26) shall not exceed 5 ppm, measured as H<sub>2</sub>S 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

Georgia-Pacific LLC - Crossett Paper Operations  
Permit #: 597-AOP-R11  
AFIN #: 02-00013

(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**

114. 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 #102. [Regulation No. 19 §19.501 et seq. effective October 15, 2007 and 40 CFR Part 52, Subpart E]

**Table 32 - Maximum Criteria Pollutant Emission Rates for SN-27A and B**

SN	Description	Pollutant	lb/hr	ton/yr
27A	Smelt Dissolving Tank (East)	SO <sub>2</sub>	1.3	5.0
		VOC	5.7	21.7
		NO <sub>x</sub>	2.9	11.0
		Pb	0.1	0.1
27B	Smelt Dissolving Tank (West)	SO <sub>2</sub>	1.3	5.0
		VOC	5.7	21.7
		NO <sub>x</sub>	2.9	11.0
		Pb	0.1	0.1

115. 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 #102 and #123. [§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)]

**Table 33 - Maximum PM/PM<sub>10</sub> Emission Rates for SN-27A and B**

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

116. 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 #102 and #124. [§19.304, §19.501 et seq., and §19.801 of Regulation #19; 40 CFR Part 52 Subpart E, 40 CFR §60.283]

**Table 34 - Maximum TRS Emission Rates for SN-27A and B**

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 <sub>2</sub> 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 <sub>2</sub> S	

117. 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 #102. [Regulation No. §18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Table 35 - Maximum Non-Criteria Pollutant Emission Rates for SN-27A and B**

SN	Description	Pollutant	lb/hr	ton/yr
27A	Smelt Dissolving Tank (East)	Acetone	0.1	0.1
		Acetaldehyde	0.05	0.19
		Acrolein	0.01	0.01
		Arsenic	0.01	0.01

SN	Description	Pollutant	lb/hr	ton/yr
		Benzene	0.01	0.01
		Beryllium	0.01	0.01
		Chloroform	0.01	0.01
		Chromium , Hex	0.01	0.01
		Chromium, total	0.01	0.03
		Formaldehyde	0.45	1.71
		n-Hexane	0.01	0.01
		Manganese	0.01	0.02
		Mercury	0.01	0.01
		Methanol	0.87	3.29
		Methylene Chloride	0.01	0.01
		Napthalene	0.05	0.17
		Selenium	0.01	0.01
		Styrene	0.02	0.04
		Tetrachloroethylene	0.01	0.02
		Toluene	0.01	0.01
		1,2,4-Trichlorobenzene	0.02	0.07
		o-Xylene	0.01	0.01
27B	Smelt Dissolving Tank (East)	Acetone	0.1	0.1
		Acetaldehyde	0.05	0.19
		Acrolein	0.01	0.01
		Arsenic	0.01	0.01
		Benzene	0.01	0.01
		Beryllium	0.01	0.01
		Chloroform	0.01	0.01
		Chromium , Hex	0.01	0.01
		Chromium, total	0.01	0.03
		Formaldehyde	0.45	1.71
		n-Hexane	0.01	0.01
		Manganese	0.01	0.02
		Mercury	0.01	0.01
		Methanol	0.87	3.29
		Methylene Chloride	0.01	0.01
		Napthalene	0.05	0.17
		Selenium	0.01	0.01
		Styrene	0.02	0.04
		Tetrachloroethylene	0.01	0.02
		Toluene	0.01	0.01
		1,2,4-Trichlorobenzene	0.02	0.07
		o-Xylene	0.01	0.01

118. The permittee shall not cause to be discharged from the Smelt Dissolving Tanks (SN-27A and 27B) gases which exhibit opacity greater than 20%. Compliance with this opacity limit shall be demonstrated by compliance with Specific Condition #120. The opacity shall be



measured in accordance with EPA Reference Method 9 as found in 40 CFR Part 60 Appendix A. [§19.503 of Regulation #19 and 40 CFR Part 52 Subpart E]

119. 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]
120. 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 daily. 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 flowrate values that are contained in the permit. The pressure drop and flow rate values recorded during a compliant test event may be used as subsequent minimum values. [§19.303 of Regulation #19 and A.C.A §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Table 36 - Control Equipment Parameters for SN-27A and B**

SN	Control Equipment	Parameter	Units	Operation Limits (minimum)
27A	scrubber	liquid flow rate, top	gal/min	35
		liquid flow rate, bottom	gal/min	100
		gas pressure drop across unit	inches, H <sub>2</sub> O	5
27B	scrubber	liquid flow rate, top	gal/min	35
		liquid flow rate, bottom	gal/min	100
		gas pressure drop across unit	inches, H <sub>2</sub> O	5

121. 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.

- D. Down time of the equipment will be monitored and submitted to the Department in accordance with General Provision 8.

122. 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. A copy of Subpart MM is provided in Appendix I. Applicable provisions of both subparts include, but are not limited to, the following:

- A. 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). [40 CFR §60.282(a)(2) and 40 CFR §63.862(a)(i)(B)]
- 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 H<sub>2</sub>S. [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. [40 CFR §60.284(b)(2)]
- D. The permittee shall report semiannually periods of excess emissions. [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. [40 CFR §60.285(a)]

123. The permittee shall annually test particulate matter emissions from the Smelt Dissolving Tanks (SN-27A and 27B). Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 5 as found in 40 CFR Part 60 Appendix A. 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. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]

124. 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 as found in 40 CFR Part 60 Appendix A. During the test the permittee shall operate the source within 10 percent of the rated throughput capacity. If 90 percent of the rated throughput

Georgia-Pacific LLC - Crossett Paper Operations

Permit #: 597-AOP-R11

AFIN #: 02-00013

capacity cannot be achieved, the permittee shall be limited to 10 percent above the actual tested throughput. [§19.702 and §19.801 et seq of Regulation #19, and 40 CFR Part 52 Subpart E]

**SN-#25**

**No. 4 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 maximum firing rate of the lime kiln is 150 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**

125. 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 #133 and #134. [Regulation No. 19 §19.501 et seq. effective October 15, 2007 and 40 CFR Part 52, Subpart E]

**Table 37 - Maximum Criteria Pollutant Emission Rates for SN-25**

Pollutant	lb/hr	ton/yr
SO <sub>2</sub>	14.3	54.1
VOC	7.2	27.2
CO	11.0	41.9
NO <sub>x</sub>	66.3	252.1
Pb	0.1	0.1

126. 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 #133 and #136. [§19.304 and §19.501 et seq. of Regulation #19, 40 CFR Part 52 Subpart E, and 40 CFR §63.862(a)(i)(C)]

**Table 38 - Maximum PM/PM<sub>10</sub> Emission Rates for SN-25**

Pollutant	lb/hr	ton/yr
Natural gas or natural gas and specification oil		
PM	28.3	124.0
PM <sub>10</sub>	0.064 gr/dscf corrected to 10% oxygen	

127. 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 #135 and #141. [§19.304, §19.501 et seq., §19.801 of Regulation #19; CFR Part 52 Subpart E; and 40 CFR §60.283]

**Table 39 - Maximum TRS Emission Rates for SN-25**

Pollutant	lb/hr	ton/yr
Natural gas or natural gas and specification oil firing.		
TRS	2.2	9.6
	8 ppm measured as H <sub>2</sub> S on a dry basis, on a 12-hour average, corrected to 10% O <sub>2</sub>	

128. 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 #133. [Regulation No. §18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Table 40 - Maximum Non-Criteria Pollutant Emission Rates for SN-25**

Pollutant	lb/hr	ton/yr
Sulfuric Acid	0.7	2.6
Acetone	0.1	0.1
Acetaldehyde	0.18	0.67
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
Chloroform	0.01	0.01
Chromium, Hex	0.01	0.01
Chromium, Total	0.01	0.03
Cobalt	0.01	0.01
Formaldehyde	0.18	0.67

Pollutant	lb/hr	ton/yr
Hexane	0.01	0.01
Hydrogen Chloride	0.01	0.03
Manganese	0.01	0.04
Methanol	0.04	0.15
Mercury	0.01	0.01
Methylene Chloride	0.01	0.01
Napthalene	0.42	1.57
Nickel	0.01	0.02
Phenol	0.01	0.04
Selenium	0.01	0.01
Styrene	0.01	0.01
Tetrachloroethylene	0.01	0.04
Toluene	0.01	0.01
o-Xylene	0.01	0.03

129. The permittee shall not cause to be discharged to the atmosphere gases which exhibit opacity greater than 20%. Compliance with this opacity limit shall be demonstrated by compliance with Specific Condition #130. The opacity shall be measured in accordance with EPA Reference Method 9 as found in 40 CFR Part 60 Appendix A. [§19.503 of Regulation #19 and 40 CFR Part 52 Subpart E]

130. 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 daily. The results shall be kept on site and be available to the Department personnel upon request. [§19.303 of Regulation #19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Table 41 – Control Equipment Parameters for SN-25**

SN	Control Equipment	Parameter	Units	Operation Limits (minimum)
25	scrubber	liquid flow rate	gal/min	500
		gas pressure drop across unit	inches, H <sub>2</sub> O	25

131. 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. A copy of Subpart MM is provided in Appendix I. Applicable provisions of both subparts include, but are not limited to, the following:

- 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. [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. [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. [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. [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. [40 CFR §60.284(c)(2)]
- G. The permittee shall report semiannually periods of excess emissions. [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. [40 CFR §60.285(a)]

132. The permittee shall continue to quarterly submit excess emission reports to the following address:

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

[§19.304 of Regulation #19, 40 CFR §60.7(c), and 40 CFR §60.284]

133. 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]
134. The permittee may not use specification grade oil at this source unless it contains no more than 1.5% sulfur by weight. [§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]
135. The sulfur content of the specification grade 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. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]
136. The permittee shall annually test particulate matter emissions from the No. 4 Lime Kiln (SN-25). Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 5 as found in 40 CFR Part 60 Appendix A. 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 can not be achieved, the permittee shall be limited to 10 percent above the actual tested throughput. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]
137. 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 O<sub>2</sub> 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]
138. 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]
139. 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]



140. The permittee may use the No. 4 Lime Kiln (SN-25) as an alternate incinerator for NCGs and SOGs during periods when the Incinerator (SN-83) or its associated control equipment is inoperative. [§19.304 of Regulation #19 and 40 CFR §63.443(d)(4)]
141. The TRS concentration of gases leaving the No. 4 Lime Kiln (SN-25) shall not exceed 8 ppm, measured as H<sub>2</sub>S 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]

**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 a 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**

142. 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 #75. [Regulation No. 19 §19.501 et seq. effective October 15, 2007 and 40 CFR Part 52, Subpart E]

**Table 42– Maximum Criteria Pollutant Emission Rates for SN-#55F, 56F, 94, 98, 99, 100  
103, 105, 106, 107, 108, 109, and 110**

SN	Description	Pollutant	lb/hr	ton/yr
55F	Lime Slaker Vent #1	VOC	1.7	6.3
56F	Lime Slaker Vent #2	VOC	1.7	6.3
94	Green Liquor Clarifier A	VOC	2.0	7.6

SN	Description	Pollutant	lb/hr	ton/yr
98	"A" Side Causticizers	VOC TRS	0.1 0.4	0.2 1.2
99	"B" Side Causticizers	VOC TRS	0.1 0.4	0.3 1.2
100	White Liquor Storage Tanks (4 total)	VOC	0.6	2.2
103	Green Liquor Clarifier B	VOC	0.2	0.8
105	White Liquor Clarifier	VOC	0.2	0.7
106	Mud Washer A	VOC TRS	1.4 0.1	5.2 0.1
107	Mud Washer B	VOC TRS	1.4 0.1	5.2 0.1
108	Pre-Coats Filter	VOC TRS	0.1 0.1	0.2 0.1
109	Green Liquor Stabilization Tank	VOC TRS	0.6 0.1	2.4 0.3
110	White Liquor Splitter Box	VOC	0.2	0.7

143. 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 #75. [Regulation No. §18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Table 43– Maximum Non-Criteria Pollutant Emission Rates for SN-#55F, 56F, 94, 98, 99, 100 103, 105, 106, 107, 108, 109, and 110**

SN	Description	Pollutant	lb/hr	ton/yr
55F	Lime Slaker Vent #1	PM	0.5	1.8
		Acetone	0.1	0.4
		Acetaldehyde	0.81	3.10
		Benzene	0.01	0.01
		Methanol	0.81	3.10
		Styrene	0.02	0.07
		Toluene	0.01	0.02
56F	Lime Slaker Vent #2	PM	0.5	1.8

SN	Description	Pollutant	lb/hr	ton/yr
		Acetone	0.1	0.4
		Acetaldehyde	0.81	3.10
		Benzene	0.01	0.01
		Methanol	0.81	3.10
		Styrene	0.02	0.07
		Toluene	0.01	0.02
94	Green Liquor Clarifier	Acetone	0.1	0.1
		Acetaldehyde	0.01	0.01
		Benzene	0.01	0.01
		Chloroform	0.01	0.01
		Hexane	0.01	0.01
		Methanol	0.04	0.13
		Tetrachloroethylene	0.01	0.01
98	"A" Side Causticizers	Acetone	0.1	0.1
		Acetaldehyde	0.02	0.06
		Benzene	0.01	0.01
		Methanol	0.01	0.04
		Styrene	0.01	0.01
99	"B" Side Causticizers	Acetone	0.1	0.1
		Acetaldehyde	0.02	0.06
		Benzene	0.01	0.01
		Methanol	0.01	0.04
		Styrene	0.01	0.01
100	White Liquor Storage Tanks (4 total)	Acetone	0.1	0.1
		Benzene	0.01	0.01
		Formaldehyde	0.07	0.26
		Methanol	0.50	1.80
		Styrene	0.01	0.10
103	Green Liquor Clarifier B	Acetone	0.1	0.1
		Acetaldehyde	0.01	0.01
		Benzene	0.01	0.01
		Chloroform	0.01	0.01
		Hexane	0.01	0.01
		Methanol	0.01	0.02
		Tetrachloroethylene	0.01	0.01
105	White Liquor Clarifier	Acetone	0.1	0.1
		Benzene	0.01	0.01
		Formaldehyde	0.07	0.27
		Methanol	0.05	0.18
		Styrene	0.01	0.01
		o-Xylene	0.01	0.01

SN	Description	Pollutant	lb/hr	ton/yr
106	Mud Washer A	Acetone	0.1	0.3
		Benzene	0.01	0.01
		Methanol	0.30	1.12
		Toluene	0.01	0.01
		o-Xylene	0.01	0.01
		Styrene	0.01	0.02
107	Mud Washer B	Acetone	0.1	0.3
		Benzene	0.01	0.01
		Methanol	0.30	1.12
		Toluene	0.01	0.01
		o-Xylene	0.01	0.01
		Styrene	0.01	0.02
108	Pre-Coats Filter	Acetone	0.1	0.1
		Benzene	0.01	0.01
		Formaldehyde	0.07	0.27
		Methanol	0.05	0.18
		Styrene	0.01	0.01
		o-Xylene	0.01	0.01
109	Green Liquor Stabilization Tank	Acetone	0.2	0.7
		Acetaldehyde	0.04	0.17
		o-Cresol	0.03	0.14
		Methanol	0.45	1.95
		Phenol	0.03	0.11

**SN-#62 and #63**

**Fine Paper Machines No. 1 and No. 2**

**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**

144. 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 #146. [Regulation No. 19 §19.501 et seq. effective October 15, 2007, §19.901, and 40 CFR Part 52, Subpart E]

**Table 44 – BACT Emission Rates for SN-62 and 63**

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

145. 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 #146. [Regulation No. §18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Table 45 – Maximum Non-Criteria Pollutant Emission Rates for SN-62 and 63**

SN	Description	Pollutant	lb/hr	ton/yr
62	Fine Paper Machine No. 1	Acetone	0.8	3.3
		Acetaldehyde	1.00	4.38
		Acrolein	0.04	0.17
		1,2 Dichloroethylene	0.10	0.40
		Methanol	0.86	3.75
		Tetrachloroethylene	0.05	0.22
		1,2,4-Trichlorobenzene	0.04	0.15

SN	Description	Pollutant	lb/hr	ton/yr
63	Fine Paper Machine No. 2	Acetone	0.9	3.9
		Acetaldehyde	1.10	4.82
		Acrolein	0.05	0.19
		1,2 Dichloroethylene	0.10	0.44
		Methanol	0.94	4.12
		Tetrachloroethylene	0.06	0.25
		1,2,4-Trichlorobenzene	0.04	0.17

146. 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. [§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]

147. The permittee shall maintain records which demonstrate compliance with the paper production limits, VOC annual emission, and VOC BACT limits listed in Specific Conditions #144 and #146. 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]

**SN-#64 and #65**

**Board Machine No. 3**

**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**

148. 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 #152 and #153. [Regulation No. 19 §19.501 et seq. effective October 15, 2007 and 40 CFR Part 52, Subpart E]

**Table 46 – Maximum Criteria Pollutant Emission Rates for 65**

SN	Description	Pollutant	lb/hr	ton/yr
65	Board Machine No. 3 Burners	PM <sub>10</sub>	0.2	0.5
		SO <sub>2</sub>	0.1	0.1
		VOC	0.1	0.4
		CO	1.3	5.4
		NO <sub>x</sub>	1.5	6.5

149. 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 #153. [Regulation No. 19 §19.501 et seq. effective October 15, 2007, §19.901, and 40 CFR Part 52, Subpart E]

**Table 47 – BACT Emission Rates for SN-64**

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

150. 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 #152 and #153. [Regulation No. §18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]



**Table 48 – Maximum Non-Criteria Pollutant Emission Rates for SN-64 and 65**

SN	Description	Pollutant	lb/hr	ton/yr
64	Board Machine No. 3	Acetone	1.3	5.6
		Acetaldehyde	1.70	7.45
		Acrolein	0.07	0.29
		Methanol	1.46	6.37
		Tetrachloroethylene	0.09	0.38
		1,2,4-Trichlorobenzene	0.06	0.25
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
		Chromium, total	0.01	0.01
		Cobalt	0.01	0.01
		Formaldehyde	0.01	0.02
		Hexane	0.03	0.12
		Manganese	0.01	0.01
		Mercury	0.01	0.01
		Napthalene	0.01	0.01
		Nickel	0.01	0.01
		Toluene	0.01	0.01

151. 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%. The opacity shall be measured in accordance with EPA Reference Method 9 as found in 40 CFR Part 60 Appendix A. Compliance with this opacity limit shall be demonstrated by the use of natural gas. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-11]
152. 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]
153. 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. [§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]
154. The permittee shall maintain records which demonstrate compliance with the paper production limits, VOC annual emission, and VOC BACT limits listed in Specific Conditions #149 and #153. 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

Georgia-Pacific LLC - Crossett Paper Operations

Permit #: 597-AOP-R11

AFIN #: 02-00013

#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**

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) combust natural gas at 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**

155. 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. effective October 15, 2007 and 40 CFR Part 52, Subpart E]

**Table 49 – Maximum Criteria Pollutant Emission Rates for SN-46, 66, and 67**

SN	Description	Pollutant	lb/hr	ton/yr
46	Tissue Machine No. 4 Burners	PM <sub>10</sub>	0.2	0.8
		SO <sub>2</sub>	0.1	0.1
		VOC	1.2	5.0
		CO	4.3	18.8
		NO <sub>x</sub>	2.4	10.6
		Pb	0.1	0.1
66	Tissue Machine No. 4	TRS	0.1	0.2
67	Tissue Machine No. 4 Dust System	PM <sub>10</sub>	0.3	1.1

156. 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. effective October 15, 2007, §19.901, and 40 CFR Part 52, Subpart E]

**Table 50 – BACT Emission Rates for Emission Rates for SN-66**

SN	Description	Pollutant	lb/hr	ton/yr
66	Tissue Machine No. 4	PM <sub>10</sub>	0.5	2.0
		VOC	17.0	74.5
			2.47 lb/MDT	

157. 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 #160

and #161. [Regulation No. §18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Table 51 – Maximum Non-Criteria Pollutant Emission Rates for SN-46, 66, and 67**

SN	Description	Pollutant	lb/hr	ton/yr
46	Tissue Machine No. 4 Burners	PM	0.2	0.8
		Arsenic	0.01	0.01
		Benzene	0.01	0.01
		Cadmium	0.01	0.01
		Chromium, total	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
		Napthalene	0.01	0.01
		Nickel	0.01	0.01
		Toluene	0.01	0.01
66	Tissue Machine No. 4	PM	0.5	2.0
		Acetone	0.3	1.2
		Acetaldehyde	0.35	1.52
		Acrolein	0.02	0.06
		1,2 Dichloroethylene	0.04	0.14
		Formaldehyde	0.05	0.21
		Methanol	0.35	1.53
		Methylene Chloride	0.03	0.12
		Tetrachloroethylene	0.02	0.08
		1,2,4-Trichlorobenzene	0.02	0.06
67	Tissue Machine No. 4 Dust System	PM	0.3	1.1

158. The permittee shall not cause to be discharged to the atmosphere from SN-46 gases which exhibit opacity greater than 5%. Compliance with this opacity limit shall be demonstrated by the use of natural gas.

The permittee shall not cause to be discharged to the atmosphere from SN-67 gases which exhibit opacity greater than 5%. Compliance with this opacity limit shall be demonstrated by compliance with Specific Condition #163.

The opacity shall be measured in accordance with EPA Reference Method 9 as found in 40 CFR Appendix A. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

159. 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.
160. 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]
161. 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. [§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,
162. The permittee shall maintain records which demonstrate compliance with the paper production limits, VOC annual emission, and VOC BACT limits listed in Specific Conditions #156 and #161. 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]
163. 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]

**Table 52 – Control Equipment Parameters for SN-67**

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

164. 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]

**SN-#47, #54 and #68**

**Tissue Machine No. 5**

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<sub>x</sub> 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) under went a BACT review in Air Permit 597-AOP-R0. Clean fuel, good combustion practice, and low NO<sub>x</sub> burners were chosen as BACT at the time.

**Specific Conditions**

165. 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 #173 and #174. [Regulation No. 19 §19.501 et seq. effective October 15, 2007 and 40 CFR Part 52, Subpart E]

**Table 53 – Maximum Criteria Pollutant Emission Rates for SN-47, SN-54, and 68**

SN	Description	Pollutant	lb/hr	ton/yr
47	Tissue Machine No. 5 Burners	PM <sub>10</sub>	0.2	0.9
		NO <sub>x</sub>	1.2	5.0
		Pb	0.1	0.1
54	Tissue Machine No. 5 Dust System	PM <sub>10</sub>	0.3	1.1
68	Tissue Machine No. 5	PM <sub>10</sub>	0.3	1.1
		VOC	13.0	57.0
		TRS	0.1	0.2

166. 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 #173, #174, and #176. [§19.501 et seq. and §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]

**Table 54–BACT Emission Rates for SN-47 and SN-68**

SN	Description	Pollutant	lb/hr	ton/yr
47	Tissue Machine No. 5 Burners	PM PM <sub>10</sub>	0.4	1.5
			0.0164 lb/MMBtu	
		SO <sub>2</sub>	0.1	0.1
			0.0007 lb/MMBtu	



SN	Description	Pollutant	lb/hr	ton/yr
		VOC	1.2	5.2
			0.0564 lb/MMBtu	
		CO	4.5	19.7
			0.2142 lb/MMBtu	
		NO <sub>x</sub>	2.0	8.4
			0.0913 lb/MMBtu	
68	Tissue Machine No. 5	PM <sub>10</sub>	0.3	1.1
		VOC	13.0	57.0
			3.37 lb/MDT	

167. 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 #173 and #174. [Regulation No. §18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Table 55 – Maximum Non-Criteria Pollutant Emission Rates for SN-46, 47, 66, and 67**

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
		Chromium, total	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
		Napthalene	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

SN	Description	Pollutant	lb/hr	ton/yr
68	Tissue Machine No. 5	PM	0.3	1.1
		Acetone	0.2	0.7
		Acetaldehyde	0.20	0.85
		Acrolein	0.01	0.04
		1,2 Dichloroethylene	0.02	0.08
		Formaldehyde	0.03	0.12
		Methanol	0.20	0.86
		Methylene Chloride	0.02	0.08
		Tetrachloroethylene	0.01	0.05
		1,2,4-Trichlorobenzene	0.01	0.03

168. The permittee shall not cause to be discharged to the atmosphere from SN-54 gases which exhibit opacity greater than 5%. Compliance with this opacity limit shall be demonstrated by compliance with Specific Condition #168. The opacity shall be measured in accordance with EPA Reference Method 9 as found in 40 CFR Part 60 Appendix A. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
169. 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.
170. 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]

**Table 56 – Control Equipment Parameters for SN-54**

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

171. 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]
172. The permittee shall not cause to be discharged to the atmosphere from SN-47 gases which exhibit opacity greater than 5%. The opacity shall be measured in accordance with EPA Reference Method 9 as found in 40 CFR Part 60 Appendix A. Compliance with this opacity limit shall be demonstrated by the use of natural gas. [§19.503 and §19.901 et seq of Regulation #19, and 40 CFR Part 52 Subpart E]
173. 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]
174. 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. [§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]
175. 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 #166 and #174. 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,

176. The permittee shall test SN-47 for CO and NO<sub>x</sub> to verify compliance with the BACT emission limits specified in Specific Condition #166 initially and once every three years thereafter. The first test shall be conducted within 60 days of achieving the maximum production rate, but in no event later than 180 days after initial start-up of the modified permitted source. Testing shall be performed in accordance with Plantwide Condition #3. Testing for CO and NO<sub>x</sub> 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 can not be achieved, the permittee shall be limited to 10 percent above the actual tested throughput. [§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**

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<sub>x</sub> 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<sub>x</sub> burners were chosen as BACT at the time.

With the replacement of the burners, BACT limits for particulate and VOC have decreased. The source will continue to meet the CO, NO<sub>x</sub>, and SO<sub>2</sub> limits.

**Specific Conditions**

177. 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 #186 and #188. [Regulation No. 19 §19.501 et seq. effective October 15, 2007 and 40 CFR Part 52, Subpart E]

**Table 57– Maximum Criteria Pollutant Emission Rates for SN-48, SN-51, 52, and 69**

SN	Description	Pollutant	lb/hr	ton/yr
51	Tissue Machine No. 6 Rewinder	PM <sub>10</sub>	0.5	1.9
52	Tissue Machine No. 6 Dust System	PM <sub>10</sub>	0.5	1.9
69	Tissue Machine No. 6	TRS	0.1	0.3

178. 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 #187. [§19.501 et seq. and §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]

**Table 58 – BACT Emission Rates for SN-48**

SN	Description	Pollutant	lb/hr	ton/yr
48	Tissue Machine No. 6 Burners	PM PM <sub>10</sub>	0.4	1.8
			0.00912 lb/MMBtu	

SN	Description	Pollutant	lb/hr	ton/yr
	(41 MMBtu/hr)	SO <sub>2</sub>	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	
		NO <sub>x</sub>	3.8	16.7
			0.0913 lb/MMBtu	
69	Tissue Machine No. 6	PM <sub>10</sub>	0.7	3.1
		VOC	26.7	116.6
			2.48 lb/MDT	

179. 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 #186 and #188. [Regulation No. §18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Table 59 – Maximum Non-Criteria Pollutant Emission Rates for SN-48, 51, 52, and 69**

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
		Chromium, total	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
		Napthalene	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
52	Tissue Machine	PM	0.5	1.9

SN	Description	Pollutant	lb/hr	ton/yr
	No. 6 Dust System			
69	Tissue Machine No. 6	PM	0.7	3.1

180. The permittee shall not cause to be discharged to the atmosphere from SN-51 or SN-52 gases which exhibit opacity greater than 5%. Compliance with this opacity limit shall be demonstrated by compliance with Specific Conditions #180 and #183. The opacity shall be measured in accordance with EPA Reference Method 9 as found in 40 CFR Part 60 Appendix A. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
181. 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 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.
182. The permittee shall conduct weekly observations of the opacity from SN-51 and keep a record of these observations. If visible emissions are detected, then the permittee shall conduct a 6-minute opacity reading in accordance with EPA Reference Method 9. The results of these observations shall be kept on site and shall be made available to Department personnel upon request. [§18.1004 of Regulation #18, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
183. 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]

**Table 60 –Control Equipment Parameters for SN-52**

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

184. 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]
185. The permittee shall not cause to be discharged to the atmosphere from SN-48 gases which exhibit opacity greater than 5%. The opacity shall be measured in accordance with EPA Reference Method 9 as found in 40 CFR Part 60 Appendix A. Compliance with this opacity limit shall be demonstrated by the use of natural gas. [§19.503 and §19.901 et seq of Regulation #19, and 40 CFR Part 52 Subpart E]
186. 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]
187. The permittee shall test SN-48 for CO and NO<sub>x</sub> to verify compliance with the BACT emission limits specified in Specific Condition #178 initially and once every three years thereafter. The first test shall be conducted within 60 days of achieving the maximum production rate, but in no event later than 180 days after initial start-up of the modified permitted source. Testing shall be performed in accordance with Plantwide Condition #3. Testing for CO and NO<sub>x</sub> 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 can not be achieved, the permittee shall be limited to 10 percent above the actual tested throughput. [§19.702 and §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]
188. 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. [§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]

189. 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 #178 and #188. 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]

**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<sub>x</sub> burners. Tissue Machine No. 7 Dust System (SN-50) uses a 44,000 cfm scrubber to control particulate matter emissions.

**Specific Conditions**

190. 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 #195 and #196. [Regulation No. 19 §19.501 et seq. effective October 15, 2007 and 40 CFR Part 52, Subpart E]

**Table 61 – Maximum Criteria Pollutant Emission Rates for SN-49, 50, and 70**

SN	Description	Pollutant	lb/hr	ton/yr
49	Tissue Machine No. 7 Burners	PM <sub>10</sub>	0.4	1.8
		SO <sub>2</sub>	0.1	0.1
		VOC	2.4	10.1
		CO	8.8	38.5
		NO <sub>x</sub>	2.3	9.7
50	Tissue Machine No. 7 Dust System	PM <sub>10</sub>	0.5	2.1
70	Tissue Machine No. 7	TRS	0.1	0.3

191. 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 #196. [§19.501 et seq. and §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]

**Table 62 – BACT Emission Rates for SN-70**

SN	Description	Pollutant	lb/hr	ton/yr
70	Tissue Machine No. 7	PM <sub>10</sub>	0.7	2.9
		VOC	17.7	77.4
			1.78 lb/MDT	

192. 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 #195 and #196. [Regulation No. §18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Table 63 – Maximum Non-Criteria Pollutant Emission Rates for SN-49, 50, and 70**

SN	Description	Pollutant	lb/hr	ton/yr
49	Tissue Machine No. 7 Burners	PM	0.4	1.8
		Arsenic	0.01	0.01
		Benzene	0.01	0.01
		Cadmium	0.01	0.01
		Chromium, total	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
		Napthalene	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	PM	0.7	2.9
		Acetone	0.4	1.8
		Acetaldehyde	0.50	2.19
		Acrolein	0.02	0.09
		1,2 Dichloroethylene	0.05	0.20
		Formaldehyde	0.07	0.30
		Methanol	0.51	2.21
		Methylene Chloride	0.04	0.17
		Tetrachloroethylene	0.03	0.11
		1,2,4-Trichlorobenzene	0.02	0.08

193. The permittee shall not cause to be discharged to the atmosphere from SN-49 gases which exhibit opacity greater than 5%. Compliance with this opacity limit shall be demonstrated by the use of natural gas.

The permittee shall not cause to be discharged to the atmosphere from SN-50 gases which exhibit opacity greater than 5%. Compliance with this opacity limit shall be demonstrated by compliance with Specific Condition #198.

The opacity shall be measured in accordance with EPA Reference Method 9 as found in 40 CFR Appendix A. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

194. 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.

195. 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]

196. 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. [§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]

197. The permittee shall maintain records which demonstrate compliance with the paper production limits, the VOC annual emissions, and the VOC BACT limits Specific Condition #191 and #196. 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]

198. 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.

- E. The permittee shall maintain a scrubber liquid flowrate of at least 300 gallons per minute. [40 CFR Part §64.6(c)(1)]

- F. The permittee shall monitor and maintain daily records to demonstrate compliance with Specific Condition #198 (A). Records shall be kept onsite and made available to the Department upon request. [40 CFR Part §64.6(c)(3)]
- G. 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)]

199. 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)]
- 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)]

200. 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]

**SN-79, 80 and 81**

**Tissue Machine No. 8**

Proposed emissions from the wet end and dry end of Tissue Machine No. 8 (SN-80) have been bubbled together. 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<sub>x</sub> burners. Tissue Machine No. 8 Dust System (SN-81) is equipped with a 55,000 cfm wet venturi scrubber dust system to control particulate matter emissions.

The No. 8 Tissue Machine and associate equipment under went a BACT review in Air Permit 597-AOP-R0. Clean fuel, good combustion practice, and low NO<sub>x</sub> burners were chosen as BACT for the burners. For particulate control on the dust system, a wet scrubber was determined as BACT.

**Specific Conditions**

201. 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 and #211. [Regulation No. 19 §19.501 et seq. effective October 15, 2007 and 40 CFR Part 52, Subpart E]

**Table 64 – Maximum Pb Emission Rates for SN-79**

SN	Description	Pollutant	lb/hr	ton/yr
79	Tissue Machine No. 8 Burners	Pb	0.1	0.1

202. 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, #211, #213, and #214. [§19.501 et seq. and §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]

**Table 65 –BACT Emission Rates for SN-79, 80, and 81**

SN	Description	Pollutant	lb/hr	ton/yr
79	Tissue Machine No. 8 Burners (50 MMBtu/hr)	PM <sub>10</sub>	0.9	3.6
			0.0164 lb/MMBtu	
		SO <sub>2</sub>	0.1	0.2
			0.0007 lb/MMBtu	
		VOC	1.0	4.2

SN	Description	Pollutant	lb/hr	ton/yr
			0.0192 lb/MMBtu	
		CO	5.7	24.9
			0.1139 lb/MMBtu	
		NO <sub>x</sub>	4.6	20.0
			0.0913 lb/MMBtu	
80	Tissue Machine No. 8	VOC	8.5	47.7
			1.29 lb/MDT	
		TRS	0.1	0.3
81	Tissue Machine No. 8 Dust System	PM <sub>10</sub>	1.7	7.2
			0.0035 gr/dscf	

203. 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 #211. [Regulation No. §18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Table 66 – Maximum Non-Criteria Pollutant Emission Rates for SN-79 and 80**

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
		Chromium, total	0.01	0.01
		Cobalt	0.01	0.01
		Formaldehyde	0.01	0.02
		Hexane	0.11	0.47
		Manganese	0.01	0.01
		Mercury	0.01	0.01
		Napthalene	0.01	0.01
		Nickel	0.01	0.01
		Toluene	0.01	0.01
80	Tissue Machine No. 8	Acetone	0.4	1.5
		Acetaldehyde	0.43	1.86
		Acrolein	0.02	0.08
		1,2 Dichloroethylene	0.04	0.17
		Formaldehyde	0.06	0.25
		Methanol	0.43	1.88

SN	Description	Pollutant	lb/hr	ton/yr
		Methylene Chloride	0.04	0.15
		Tetrachloroethylene	0.03	0.10
		1,2,4-Trichlorobenzene	0.02	0.07
81	Tissue Machine No. 8 Dust System	PM	1.7	7.2

204. The permittee shall not cause to be discharged to the atmosphere from SN-79 gases which exhibit opacity greater than 5%. Compliance with this opacity limit shall be demonstrated by the use of natural gas.

The permittee shall not cause to be discharged to the atmosphere from SN-81 gases which exhibit opacity greater than 5%. Compliance with this opacity limit shall be demonstrated by Specific Condition #208.

The opacity shall be measured in accordance with EPA Reference Method 9 as found in 40 CFR Part 60 Appendix A. [§19.503 and §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]

205. 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 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.



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]
207. The permittee shall operate and maintain a device to measure the pressure drop across the wet venturi scrubber on the Tissue Machine No. 8 Dust System (SN-81). [§19.703 and §19.901 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]
208. 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
- 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 #208(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)]
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. 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)]

210. 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]
211. The permittee shall not produce in excess of 212 machine dried tons of paper per day, 30 day rolling average, from the Tissue Machine No. 8. [§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]
212. 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 #202 and #211. 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]
213. The permittee shall test SN-79 for CO and NO<sub>x</sub> to verify compliance with the BACT emission limits specified in Specific Condition #201 initially and once every three years thereafter. The first test shall be conducted within 60 days of achieving the maximum production rate, but in no event later than 180 days after initial start-up of the permitted source. Testing for CO and NO<sub>x</sub> 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 can not be achieved, the permittee shall be limited to 10 percent above the actual tested throughput. [§19.702 and §19.901 et seq of Regulation #19, and 40 CFR Part 52 Subpart E]
214. The permittee shall test SN-81 for PM/PM<sub>10</sub> to verify compliance with the BACT emission limit specified in Specific Conditions #201 initially and once every three years thereafter. Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 5 with inclusion of back half sampling train particulate. 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 can not be achieved, the permittee shall be limited to 10 percent above the actual tested throughput. [§19.702 and §19.901 et seq of Regulation #19, and 40 CFR Part 52 Subpart E]

## SN-71 and SN-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

215. 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]

**Table 67 – Maximum Criteria Pollutant Emission Rates for SN-71 and 72**

SN	Description	Pollutant	lb/hr	ton/yr
71	No. 8 Extruder Electrostatic Treaters (A&B)	PM <sub>10</sub>	0.4	1.4
72	No. 9 Extruder Electrostatic Treater	PM <sub>10</sub>	0.6	2.5

216. 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 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Table 68 – Maximum Non-Criteria Pollutant Emission Rates for SN-71 and 72**

SN	Description	Pollutant	lb/hr	ton/yr
71	No. 8 Extruder Electrostatic Treaters (A&B)	PM Ozone	0.4 1.8	1.4 7.9

SN	Description	Pollutant	lb/hr	ton/yr
72	No. 9 Extruder Electrostatic Treater	PM	0.6	2.5
		Ozone	1.5	6.3

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-35F

### 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. effective October 15, 2007 and 40 CFR Part 52, Subpart E]

**Table 69 – Maximum Criteria Pollutant Emission Rates for SN-35F**

Pollutant	lb/hr	ton/yr
VOC	16.5	70.8

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 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Table 70 – Maximum Non-Criteria Pollutant Emission Rates for SN-35F**

Pollutant	lb/hr	ton/yr
Chloroform	1.53	6.69
Methanol	0.08	0.36
Napthalene	0.01	0.05

**SN-40, 75, 76F, 78F, 82F, and SN-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. The West Landfill is currently undergoing closure activities.

**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 are 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. effective October 15, 2007 and 40 CFR Part 52, Subpart E]

**Table 71 – Maximum Criteria Pollutant Emission Rates for SN-40, 75, 76F, 78F, 82F, and SN-97**

SN	Description	Pollutant	lb/hr	ton/yr
40	Methanol Storage Tank	VOC	37.5	1.2
75	Pulp Storage Chests	VOC	9.3	40.7
97	Storage Tanks	VOC	33.0	6.8
76F	Black Liquor Storage Basin No. 1	VOC	28.1	122.8
78F	Road Emissions	PM <sub>10</sub>	15.3	67.1

SN	Description	Pollutant	lb/hr	ton/yr
82F	Landfill Operations	PM <sub>10</sub>	1.3	0.3
		VOC	4.3	18.7

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 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Table 72– Maximum Non-Criteria Pollutant Emission Rates for SN-40, 75, 76F, 78F, 82F, and SN-97**

SN	Description	Pollutant	lb/hr	ton/yr
40	Methanol Storage Tank	Methanol	37.50	1.20
97	Storage Tanks	Methanol	1.5	6.0
75	Pulp Storage Chests	Methanol	2.16	9.47
76F	Black Liquor Storage Basin No. 1	Acetaldehyde	1.31	5.72
		Acetone	2.3	9.9
		Methanol	16.07	70.38
78F	Road Emissions	PM	44.8	195.8
82F	Landfill Operations	PM	2.7	0.5

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)]

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]

226. The permittee shall maintain sufficient records to demonstrate compliance with the throughput limits listed in the Tanks Table. 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. An annual total and each individual month's data shall be submitted in accordance with General Provision #7. [§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]

**Table 73 – Tanks Table**

Contents	Capacity (bbl)	Throughput (bbl/yr)
Gasoline	71	857



**SN-#93**

**Repulpers A, B, and C**

**Source Description**

Three repulpers are used to reprocess broke. These are identified as Repulpers A, B, and C. Each repulper is identical. The repulpers operate without any hoods or fans. The repulpers apply a sodium hypochlorite pulping aid which is added subsurface. 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. effective October 15, 2007 and 40 CFR Part 52, Subpart E]

**Table 74 – Maximum Criteria Pollutant Emission Rates for SN-93**

Pollutant	lb/hr	ton/yr
VOC	0.6	2.3

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 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Table 75 – Maximum Non-Criteria Pollutant Emission Rates for SN-93**

Pollutant	lb/hr	ton/yr
Chloroform	0.60	2.30

229. The permittee shall not use in excess of 1,971,000 pounds per year of hypochlorite at SN-93. This limit is based on a 12-month rolling total. [§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 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 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]

## **CLUSTER RULE PULPING REQUIREMENTS**

The Cluster Rule imposes HAP control on 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. Total HAP control (as methanol) is divided into three source groups: the low volume – high concentration (LVHC) system, the high volume – low concentration (HVLC) system, and the pulping process condensates.

The incinerator (SN-83) is the only source of additional emissions. The incinerator is collecting emissions from other sources for combustion. The emissions from the new Incinerator will be an increase to actual emissions. The Incinerator will be combusting new (natural gas, SOGs, and HVLC NCGs) and existing (LVHC NCGs) fuels. The additional equipment will not increase the emissions or the pulp throughput limits.

### **Low Volume – High Concentration (LVHC) Collection System**

Crossett Paper Operations has an existing LVHC Collection System that routes HAP emissions from the Digester, Turpentine Recovery, and the Evaporator System to the No. 4 Lime Kiln (SN-25) for control. Per the requirements of the Cluster Rule, the only additional LVHC sources that need to be added to the collection system are the Turpentine Decanter and the Foul Condensate Collection Tank.

At Crossett Paper Operations, the digestion of wood chips occurs in a batch operation rather than on a continuous basis. In batch digesters, NCGs, along with steam and HAPs, are removed from the digesters while the chips “cook” – convert to pulp. This stream is cooled to produce batch digester relief steam condensate. When Crossett Paper Operations pulps softwood, especially pine, the resulting condensates contain turpentine. These condensates are sent to the Turpentine Recovery System for extraction of the turpentine. The foul condensates will leave the turpentine recovery area as turpentine decanter underflow. In the Turpentine Recovery System, underflow from both the decanter and storage tanks are considered Kraft pulping condensates.

At the end of the cook, the pulp, cooking chemicals, and gases from the digesters are sent to the Blow Tank where large quantities of steam and some HAPs are released. This steam is condensed to form batch digester blow steam condensate. The fraction of HAPs that do not leave with the relief and blow steam continue with the pulp and weak black liquor to be collected by the HVLC Collection System and Evaporator Liquor Feed Stages described below.

Weak black liquor is fed to multiple effects in the evaporator. When the liquor is initially subjected to evaporation, the majority of the HAPs are removed from the liquor along with water vapor. The HAPs and water vapor are then condensed, thereby producing evaporator foul condensate which is routed along with the rest of the pulp process condensates to the LEEPS System described below.

The LVHC gas sources that will be collected and routed to the Incinerator (SN-83) are as follows. Crossett Paper Operations will design and operate this equipment as a closed-vent system that will have no detectable leaks. These sources have a Cluster Rule compliance deadline of April 16, 2001.

- Turpentine decanter
- Turpentine underflow tank
- Foul condensate storage tank
- NCG condensate seal tank

### **High Volume – Low Concentration (HVLC) Collection System**

The HVLC System is a closed-vent system. The intent is to control HAP emissions from the Pulp Washing Systems, Knotter Systems, Screening Systems, and Decker Systems. The emissions will be controlled as outlined in 40 CFR §63.443. HVLC sources are required to be controlled within eight years from the publication date of the Cluster Rule in the Federal Register – i.e. April 17, 2006.

Small amounts of HVLC condensates form in the HVLC Collection System. The condensates will be removed at low points in the system. Although this condensate has a low volume, it is usually foul with TRS compounds. The collected HVLC condensates will be routed to the LEEPS System.

### **Low Energy Environmental Pre-Evaporator & Stripper (LEEPS) System**

In order to meet the Cluster Rule condensate standards, Crossett Paper Operations will install a LEEPS System that will be comprised of pre-evaporators, a concentrator, and a steam stripper. Pulping condensates from the Digester System, Turpentine Recovery System, Evaporator Liquor Feed Stages, and The LVHC and HVLC Collection Systems are sent directly to the steam stripper. At the same time, condensates from the new pre-evaporators/ concentrator are also routed to the steam stripper. Steam from the stripper drives off the HAPs and TRS from the condensate. The clean condensates are then recycled to various processes in the Mill. The liquid and gaseous (SOGs) phases of the stripped portion are segregated. The liquid portion is routed to a storage tank from which it is routed to the Incinerator for destruction. Meanwhile, the SOGs are routed to the Incinerator (SN-83) for control. The No. 4 Lime Kiln or the 9A Boiler serves as backup destruction devices for the SOGs.

### **Incinerator (SN-83)**

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 SO<sub>2</sub> 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 No. 4 Lime Kiln (SN-25) and the 9A Boiler (SN-22) as backup combustion devices 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 SO<sub>2</sub> 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 SO<sub>2</sub> from these gases, the temperature is lowered. The gases pass through a waste heat boiler. The boiler is followed by a vertical SO<sub>2</sub> 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, the combustion of methanol produces the highest emission rates. The Incinerator is equipped with low-NO<sub>x</sub> burners to control NO<sub>x</sub> emissions and a scrubber to control PM/PM<sub>10</sub> and SO<sub>2</sub> emissions.

### **Specific Conditions**

#### **The Incinerator (SN-83)**

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. Initial compliance with the PM<sub>10</sub> and VOC emission rates shall be demonstrated by Specific Conditions #240 and #242, respectively. Annual compliance with the SO<sub>2</sub>, CO, NO<sub>x</sub>, and TRS emission rates shall be demonstrated by Specific Conditions #241, #243, #244, #245 respectively. [Regulation No. 19 §19.501 et seq. effective October 15, 2007 and 40 CFR Part 52, Subpart E]

**Table 77 – Maximum Criteria Pollutant Emission Rates for SN-83**

Pollutant	lb/hr	ton/yr
PM <sub>10</sub>	2.7	11.8
SO <sub>2</sub>	9.1	39.9
VOC	0.8	3.5
CO	6.0	26.3
NO <sub>x</sub>	23.0	100.7
TRS	0.9	3.8

232. The permittee estimates the emission rates set forth in the following table for the Incinerator (SN-83) will not be exceeded. Emissions are based on maximum capacity. Initial compliance with the PM and Methanol emissions shall be demonstrated by Specific Conditions #240 and #246, respectively. [Regulation No. §18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

**Table 78 – Maximum Non-Criteria Pollutant Emission Rates for SN-83**

Pollutant	lb/hr	ton/yr
PM	2.7	11.8
Methanol	0.80	3.50

233. The permittee shall not cause to be discharged to the atmosphere from the Incinerator gases which exhibit opacity greater than 20% as measured by EPA Reference Method 9. Compliance shall be demonstrated by the proper operation of the scrubber per Specific Condition #234. [§19.503 of Regulation #19 and 40 C.F.R. Part 52 Subpart E]

234. 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]

235. The permittee shall maintain records which demonstrate compliance with Specific Condition #234. 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]

236. 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. Future compliance tests may be used to establish the daily average pressure drop and flowrate values that are contained in the permit. The pressure drop and flow rate values recorded during a compliant test event may be used as subsequent minimum values.

A. The permittee shall maintain a scrubber liquid flowrate of at least 768 gallons per minute. [40 CFR Part §64.6(c)(1)]

- B. The permittee shall maintain pH of at least 7.6. [40 CFR Part §64.6(c)(1)]
- C. The permittee shall monitor and maintain daily records to demonstrate compliance with Specific Condition #236 (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 SO<sub>2</sub> removal is maintained. [40 CFR Part §64.6(c)(1)]

237. 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 describe 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)]

238. 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]

239. The permittee shall maintain records which demonstrate compliance with Specific Condition #238. 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]

240. The permittee shall initially test particulate matter emissions from the Incinerator. Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 5 as found in 40 CFR Part 60 Appendix A. This initial test was completed in September 2001. [§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]
241. The permittee shall annually test sulfur dioxide emissions from the Incinerator. Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 6C as found in 40 CFR Part 60 Appendix A. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]
242. The permittee shall initially test volatile organic compound emissions from the Incinerator. Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 25A as found in 40 CFR Part 60 Appendix A. This initial test was completed in September 2001. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]
243. The permittee shall annually test carbon monoxide emissions from the Incinerator. Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 10 as found in 40 CFR Part 60 Appendix A. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]
244. The permittee shall annually test nitrogen oxides emissions from the Incinerator. Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 7E as found in 40 CFR Part 60 Appendix A. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]
245. The permittee shall annually test total reduced sulfur emissions from the Incinerator. Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 16 as found in 40 CFR Part 60 Appendix A. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]
246. The permittee shall initially test methanol emissions from the Incinerator. Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 18 as found in 40 CFR Part 60 Appendix A. This initial test was completed in September 2001. [§18.1002 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

### **The Pulping System**

247. 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 F. Applicable provisions include, but are not limited to, the following:

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. [§19.304 of Regulation #19 and 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. [§19.304 of Regulation #19 and 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. [§19.304 of Regulation #19 and 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. [§19.304 of Regulation #19 and 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. [§19.304 of Regulation #19 and 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. [§19.304 of Regulation #19 and 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. [§19.304 of Regulation #19 and 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. [§19.304 of Regulation #19 and 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). [§19.304 of Regulation #19 and 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. [§19.304 of Regulation #19 and 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. [§19.304 of Regulation #19 and 40 CFR §63.446(i)]

#### Monitoring Requirements

- L. The Incinerator shall meet the monitoring requirements set forth in 40 CFR §63.453(b). [§19.304 of Regulation #19 and 40 CFR §63.453(b)]
- M. The Steam Stripper shall meet the monitoring requirements set forth in 40 CFR §63.453(g). [§19.304 of Regulation #19 and 40 CFR §63.453(g)]
- N. The Closed Vent System shall meet the monitoring requirements set forth in 40 CFR §63.453(k). [§19.304 of Regulation #19 and 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. [§19.304 of Regulation #19 and 40 CFR §63.454(b)]
  - P. Excess emissions shall be reported as required by 40 CFR §63.455. [§19.304 of Regulation #19 and 40 CFR §63.455]
248. 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.

Georgia-Pacific LLC - Crossett Paper Operations

Permit #: 597-AOP-R11

AFIN #: 02-00013

Bypass shall only be allowed during periods of emergency maintenance to the sulfuric acid mist eliminator system. [A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

## **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: PLANT WIDE CONDITIONS**

1. The permittee will 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 No. 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 No.19 §19.410(B) and 40 CFR Part 52, Subpart E]
3. The permittee must test any equipment scheduled for testing, unless 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) days in advance of such test. The permittee will submit the compliance test results to the Department within thirty (30) days after completing the testing. [Regulation No.19 §19.702 and/or Regulation No. 18 §18.1002 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
4. The permittee must provide: [Regulation No.19 §19.702 and/or Regulation No.18 §18.1002 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
  - a. Sampling ports adequate for applicable test methods
  - b. Safe sampling platforms
  - c. Safe access to sampling platforms
  - d. Utilities for sampling and testing equipment.
5. The permittee must operate the equipment, control apparatus and emission monitoring equipment within the design limitations. The permittee will maintain the equipment in good condition at all times. [Regulation No.19 §19.303 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
6. This permit subsumes and incorporates all previously issued air permits for this facility. [Regulation No. 26 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
7. The permittee must prepare and implement a Startup, Shutdown, and Malfunction Plan (SSM). If the Department requests a review of the SSM, the permittee will make the SSM available for review. The permittee must keep a copy of the SSM at the source's location and retain all previous versions of the SSM plan for five years. [Regulation No. 19 §19.304 and 40 CFR 63.6(e)(3)]

### **Chemical Accident Prevention Provisions**

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

### **Title VI Provisions**

9. 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.
10. 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.

11. 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.

12. 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.

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.

13. 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, "Significant New Alternatives Policy Program".

#### **Oil Tank Requirement for SN-19, SN-22, SN-25, and SN-26**

14. 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]

#### **Additional Requirements**

15. The permittee shall not commence operation of the modified or new sources from Air Permit 597-AOP-R10 until the following stack height changes are made at Georgia-Pacific Plywood & Studmill facility:

Description	SN#	Existing Height (ft)	Minimum Height (ft)	Comment
P-2 Residuals Collection	SN-C9	36	59	Vertical Stack
P-1 Dry Residuals Glueline Flying saw	SN-C12	43	53	Modify to Vertical Stack
P-2 Spec Saw Dust	SN-F22	9	45	Vertical Stack; Combined with SN-F24
P-2 Sander Dust	SN-F24	23	45	Vertical Stack; Combined with SN-F24

Description	SN#	Existing Height (ft)	Minimum Height (ft)	Comment
Dryer #1; Vent #1 (1)	SN-100C	44.3	54.3	Vertical Stack
Dryer #1; Vent #2 (2)	SN-100C	44.3	54.3	Vertical Stack
Dryer #2; Vent #1 (3)	SN-100C	42.3	52.3	Vertical Stack
Dryer #2; Vent #2(4)	SN-100C	42.3	52.3	Vertical Stack
Dryer #2; Vent #3 (5)	SN-100C	42.3	52.3	Vertical Stack
Dryer #3; Vent #1 (6)	SN-100C	42.7	52.7	Vertical Stack
Dryer #3; Vent #2(7)	SN-100C	42.7	52.7	Vertical Stack
Dryer #3; Vent #3 (8)	SN-100C	42.7	52.7	Vertical Stack
Dryer #4; Vent #1 (9)	SN-100C	41.6	51.6	Vertical Stack
Dryer #4; Vent #2(10)	SN-100C	41.9	51.9	Vertical Stack
Dryer #4; Vent #3 (11)	SN-100C	42.5	52.5	Vertical Stack
Dryer #5; Vent #1 (12)	SN-100C	51.0	61.0	Vertical Stack
Dryer #5; Vent #2 (13)	SN-100C	50.0	60.0	Vertical Stack
Dryer #5; Vent #3 (14)	SN-100C	50.0	60.0	Vertical Stack
Dryer #6; Vent #1 (15)	SN-100C	51.0	61.0	Vertical Stack
Dryer #6; Vent #2 (16)	SN-100C	49.9	59.9	Vertical Stack
Dryer #6; Vent #3 (17)	SN-100C	49.9	59.9	Vertical Stack
Dryer #7; Vent #1 (18)	SN-100C	45.0	60.0	Vertical Stack
Dryer #7; Vent #2(19)	SN-100C	45.0	60.0	Vertical Stack
Dryer #7; Vent #3 (20)	SN-100C	45.0	60.0	Vertical Stack
Dryer #8; Vent #1 (21)	SN-100C	35.0	45.0	Vertical Stack
Dryer #8; Vent #2 (22)	SN-100C	49.0	59.0	Vertical Stack
Dryer #8; Vent #3 (23)	SN-100C	49.0	59.0	Vertical Stack

Georgia-Pacific LLC - Crossett Paper Operations  
Permit #: 597-AOP-R11  
AFIN #: 02-00013

Description	SN#	Existing Height (ft)	Minimum Height (ft)	Comment
Sanding (Plant No.1)	SN-F10	67.0	75.0	Vertical Stack
Residuals Collection Systems (Plant #2)	SN-C3	54.0	64.0	Vertical Stack
Residuals Collection Systems	SN-C5	53.0	63.0	Vertical Stack
Residuals Collection Systems (Plant #1)	SN-F23	24.0	34.0	Vertical Stack

Upon completion, Georgia-Pacific - Crossett Paper Operations will submit a written report to the Department that certifies all the modifications to the stacks are complete. This condition has been satisfied as a requirement of Air Permit #597-AOP-R10. [Regulation No. 19 §19.705 and 40 CFR Part 52, Subpart E]



### Section VII:INSIGNIFICANT ACTIVITIES

The following sources are insignificant activities. Any activity that has a state or federal applicable requirement is a significant activity even if this activity meets the criteria of §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 October 23, 2003.

**Table 80 - Insignificant Activities**

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
Diesel Fuel Tank	A-3
Xylene Tank	A-3
Turpentine Tank	A-3
No. 8 Extruder Burner, 1.55 MMBTU/hr	A-1
No. 8 Extruder Burner, 0.85 MMBTU/hr	A-1
No. 9 Extruder Burners, 1.0 MMBTU/hr (total)	A-1

Pursuant to §26.304 of Regulation 26, the Department determined the emission units, operations, or activities contained in Regulation 19, Appendix A, Group B, to be insignificant activities. Activities included in this list are allowable under this permit and need not be specifically identified.

### Section VIII: GENERAL PROVISIONS

1. Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation No. 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 §26.701(B) of the Regulations of the Arkansas Operating Air Permit Program (Regulation 26), effective August 10, 2000]
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 No. 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 No. 26 §26.701(A)(2)]
5. The permittee must maintain the following records of monitoring information as required by this permit. [40 CFR 70.6(a)(3)(ii)(A) and Regulation No. 26 §26.701(C)(2)]
  - 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.

6. The permittee must retain the records of all required monitoring data and support information for at least 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 No. 26 §26.701(C)(2)(b)]
7. The permittee must submit reports of all required monitoring every 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 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: [40 C.F.R. 70.6(a)(3)(iii)(A) and §26.701(C)(3)(a) of Regulation #26]

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

8. The permittee will 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 19.601), 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 will 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.

For all deviations, the permittee will 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 in the initial and full report required in 8a. [40 CFR 70.6(a)(3)(iii)(B), Regulation No. 26 §26.701(C)(3)(b), Regulation No. 19 §19.601 and §19.602]

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), §26.701(E) of Regulation No. 26, 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 No. 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 No. 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 No. 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 No. 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 No. 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 No. 26 §26.701(F)(5)]

15. The permittee must pay all permit fees in accordance with the procedures established in Regulation No. 9. [40 CFR 70.6(a)(7) and Regulation No. 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 No. 26 §26.701(H)]
17. If the permit allows different operating scenarios, the permittee will, 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 No. 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 No. 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 No. 26 §26.2. [40 CFR 70.6(c)(1) and Regulation No. 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 No. 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 will 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 No. 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 No. 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]

**APPENDIX A**  
CONTINUOUS EMISSION MONITORING SYSTEMS  
CONDITIONS

# 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 PSTs 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.
- F. 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.
- J. 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.

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 <sub>2</sub> & CO <sub>2</sub> )	> 1.0 % O <sub>2</sub> or CO <sub>2</sub>
Flow	> 20% Relative Accuracy

CGA

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

**APPENDIX B**  
NSPS D



Pollutant	Units (7 percent oxygen, dry basis)	Emission limits		
		HMIWI size		
		Small	Medium	Large
Lead .....	Milligrams per dry standard cubic meter (grains per thousand dry standard cubic feet) or percent reduction.	1.2 (0.52) or 70%	1.2 (0.52) or 70%	1.2 (0.52) or 70%.
Cadmium .....	Milligrams per dry standard cubic meter (grains per thousand dry standard cubic feet) or percent reduction.	0.16 (0.07) or 65%	0.16 (0.07) or 65%..	
Mercury .....	Milligrams per dry standard cubic meter (grains per thousand dry standard cubic feet) or percent reduction.	0.55 (0.24) or 85%	0.55 (0.24) or 85%	0.55 (0.24) or 85%.

TABLE 2 TO SUBPART CE—EMISSIONS LIMITS FOR SMALL HMIWI WHICH MEET THE CRITERIA UNDER § 60.33E(B)

Pollutant	Units (7 percent oxygen, dry basis)	HMIWI emission limits
Particulate matter .....	Milligrams per dry standard cubic meter (grains per dry standard cubic foot).	197 (0.086).
Carbon monoxide .....	Parts per million by volume .....	40.
Dioxins/furans .....	nanograms per dry standard cubic meter total dioxins/furans (grains per billion dry standard cubic feet) or nanograms per dry standard cubic meter TEQ (grains per billion dry standard cubic feet).	800 (350) or 15 (6.6).
Hydrogen chloride .....	Parts per million by volume .....	3100.
Sulfur dioxide .....	Parts per million by volume .....	55.
Nitrogen oxides .....	Parts per million by volume .....	250.
Lead .....	Milligrams per dry standard cubic meter (grains per thousand dry standard cubic feet).	10 (4.4).
Cadmium .....	Milligrams per dry standard cubic meter (grains per thousand dry standard cubic feet).	4 (1.7).
Mercury .....	Milligrams per dry standard cubic meter (grains per thousands dry standard cubic feet).	7.5 (3.3).

### Subpart D—Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971

#### § 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 heat input rate (250 million Btu per hour).

(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 megawatts (250 million Btu per hour).

(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 covered under subpart Da is not covered under this subpart.

[42 FR 37936, July 25, 1977, as amended at 43 FR 9278, Mar. 7, 1978; 44 FR 33612, June 17, 1979]

#### § 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.

(a) *Fossil-fuel fired steam generating unit* means a furnace or boiler used in the process of burning fossil fuel for

## Environmental Protection Agency

## § 60.43

the purpose of producing steam by heat transfer.

(b) *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.

(c) *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.

(d) *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.

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

(f) *Coal* means all solid fuels classified as anthracite, bituminous, sub-bituminous, or lignite by ASTM D388-77, 90, 91, 95, or 98a (incorporated by reference—see § 60.17).

[39 FR 20791, June 14, 1974, as amended at 40 FR 2803, Jan. 16, 1975; 41 FR 51398, Nov. 22, 1976; 43 FR 9278, Mar. 7, 1978; 48 FR 3736, Jan. 27, 1983; 65 FR 61752, Oct. 17, 2000]

### § 60.42 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 from any affected facility any gases which:

(1) Contain particulate matter in excess of 43 nanograms per joule heat input (0.10 lb per million Btu) 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.

[39 FR 20792, June 14, 1974, as amended at 41 FR 51398, Nov. 22, 1976; 42 FR 61537, Dec. 5, 1977; 44 FR 76787, Dec. 28, 1979; 45 FR 36077, May 29, 1980; 45 FR 47146, July 14, 1980; 46 FR 57498, Nov. 24, 1981; 61 FR 49976, Sept. 24, 1996; 65 FR 61752, Oct. 17, 2000]

### § 60.43 Standard for sulfur dioxide.

(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 from any affected facility any gases which contain sulfur dioxide in excess of:

(1) 340 nanograms per joule heat input (0.80 lb per million Btu) derived from liquid fossil fuel or liquid fossil fuel and wood residue.

(2) 520 nanograms per joule heat input (1.2 lb per million Btu) derived from solid fossil fuel or solid fossil fuel and wood residue, except as provided in paragraph (e) of this section.

(b) 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:

$$PS_{SO_2} = [y(340) + z(520)] / (y + z)$$

where:

$PS_{SO_2}$  is the prorated standard for sulfur dioxide when burning different fuels simultaneously, in nanograms per joule heat input derived from all fossil fuels fired or from all fossil fuels and wood residue fired,  $y$  is the percentage of total heat input derived from liquid fossil fuel, and  $z$  is the 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) [Reserved]

(e) Units 1 and 2 (as defined in appendix G) 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 nanograms per joule (1.1 lb per million Btu) combined heat input to Units 1 and 2.

[39 FR 20792, June 14, 1974, as amended at 41 FR 51398, Nov. 22, 1976; 52 FR 28954, Aug. 4, 1987]

**§ 60.44 Standard for nitrogen oxides.**

(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 from any affected facility any gases which contain nitrogen oxides, expressed as NO<sub>2</sub> in excess of:

(1) 86 nanograms per joule heat input (0.20 lb per million Btu) derived from gaseous fossil fuel.

(2) 129 nanograms per joule heat input (0.30 lb per million Btu) derived from liquid fossil fuel, liquid fossil fuel and wood residue, or gaseous fossil fuel and wood residue.

(3) 300 nanograms per joule heat input (0.70 lb per million Btu) 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 nanograms per joule heat input (0.60 lb per million Btu) derived from lignite or lignite and wood residue (except as provided under paragraph (a)(5) of this section).

(5) 340 nanograms per joule heat input (0.80 lb per million Btu) 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) and (d) 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:

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

where:

PS<sub>NOx</sub> is the prorated standard for nitrogen oxides when burning different fuels simultaneously, in nanograms per joule heat input derived from all fossil fuels fired or from all fossil fuels and wood residue fired;

w = is the percentage of total heat input derived from lignite;

x = is the percentage of total heat input derived from gaseous fossil fuel;

y = is the percentage of total heat input derived from liquid fossil fuel; and

z = is the 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 nitrogen oxides does not apply.

(d) 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.

[39 FR 20792, June 14, 1974, as amended at 41 FR 51398, Nov. 22, 1976; 43 FR 9278, Mar. 7, 1978; 51 FR 42797, Nov. 25, 1986]

**§ 60.45 Emission and fuel monitoring.**

(a) Each owner or operator shall install, calibrate, maintain, and operate continuous monitoring systems for measuring the opacity of emissions, sulfur dioxide emissions, nitrogen oxides emissions, and either oxygen or carbon dioxide except as provided in paragraph (b) of this section.

(b) Certain of the continuous monitoring system 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 burns only gaseous fossil fuel, continuous monitoring systems for measuring the opacity of emissions and sulfur dioxide emissions are not required.

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

# Environmental Protection Agency

## § 60.45

(3) Notwithstanding § 60.13(b), installation of a continuous monitoring system for nitrogen oxides 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 nitrogen oxides are less than 70 percent of the applicable standards in § 60.44, a continuous monitoring system for measuring nitrogen oxides emissions is not required. If the initial performance test results show that nitrogen oxide emissions are greater than 70 percent of the applicable standard, the owner or operator shall install a continuous monitoring system for nitrogen oxides 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 does not install any continuous monitoring systems for sulfur oxides and nitrogen oxides, as provided under paragraphs (b)(1) and (b)(3) or paragraphs (b)(2) and (b)(3) of this section a continuous monitoring system for measuring either oxygen or carbon dioxide is not required.

(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, as applicable, shall be used for the performance evaluations of sulfur dioxide and nitrogen oxides continuous monitoring systems. Acceptable alternative methods for Methods 6, 7, and 3B 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 and for a continuous monitoring system measuring sulfur oxides or nitrogen oxides the span value shall be determined as follows:

[In parts per million]		
Fossil fuel	Span value for sulfur dioxide	Span value for nitrogen oxides
Gas .....	( <sup>1</sup> )	500
Liquid .....	1,000	500

[In parts per million]

Fossil fuel	Span value for sulfur dioxide	Span value for nitrogen oxides
Solid .....	1,500	1000
Combinations .....	1,000y+1,500z	500(x+y)+1,000z

<sup>1</sup> Not applicable.

where:

x=the fraction of total heat input derived from gaseous fossil fuel, and  
y=the fraction of total heat input derived from liquid fossil fuel, and  
z=the fraction of total heat input derived from solid fossil fuel.

(4) All span values computed under paragraph (c)(3) of this section for burning combinations of fossil fuels shall be rounded to the nearest 500 ppm.

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

(d) [Reserved]

(e) For any continuous monitoring system 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/million Btu):

(1) When a continuous monitoring system for measuring oxygen is selected, the measurement of the pollutant concentration and oxygen 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:

$$E = CF[20.9/(20.9 - \text{percent } O_2)]$$

where:

E, C, F, and %O<sub>2</sub> are determined under paragraph (f) of this section.

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

$$E = CF_c [100/\text{percent } CO_2]$$

# § 60.45

# 40 CFR Ch. I (7-1-06 Edition)

where:

E, C, F, and %CO<sub>2</sub> 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/million Btu).

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

(3) %O<sub>2</sub>, %CO<sub>2</sub>=oxygen or carbon dioxide volume (expressed as percent), determined with equipment specified under paragraph (a) of this section.

(4) F, F<sub>c</sub>=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 carbon dioxide generated to the calorific value of the fuel combusted (F<sub>c</sub>), respectively. Values of F and F<sub>c</sub> are given as follows:

(i) For anthracite coal as classified according to ASTM D388-77, 90, 91, 95, or 98a (incorporated by reference—see § 60.17), F= $2.723 \times 10^{-17}$  dscm/J (10,140 dscf/million Btu) and F<sub>c</sub>= $0.532 \times 10^{-17}$  scm CO<sub>2</sub>/J (1,980 scf CO<sub>2</sub>/million Btu).

(ii) For subbituminous and bituminous coal as classified according to ASTM D388-77, 90, 91, 95, or 98a (incorporated by reference—see § 60.17),

F= $2.637 \times 10^{-7}$  dscm/J (9,820 dscf/million Btu) and F<sub>c</sub>= $0.486 \times 10^{-7}$  scm CO<sub>2</sub>/J (1,810 scf CO<sub>2</sub>/million Btu).

(iii) For liquid fossil fuels including crude, residual, and distillate oils, F= $2.476 \times 10^{-7}$  dscm/J (9,220 dscf/million Btu) and F<sub>c</sub>= $0.384 \times 10^{-7}$  scm CO<sub>2</sub>/J (1,430 scf CO<sub>2</sub>/million Btu).

(iv) For gaseous fossil fuels, F= $2.347 \times 10^{-7}$  dscm/J (8,740 dscf/million Btu). For natural gas, propane, and butane fuels, F<sub>c</sub>= $0.279 \times 10^{-7}$  scm CO<sub>2</sub>/J (1,040 scf CO<sub>2</sub>/million Btu) for natural gas,  $0.322 \times 10^{-7}$  scm CO<sub>2</sub>/J (1,200 scf CO<sub>2</sub>/million Btu) for propane, and  $0.338 \times 10^{-7}$  scm CO<sub>2</sub>/J (1,260 scf CO<sub>2</sub>/million Btu) for butane.

(v) For bark F= $2.589 \times 10^{-7}$  dscm/J (9,640 dscf/million Btu) and F<sub>c</sub>= $0.500 \times 10^{-7}$  scm CO<sub>2</sub>/J (1,840 scf CO<sub>2</sub>/million Btu). For wood residue other than bark F= $2.492 \times 10^{-7}$  dscm/J (9,280 dscf/million Btu) and F<sub>c</sub>= $0.494 \times 10^{-7}$  scm CO<sub>2</sub>/J (1,860 scf CO<sub>2</sub>/million Btu).

(vi) For lignite coal as classified according to ASTM D388-77, 90, 91, 95, or 98a (incorporated by reference—see § 60.17), F= $2.659 \times 10^{-7}$  dscm/J (9,900 dscf/million Btu) and F<sub>c</sub>= $0.516 \times 10^{-7}$  scm CO<sub>2</sub>/J (1,920 scf CO<sub>2</sub>/million Btu).

(5) The owner or operator may use the following equation to determine an F factor (dscm/J or dscf/million Btu) on a dry basis (if it is desired to calculate F on a wet basis, consult the Administrator) or F<sub>c</sub> factor (scm CO<sub>2</sub>/J, or scf CO<sub>2</sub>/million Btu) on either basis in lieu of the F or F<sub>c</sub> factors specified in paragraph (f)(4) of this section:

$$F = 10^{-6} \frac{[227.2 (\text{pct. H}) + 95.5 (\text{pct. C}) + 35.6 (\text{pct. S}) + 8.7 (\text{pct. N}) - 28.7 (\text{pct. O})]}{\text{GCV}}$$

$$F_c = \frac{2.0 \times 10^{-5} (\text{pct. C})}{\text{GCV (SI units)}}$$

$$F = \frac{10^6 [3.64 (\%H) + 1.53 (\%C) + 0.57 (\%S) + 0.14 (\%N) - 0.46 (\%O)]}{\text{GCV (English units)}}$$

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

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

(i) H, C, S, N, and O are content by weight of hydrogen, carbon, sulfur, nitrogen, and oxygen (expressed as percent), respectively, as determined on the same basis as GCV by ultimate analysis of the fuel fired, using ASTM D3178-73 (Reapproved 1979), 89, or D3176-74 or 89 (solid fuels) or computed from results using ASTM D1137-53 or 75, D1945-64, 76, 91, or 96 or D1946-77 or 90 (Reapproved 1994) (gaseous fuels) as applicable. (These five methods are incorporated by reference—see § 60.17.)

(ii) GCV is the gross calorific value (kJ/kg, Btu/lb) of the fuel combusted determined by the ASTM test methods D2015-77 for solid fuels and D1826-77 for gaseous fuels as applicable. (These two 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:

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

where:

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

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

$n$  = the number of fuels being burned in combination.

(g) Excess emission and monitoring system performance reports shall be submitted to the Administrator semi-annually 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

## § 60.46

## 40 CFR Ch. I (7-1-06 Edition)

per hour of up to 39 percent opacity need not be reported.

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

(i) Any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) of sulfur dioxide as measured by a continuous monitoring system exceed the applicable standard under § 60.43.

(3) *Nitrogen oxides*. Excess emissions for affected facilities using a continuous monitoring system for measuring nitrogen oxides are defined as any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) exceed the applicable standards under § 60.44.

[40 FR 46256, Oct. 6, 1975]

EDITORIAL NOTES: 1. For FEDERAL REGISTER citations affecting § 60.45, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and on GPO Access.

2. At 65 FR 61752, Oct. 17, 2000, § 60.45(f)(5)(ii) was amended by revising the words "ASTM D1826-77" to read "ASTM D1826-77 or 94," and by revising the words "ASTM D2015-77" to read "ASTM D2015-77 (Reapproved 1978), 96, or D5865-98." However, this amendment could not be incorporated because these words do not exist in paragraph (f)(5)(ii).

### § 60.46 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 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 particulate matter, SO<sub>2</sub>, and NO<sub>x</sub> standards in §§ 60.42, 60.43, and 60.44 as follows:

(1) The emission rate (E) of particulate matter, SO<sub>2</sub>, or NO<sub>x</sub> shall be computed for each run using the following equation:

$$E = C F_d (20.9) / (20.9 - \% O_2)$$

E = emission rate of pollutant, ng/J (lb/million Btu).

C = concentration of pollutant, ng/dscm (lb/dscf).

%O<sub>2</sub> = oxygen concentration, percent dry basis.

F<sub>d</sub> = factor as determined from Method 19.

(2) Method 5 shall be used to determine the particulate matter concentration (C) at affected facilities without wet flue-gas-desulfurization (FGD) systems and Method 5B shall be used to determine the particulate matter 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 shall be used to determine the O<sub>2</sub> concentration (%O<sub>2</sub>). The O<sub>2</sub> sample shall be obtained simultaneously with, and at the same traverse points as, the particulate sample. If the grab sampling procedure is used, the O<sub>2</sub> concentration for the run shall be the arithmetic mean of the sample O<sub>2</sub> concentrations at all traverse points.

(iii) If the particulate run has more than 12 traverse points, the O<sub>2</sub> traverse points may be reduced to 12 provided that Method 1 is used to locate the 12 O<sub>2</sub> traverse points.

(3) Method 9 and the procedures in § 60.11 shall be used to determine opacity.

(4) Method 6 shall be used to determine the SO<sub>2</sub> 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 shall be used to determine the O<sub>2</sub> concentration (%O<sub>2</sub>). The O<sub>2</sub> sample shall be taken simultaneously with, and at the same point as,

the SO<sub>2</sub> sample. The SO<sub>2</sub> emission rate shall be computed for each pair of SO<sub>2</sub> and O<sub>2</sub> samples. The SO<sub>2</sub> emission rate (E) for each run shall be the arithmetic mean of the results of the two pairs of samples.

(5) Method 7 shall be used to determine the NO<sub>x</sub> concentration.

(i) The sampling site and location shall be the same as for the SO<sub>2</sub> sample. Each run shall consist of four grab samples, with each sample taken at about 15-minute intervals.

(ii) For each NO<sub>x</sub> sample, the emission rate correction factor, grab sampling and analysis procedure of Method 3B shall be used to determine the O<sub>2</sub> concentration (%O<sub>2</sub>). The sample shall be taken simultaneously with, and at the same point as, the NO<sub>x</sub> sample.

(iii) The NO<sub>x</sub> emission rate shall be computed for each pair of NO<sub>x</sub> and O<sub>2</sub> samples. The NO<sub>x</sub> 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 D2015-77 (Re-approved 1978), 96, or D5865-98 (solid fuels), D240-76 or 92 (liquid fuels), or D1826-77 or 94 (gaseous fuels) (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 particulate matter, SO<sub>2</sub> and NO<sub>x</sub> may be determined by using the F<sub>c</sub> factor, provided that the following procedure is used:

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

$$E = C F_c (100/\%CO_2)$$

where:

E=emission rate of pollutant, ng/J (lb/million Btu).

C=concentration of pollutant, ng/dscm (lb/dscf).

%CO<sub>2</sub>=carbon dioxide concentration, percent dry basis.

F<sub>c</sub>=factor as determined in appropriate sections of Method 19.

(ii) If and only if the average F<sub>c</sub> factor in Method 19 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 shall be used to determine the O<sub>2</sub> and CO<sub>2</sub> concentration according to the procedures in paragraph (b) (2)(ii), (4)(ii), or (5)(ii) of this section. Then if F<sub>o</sub> (average of three runs), as calculated from the equation in Method 3B, is more than ±3 percent than the average F<sub>o</sub> value, as determined from the average values of F<sub>d</sub> and F<sub>c</sub> in Method 19, i.e., F<sub>oa</sub>=0.209 (F<sub>da</sub>/F<sub>ca</sub>), then the following procedure shall be followed:

(A) When F<sub>o</sub> is less than 0.97 F<sub>oa</sub>, then E shall be increased by that proportion under 0.97 F<sub>oa</sub>, e.g., if F<sub>o</sub> is 0.95 F<sub>oa</sub>, E shall be increased by 2 percent. This recalculated value shall be used to determine compliance with the emission standard.

(B) When F<sub>o</sub> is less than 0.97 F<sub>oa</sub> 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<sub>oa</sub>, e.g., if F<sub>o</sub> is 0.95 F<sub>oa</sub>, E shall be increased by 2 percent. This recalculated value shall be used to determine compliance with the relative accuracy specification.

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



**§ 60.40Da**

**40 CFR Ch. I (7-1-06 Edition)**

(2) For Method 5 or 5B, Method 17 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 2.1 and 2.3 of Method 5B may be used with Method 17 only if it is used after wet FGD systems. Method 17 shall not be used after wet FGD systems if the effluent gas is saturated or laden with water droplets.

(3) Particulate matter and SO<sub>2</sub> may be determined simultaneously with the Method 5 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 is used in place of the condenser (section 2.1.7) of Method 5.

(ii) All applicable procedures in Method 8 for the determination of SO<sub>2</sub> (including moisture) are used:

(4) For Method 6, Method 6C may be used. Method 6A may also be used whenever Methods 6 and 3B data are specified to determine the SO<sub>2</sub> emission rate, under the conditions in paragraph (d)(1) of this section.

(5) For Method 7, Method 7A, 7C, 7D, or 7E may be used. If Method 7C, 7D, or 7E 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 O<sub>2</sub> concentration (%O<sub>2</sub>) for the emission rate correction factor.

(6) For Method 3, Method 3A or 3B may be used.

(7) For Method 3B, Method 3A may be used.

[54 FR 6662, Feb. 14, 1989; 54 FR 21344, May 17, 1989, as amended at 55 FR 5212, Feb. 14, 1990; 65 FR 61752, Oct. 17, 2000]

**Subpart Da—Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978**

SOURCE: 44 FR 33613, June 11, 1979, unless otherwise noted.

**§ 60.40Da Applicability and designation of affected facility.**

(a) The affected facility to which this subpart applies is each electric utility steam generating unit:

(1) That is capable of combusting more than 73 megawatts (250 million Btu/hour) heat input of fossil fuel (either alone or in combination with any other fuel); and

(2) For which construction, modification, or reconstruction is commenced after September 18, 1978.

(b) Heat recovery steam generators that are associated with stationary combustion turbines burning fuels other than 75 percent (by heat input) or more synthetic-coal gas on a 12-month rolling average and that meet the applicability requirements of subpart KKKK of this part are not subject to this subpart. Heat recovery steam generators and the associated stationary combustion turbine(s) burning fuels containing 75 percent (by heat input) or more synthetic-coal gas on a 12-month rolling average are subject to this part and are not subject to subpart KKKK of this part. This subpart will continue to apply to all other electric utility combined cycle gas turbines that are capable of combusting more than 73 MW (250 MMBtu/h) heat input of fossil fuel in the heat recovery steam generator. If the heat recovery steam generator is subject to this subpart and the combined cycle gas turbine burn fuels other than synthetic-coal gas, only emissions resulting from combustion of fuels in the steam-generating unit are subject to this subpart. (The combustion turbine emissions are subject to subpart GG or KKKK, as applicable, of this part).

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

(d) Any change to an existing steam generating unit originally designed to fire gaseous or liquid fossil fuels, to accommodate the use of any other fuel (fossil or nonfossil) shall not bring that

## **APPENDIX D**

NSPS Kb

## §60.115c

40 CFR Ch. I (7-1-04 Edition)

(e) The primary vapor-mounted seal in the "Volume-Maximizing Seal" manufactured by R.F.I. Services Corporation is approved as equivalent to the vapor-mounted seal required by §60.112a(a)(1)(i) and must meet the gap criteria specified in §60.112a(a)(1)(i)(B). There shall be no gaps between the tank wall and any secondary seal used in conjunction with the primary seal in the "Volume-Maximizing Seal".

[52 FR 11429, Apr. 8, 1987]

## §60.115a Monitoring of operations.

(a) Except as provided in paragraph (d) of this section, the owner or operator subject to this subpart shall maintain a record of the petroleum liquid stored, the period of storage, and the maximum true vapor pressure of that liquid during the respective storage period.

(b) Available data on the typical Reid vapor pressure and the maximum expected storage temperature of the stored product may be used to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517, 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).

(c) The true vapor pressure of each type of crude oil with a Reid vapor pressure less than 13.8 kPa (2.0 psia) or whose physical properties preclude determination by the recommended method is to be determined from available data and recorded if the estimated true vapor pressure is greater than 6.9 kPa (1.0 psia).

(d) The following are exempt from the requirements of this section:

(1) Each owner or operator of each storage vessel storing a petroleum liquid with a Reid vapor pressure of less than 6.9 kPa (1.0 psia) provided the maximum true vapor pressure does not exceed 6.9 kPa (1.0 psia).

(2) The owner or operator of each storage vessel equipped with a vapor recovery and return or disposal system in accordance with the requirements of §60.112a(a)(3) and (b), or a closed vent system and control device meeting the

specifications of 40 CFR 65.42(b)(4), (b)(5), or (c).

[45 FR 23379, Apr. 4, 1980, as amended at 65 FR 78275, Dec. 14, 2000]

## 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<sup>3</sup>) 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<sup>3</sup> 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<sup>3</sup> but less than 151 m<sup>3</sup> 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<sup>3</sup> 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.

Environmental Protection Agency

§ 60.111b

(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 m<sup>3</sup> 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 m<sup>3</sup> but less than 151 m<sup>3</sup> 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

§60.112b

40 CFR Ch. I (7-1-04 Edition)

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

(2) As obtained from standard reference texts; or

(3) As determined by ASTM D2879-83, 96, or 97 (incorporated by reference—see §60.17);

(4) Any other method approved by the Administrator.

*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.

*Process tank* means a tank that is used within a process (including a solvent or raw material recovery process) to collect material discharged from a feedstock storage vessel or equipment within the process before the material is transferred to other equipment within the process, to a product or by-product storage vessel, or to a vessel used to store recovered solvent or raw material. In many process tanks, unit operations such as reactions and blending are conducted. Other process tanks, such as surge control vessels and bottoms receivers, however, may not involve unit operations.

*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:

(1) Frames, housing, auxiliary supports, or other components that are not directly involved in the containment of liquids or vapors;

(2) Subsurface caverns or porous rock reservoirs; or

(3) Process tanks.

*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]

§ 60.112b Standard for volatile organic compounds (VOC).

(a) The owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m<sup>3</sup> 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 m<sup>3</sup> but less than 151 m<sup>3</sup> 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

#### §60.113b

#### 40 CFR Ch. I (7-1-04 Edition)

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 m<sup>3</sup> 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

## Environmental Protection Agency

## § 60.113b

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 Cm<sup>2</sup> 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 cm<sup>2</sup> 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

Environmental Protection Agency

§ 60.115b

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 815 °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.

§ 60.115b Reporting and recordkeeping 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.

(1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of § 60.112b(a)(1) and § 60.113b(a)(1). This report shall be an attachment to the notification required by § 60.7(a)(3).

(2) Keep a record of each inspection performed as required by § 60.113b (a)(1), (a)(2), (a)(3), and (a)(4). Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings).

(3) If any of the conditions described in § 60.113b(a)(2) are detected during the annual visual inspection required by § 60.113b(a)(2), a report shall be furnished to the Administrator within 30 days of the inspection. Each report shall identify the storage vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made.

(4) After each inspection required by § 60.113b(a)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in § 60.113b(a)(3)(ii), a report shall be furnished to the Administrator within 30 days of the inspection. The report shall identify the storage vessel and the reason it did not meet the specifications of § 60.112b(a)(1) or § 60.113b(a)(3) and list each repair made.

(b) After installing control equipment in accordance with § 60.112b(a)(2) (external floating roof), the owner or operator shall meet the following requirements.

(1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of § 60.112b(a)(2) and § 60.113b(b)(2), (b)(3), and (b)(4). This report shall be an at-

tachment to the notification required by § 60.7(a)(3).

(2) Within 60 days of performing the seal gap measurements required by § 60.113b(b)(1), furnish the Administrator with a report that contains:

(i) The date of measurement.

(ii) The raw data obtained in the measurement.

(iii) The calculations described in § 60.113b (b)(2) and (b)(3).

(3) Keep a record of each gap measurement performed as required by § 60.113b(b). Each record shall identify the storage vessel in which the measurement was performed and shall contain:

(i) The date of measurement.

(ii) The raw data obtained in the measurement.

(iii) The calculations described in § 60.113b (b)(2) and (b)(3).

(4) After each seal gap measurement that detects gaps exceeding the limitations specified by § 60.113b(b)(4), submit a report to the Administrator within 30 days of the inspection. The report will identify the vessel and contain the information specified in paragraph (b)(2) of this section and the date the vessel was emptied or the repairs made and date of repair.

(c) After installing control equipment in accordance with § 60.112b (a)(3) or (b)(1) (closed vent system and control device other than a flare), the owner or operator shall keep the following records.

(1) A copy of the operating plan.

(2) A record of the measured values of the parameters monitored in accordance with § 60.113b(c)(2).

(d) After installing a closed vent system and flare to comply with § 60.112b, the owner or operator shall meet the following requirements.

(1) A report containing the measurements required by § 60.18(f) (1), (2), (3), (4), (5), and (6) shall be furnished to the Administrator as required by § 60.8 of the General Provisions. This report shall be 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

## Environmental Protection Agency

## § 60.116b

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 m<sup>3</sup> 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 m<sup>3</sup> but less than 151 m<sup>3</sup> 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 m<sup>3</sup> 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 m<sup>3</sup> but less than 151 m<sup>3</sup> 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.

## § 60.117b

(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]

## Subpart I—Standards of Performance for Secondary Lead Smelters

### § 60.120 Applicability and designation of affected facility.

(a) The provisions of this subpart are applicable to the following affected facilities in secondary lead smelters: Pot furnaces of more than 250 kg (550 lb) charging capacity, blast (cupola) furnaces, and reverberatory furnaces.

(b) Any facility under paragraph (a) of this section that commences con-

## 40 CFR Ch. I (7-1-04 Edition)

struction or modification after June 11, 1973, is subject to the requirements of this subpart.

[42 FR 37937, July 25, 1977]

### § 60.121 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.

(a) *Reverberatory furnace* includes the following types of reverberatory furnaces: stationary, rotating, rocking, and tilting.

(b) *Secondary lead smelter* means any facility producing lead from a leadbearing scrap material by smelting to the metallic form.

(c) *Lead* means elemental lead or alloys in which the predominant component is lead.

(d) *Blast furnace* means any furnace used to recover metal from slag.

[39 FR 9317, Mar. 8, 1974; 39 FR 13776, Apr. 17, 1974, as amended at 65 FR 61756, Oct. 17, 2000]

### § 60.122 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 discharge or cause the discharge into the atmosphere from a blast (cupola) or reverberatory furnace any gases which:

(1) Contain particulate matter in excess of 50 mg/dscm (0.022 gr/dscf).

(2) Exhibit 20 percent opacity or greater.

(b) 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 discharge or cause the discharge into the atmosphere from any pot furnace any gases which exhibit 10 percent opacity or greater.

[39 FR 9317, Mar. 8, 1974, as amended at 40 FR 46259, Oct. 6, 1975]

### § 60.123 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

## APPENDIX C

### NSPS BB

## § 60.280

## 40 CFR Ch. I (7-1-06 Edition)

(20) Description of analytical procedures;

(21) Notation of sample blank corrections; and

(22) Sample emission calculations.

(g) The owner or operator shall maintain records of all shop opacity observations made in accordance with § 60.273a(d). All shop opacity observations in excess of the emission limit specified in § 60.272a(a)(3) of this subpart shall indicate a period of excess emission, and shall be reported to the administrator semi-annually, according to § 60.7(c).

(h) The owner or operator shall maintain the following records for each bag leak detection system required under § 60.273a(e):

(1) Records of the bag leak detection system output;

(2) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings; and

(3) An identification of the date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, if procedures were initiated within 1 hour of the alarm, the cause of the alarm, an explanation of the actions taken, the date and time the cause of the alarm was alleviated, and if the alarm was alleviated within 3 hours of the alarm.

[49 FR 43845, Oct. 31, 1984, as amended at 54 FR 6673, Feb. 14, 1989; 64 FR 10111, Mar. 2, 1999; 65 FR 61758, Oct. 17, 2000; 70 FR 8533, Feb. 22, 2005]

### 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  $\pm 1$  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  $\pm 500$  pascals (ca.  $\pm 2$  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  $\pm 15$  percent of design scrubbing liquid supply pressure. The pressure sensor or tap is to be located close to the scrubber liquid discharge point. The Administrator may be consulted for approval of alternative locations.

# Environmental Protection Agency

## § 60.284

(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:

$C_{\text{corr}}$  = the concentration corrected for oxygen.  
 $C_{\text{meas}}$  = 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.

## § 60.285

(1) All continuous monitoring systems shall be operated in accordance with the applicable procedures under Performance Specifications 1, 3, and 5 of appendix B to this part.

(2) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 1 of appendix F to this part.

[43 FR 7572, Feb. 23, 1978, as amended at 51 FR 18545, May 20, 1986; 65 FR 61759, Oct. 17, 2000]

### § 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:

$$E = c_e Q_{ed} / \text{BLS}$$

where:

E=emission rate of particulate matter, g/kg (lb/ton) of BLS.

$c_e$  = Concentration of particulate matter, g/dscm (lb/dscf).

$Q_{ed}$ =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 ( $c_e$ ) and the volumetric flow rate ( $Q_{ed}$ ) 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 ( $\text{Na}_2\text{O}$ ) and substituted into the following equation to determine the green liquor sulfidity:

$$\text{GLS} = 100 C_{\text{Na}_2\text{S}} / (C_{\text{Na}_2\text{S}} C_{\text{NaOH}} C_{\text{Na}_2\text{CO}_3})$$

Where:

GLS=green liquor sulfidity, percent.

$C_{\text{Na}_2\text{S}}$ =concentration of  $\text{Na}_2\text{S}$  as  $\text{Na}_2\text{O}$ , mg/liter (gr/gal).

$C_{\text{NaOH}}$ =concentration of NaOH as  $\text{Na}_2\text{O}$ , mg/liter (gr/gal).

$C_{\text{Na}_2\text{CO}_3}$ =concentration of  $\text{Na}_2\text{CO}_3$  as  $\text{Na}_2\text{O}$ , mg/liter (gr/gal).

## 40 CFR Ch. I (7-1-06 Edition)

## Environmental Protection Agency

## § 60.291

(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.

$C_{\text{TRS}}$ =average combined concentration of TRS, ppm.

F = conversion factor, 0.001417 g H<sub>2</sub>S/m<sup>3</sup>-ppm (8.846 × 10<sup>-8</sup> lb H<sub>2</sub>S/ft<sup>3</sup>-ppm).

$Q_{\text{sd}}$ =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 ( $C_{\text{TRS}}$ ).

(3) Method 2 shall be used to determine the volumetric flow rate ( $Q_{\text{sd}}$ ) 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]

### Subpart CC—Standards of Performance for Glass Manufacturing Plants

#### § 60.290 Applicability and designation of affected facility.

(a) Each glass melting furnace is an affected facility to which the provisions of this subpart apply.

(b) Any facility under paragraph (a) of this section that commences construction or modification after June 15, 1979, is subject to the requirements of this subpart.

(c) This subpart does not apply to hand glass melting furnaces, glass

melting furnaces designed to produce less than 4.55 Mg (5 tons) of glass per day and all-electric melters.

[45 FR 66751, Oct. 7, 1980, as amended at 65 FR 61759, Oct. 17, 2000]

#### § 60.291 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, unless otherwise required by the context.

*All-electric melter* means a glass melting furnace in which all the heat required for melting is provided by electric current from electrodes submerged in the molten glass, although some fossil fuel may be charged to the furnace as raw material only.

*Borosilicate recipe* means glass product composition of the following approximate ranges of weight proportions: 60 to 80 percent silicon dioxide, 4 to 10 percent total R<sub>2</sub>O (e.g., Na<sub>2</sub>O and K<sub>2</sub>O), 5 to 35 percent boric oxides, and 0 to 13 percent other oxides.

*Container glass* means glass made of soda-lime recipe, clear or colored, which is pressed and/or blown into bottles, jars, ampoules, and other products listed in Standard Industrial Classification 3221 (SIC 3221).

*Experimental furnace* means a glass melting furnace with the sole purpose of operating to evaluate glass melting processes, technologies, or glass products. An experimental furnace does not produce glass that is sold (except for further research and development purposes) or that is used as a raw material for nonexperimental furnaces.

*Flat glass* means glass made of soda-lime recipe and produced into continuous flat sheets and other products listed in SIC 3211.

*Flow channels* means appendages used for conditioning and distributing molten glass to forming apparatuses and are a permanently separate source of emissions such that no mixing of emissions occurs with emissions from the melter cooling system prior to their being vented to the atmosphere.

*Glass melting furnace* means a unit comprising a refractory vessel in which raw materials are charged, melted at high temperature, refined, and conditioned to produce molten glass. The

the sum for each seal by the nominal diameter of the tank and compare each ratio to the appropriate ratio in the standard in §60.112a(a)(1)(i) and §60.112a(a)(1)(ii).

(iv) Provide the Administrator 30 days prior notice of the gap measurement to afford the Administrator the opportunity to have an observer present.

(2) The owner or operator of each storage vessel to which this subpart applies which has a vapor recovery and return or disposal system shall provide the following information to the Administrator on or before the date on which construction of the storage vessel commences:

(i) Emission data, if available, for a similar vapor recovery and return or disposal system used on the same type of storage vessel, which can be used to determine the efficiency of the system. A complete description of the emission measurement method used must be included.

(ii) The manufacturer's design specifications and estimated emission reduction capability of the system.

(iii) The operation and maintenance plan for the system.

(iv) Any other information which will be useful to the Administrator in evaluating the effectiveness of the system in reducing VOC emissions.

[45 FR 23379, Apr. 4, 1980, as amended at 52 FR 11429, Apr. 8, 1987]

**§60.114a 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 §60.112a, 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 §60.112a.

(e) The primary vapor-mounted seal in the "Volume-Maximizing Seal" manufactured by R.F.I. Services Corporation is approved as equivalent to the vapor-mounted seal required by §60.112a(a)(1)(i) and must meet the gap criteria specified in §60.112a(a)(1)(i)(B). There shall be no gaps between the tank wall and any secondary seal used in conjunction with the primary seal in the "Volume-Maximizing Seal".

[52 FR 11429, Apr. 8, 1987]

**§60.115a Monitoring of operations.**

(a) Except as provided in paragraph (d) of this section, the owner or operator subject to this subpart shall maintain a record of the petroleum liquid stored, the period of storage, and the maximum true vapor pressure of that liquid during the respective storage period.

(b) Available data on the typical Reid vapor pressure and the maximum expected storage temperature of the stored product may be used to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517, 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).

(c) The true vapor pressure of each type of crude oil with a Reid vapor pressure less than 13.8 kPa (2.0 psia) or whose physical properties preclude determination by the recommended method is to be determined from available data and recorded if the estimated

true vapor pressure is greater than 6.9 kPa (1.0 psia).

(d) The following are exempt from the requirements of this section:

(1) Each owner or operator of each storage vessel storing a petroleum liquid with a Reid vapor pressure of less than 6.9 kPa (1.0 psia) provided the maximum true vapor pressure does not exceed 6.9 kPa (1.0 psia).

(2) The owner or operator of each storage vessel equipped with a vapor recovery and return or disposal system in accordance with the requirements of § 60.112a(a)(3) and (b), or a closed vent system and control device meeting the specifications of 40 CFR 65.42(b)(4), (b)(5), or (c).

[45 FR 23379, Apr. 4, 1980, as amended at 65 FR 78275, Dec. 14, 2000]

**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<sup>3</sup>) 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<sup>3</sup> 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<sup>3</sup> but less than 151 m<sup>3</sup> 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<sup>3</sup> 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 m<sup>3</sup> 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 m<sup>3</sup> but less than 151 m<sup>3</sup> 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

## § 60.111b

## 40 CFR Ch. I (7-1-06 Edition)

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

(2) As obtained from standard reference texts; or

(3) As determined by ASTM D2879-83, 96, or 97 (incorporated by reference—see § 60.17);

(4) Any other method approved by the Administrator.

*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.

*Process tank* means a tank that is used within a process (including a solvent or raw material recovery process) to collect material discharged from a feedstock storage vessel or equipment within the process before the material is transferred to other equipment within the process, to a product or by-product storage vessel, or to a vessel used to store recovered solvent or raw material. In many process tanks, unit operations such as reactions and blending are conducted. Other process tanks, such as surge control vessels and bottoms receivers, however, may not involve unit operations.

*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:

- (1) Frames, housing, auxiliary supports, or other components that are not directly involved in the containment of liquids or vapors;
- (2) Subsurface caverns or porous rock reservoirs; or
- (3) Process tanks.

*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]

**§ 60.112b Standard for volatile organic compounds (VOC).**

(a) The owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m<sup>3</sup> 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 m<sup>3</sup> but less than 151 m<sup>3</sup> 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 leg 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 m<sup>3</sup> 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 Cm<sup>2</sup> 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 cm<sup>2</sup> 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

#### § 60.114b

#### 40 CFR Ch. I (7-1-06 Edition)

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.

#### § 60.115b Reporting and recordkeeping 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.

(1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of § 60.112b(a)(1) and § 60.113b(a)(1). This report shall be an attachment to the notification required by § 60.7(a)(3).

(2) Keep a record of each inspection performed as required by § 60.113b (a)(1), (a)(2), (a)(3), and (a)(4). Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings).

(3) If any of the conditions described in § 60.113b(a)(2) are detected during the annual visual inspection required by § 60.113b(a)(2), a report shall be furnished to the Administrator within 30 days of the inspection. Each report shall identify the storage vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made.

(4) After each inspection required by § 60.113b(a)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in § 60.113b(a)(3)(ii), a report shall be furnished to the Administrator within 30 days of the inspection. The report shall

## Environmental Protection Agency

## § 60.116b

identify the storage vessel and the reason it did not meet the specifications of § 60.112b(a)(1) or § 60.113b(a)(3) and list each repair made.

(b) After installing control equipment in accordance with § 60.112b(a)(2) (external floating roof), the owner or operator shall meet the following requirements.

(1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of § 60.112b(a)(2) and § 60.113b(b)(2), (b)(3), and (b)(4). This report shall be an attachment to the notification required by § 60.7(a)(3).

(2) Within 60 days of performing the seal gap measurements required by § 60.113b(b)(1), furnish the Administrator with a report that contains:

(i) The date of measurement.

(ii) The raw data obtained in the measurement.

(iii) The calculations described in § 60.113b (b)(2) and (b)(3).

(3) Keep a record of each gap measurement performed as required by § 60.113b(b). Each record shall identify the storage vessel in which the measurement was performed and shall contain:

(i) The date of measurement.

(ii) The raw data obtained in the measurement.

(iii) The calculations described in § 60.113b (b)(2) and (b)(3).

(4) After each seal gap measurement that detects gaps exceeding the limitations specified by § 60.113b(b)(4), submit a report to the Administrator within 30 days of the inspection. The report will identify the vessel and contain the information specified in paragraph (b)(2) of this section and the date the vessel was emptied or the repairs made and date of repair.

(c) After installing control equipment in accordance with § 60.112b (a)(3) or (b)(1) (closed vent system and control device other than a flare), the owner or operator shall keep the following records.

(1) A copy of the operating plan.

(2) A record of the measured values of the parameters monitored in accordance with § 60.113b(c)(2).

(d) After installing a closed vent system and flare to comply with § 60.112b,

the owner or operator shall meet the following requirements.

(1) A report containing the measurements required by § 60.18(f) (1), (2), (3), (4), (5), and (6) shall be furnished to the Administrator as required by § 60.8 of the General Provisions. This report shall be 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 m<sup>3</sup> 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 m<sup>3</sup> but less than 151 m<sup>3</sup> 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 m<sup>3</sup> 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 m<sup>3</sup> but less than 151 m<sup>3</sup> 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]

**APPENDIX D**  
NSPS Kb



§ 60.117b

40 CFR Ch. I (7-1-06 Edition)

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]

## Environmental Protection Agency

## § 60.116b

identify the storage vessel and the reason it did not meet the specifications of § 61.112b(a)(1) or § 60.113b(a)(3) and list each repair made.

(b) After installing control equipment in accordance with § 61.112b(a)(2) (external floating roof), the owner or operator shall meet the following requirements.

(1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of § 60.112b(a)(2) and § 60.113b(b)(2), (b)(3), and (b)(4). This report shall be an attachment to the notification required by § 60.7(a)(3).

(2) Within 60 days of performing the seal gap measurements required by § 60.113b(b)(1), furnish the Administrator with a report that contains:

(i) The date of measurement.

(ii) The raw data obtained in the measurement.

(iii) The calculations described in § 60.113b (b)(2) and (b)(3).

(3) Keep a record of each gap measurement performed as required by § 60.113b(b). Each record shall identify the storage vessel in which the measurement was performed and shall contain:

(i) The date of measurement.

(ii) The raw data obtained in the measurement.

(iii) The calculations described in § 60.113b (b)(2) and (b)(3).

(4) After each seal gap measurement that detects gaps exceeding the limitations specified by § 60.113b(b)(4), submit a report to the Administrator within 30 days of the inspection. The report will identify the vessel and contain the information specified in paragraph (b)(2) of this section and the date the vessel was emptied or the repairs made and date of repair.

(c) After installing control equipment in accordance with § 60.112b (a)(3) or (b)(1) (closed vent system and control device other than a flare), the owner or operator shall keep the following records.

(1) A copy of the operating plan.

(2) A record of the measured values of the parameters monitored in accordance with § 60.113b(c)(2).

(d) After installing a closed vent system and flare to comply with § 60.112b,

the owner or operator shall meet the following requirements.

(1) A report containing the measurements required by § 60.18(f) (1), (2), (3), (4), (5), and (6) shall be furnished to the Administrator as required by § 60.8 of the General Provisions. This report shall be 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 m<sup>3</sup> 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 m<sup>3</sup> but less than 151 m<sup>3</sup> 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 m<sup>3</sup> 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 m<sup>3</sup> but less than 151 m<sup>3</sup> storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the Administrator within

## § 60.114b

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

## 40 CFR Ch. I (7-1-06 Edition)

emissions reduction as specified in § 60.112b.

## § 60.115b Reporting and recordkeeping 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.

(1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of § 60.112b(a)(1) and § 60.113b(a)(1). This report shall be an attachment to the notification required by § 60.7(a)(3).

(2) Keep a record of each inspection performed as required by § 60.113b (a)(1), (a)(2), (a)(3), and (a)(4). Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings).

(3) If any of the conditions described in § 60.113b(a)(2) are detected during the annual visual inspection required by § 60.113b(a)(2), a report shall be furnished to the Administrator within 30 days of the inspection. Each report shall identify the storage vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made.

(4) After each inspection required by § 60.113b(a)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in § 60.113b(a)(3)(ii), a report shall be furnished to the Administrator within 30 days of the inspection. The report shall

## Environmental Protection Agency

## § 60.113b

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 cm<sup>2</sup> 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

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 Cm<sup>2</sup> 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

(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

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 m<sup>3</sup> 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.

Environmental Protection Agency

§ 60.112b

*Storage vessel* means each tank, reservoir, or container used for the storage of volatile organic liquids but does not include:

(1) Frames, housing, auxiliary supports, or other components that are not directly involved in the containment of liquids or vapors;

(2) Subsurface caverns or porous rock reservoirs; or

(3) Process tanks.

*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]

**§ 60.112b Standard for volatile organic compounds (VOC).**

(a) The owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m<sup>3</sup> 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 m<sup>3</sup> but less than 151 m<sup>3</sup> 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



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

(2) As obtained from standard reference texts; or

(3) As determined by ASTM D2879-83, 96, or 97 (incorporated by reference—see § 60.17);

(4) Any other method approved by the Administrator.

*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.

*Process tank* means a tank that is used within a process (including a solvent or raw material recovery process) to collect material discharged from a feedstock storage vessel or equipment within the process before the material is transferred to other equipment within the process, to a product or by-product storage vessel, or to a vessel used to store recovered solvent or raw material. In many process tanks, unit operations such as reactions and blending are conducted. Other process tanks, such as surge control vessels and bottoms receivers, however, may not involve unit operations.

*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).

## Environmental Protection Agency

## § 60.110b

true vapor pressure is greater than 6.9 kPa (1.0 psia).

(d) The following are exempt from the requirements of this section:

(1) Each owner or operator of each storage vessel storing a petroleum liquid with a Reid vapor pressure of less than 6.9 kPa (1.0 psia) provided the maximum true vapor pressure does not exceed 6.9 kPa (1.0 psia).

(2) The owner or operator of each storage vessel equipped with a vapor recovery and return or disposal system in accordance with the requirements of § 60.112a(a)(3) and (b), or a closed vent system and control device meeting the specifications of 40 CFR 65.42(b)(4), (b)(5), or (c).

[45 FR 23379, Apr. 4, 1980, as amended at 65 FR 78275, Dec. 14, 2000]

### 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  $m^3$  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  $m^3$  but less than 151  $m^3$  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

**APPENDIX E**  
NESHAP M

## Environmental Protection Agency

## §61.141

(C) The date of each determination of the maximum concentration point, as described in §61.139(h), and a brief reason for the determination.

(ii) For each vapor incinerator, the date and duration of each exceedance of the boundary parameters recorded under §61.139(i)(6) and a brief description of the corrective action taken.

(iii) For each vapor incinerator, the date and duration of each period specified as follows:

(A) Each period recorded under §61.139(i)(7)(i) when the vent stream is diverted from the control device or has no flow rate;

(B) Each period recorded under §61.139(i)(7)(ii) when the vent stream is diverted from the control device; and

(C) Each period recorded under §61.139(i)(7)(iii) when the vent stream is diverted from the control device, when the car seal is broken, when the valve is unlocked, or when the valve position has changed.

(iv) For each vapor incinerator, the owner or operator shall specify the method of monitoring chosen under paragraph (f)(2) of this section in the first semiannual report. Any time the owner or operator changes that choice, he shall specify the change in the first semiannual report following the change.

[56 FR 47407, Sept. 19, 1991, as amended at 64 FR 7467, Feb. 12, 1999; 65 FR 62157, Oct. 17, 2000]

### Subpart M—National Emission Standard for Asbestos

AUTHORITY: 42 U.S.C. 7401, 7412, 7414, 7416, 7601.

SOURCE: 49 FR 13661, Apr. 5, 1984, unless otherwise noted.

#### §61.140 Applicability.

The provisions of this subpart are applicable to those sources specified in §§61.142 through 61.151, 61.154, and 61.155.

[55 FR 48414, Nov. 20, 1990]

#### §61.141 Definitions.

All terms that are used in this subpart and are not defined below are given the same meaning as in the Act and in subpart A of this part.

*Active waste disposal site* means any disposal site other than an inactive site.

*Adequately wet* means sufficiently mix or penetrate with liquid to prevent the release of particulates. If visible emissions are observed coming from asbestos-containing material, then that material has not been adequately wetted. However, the absence of visible emissions is not sufficient evidence of being adequately wet.

*Asbestos* means the asbestiform varieties of serpentinite (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite, anthophyllite, and actinolite-tremolite.

*Asbestos-containing waste materials* means mill tailings or any waste that contains commercial asbestos and is generated by a source subject to the provisions of this subpart. This term includes filters from control devices, friable asbestos waste material, and bags or other similar packaging contaminated with commercial asbestos. As applied to demolition and renovation operations, this term also includes regulated asbestos-containing material waste and materials contaminated with asbestos including disposable equipment and clothing.

*Asbestos mill* means any facility engaged in converting, or in any intermediate step in converting, asbestos ore into commercial asbestos. Outside storage of asbestos material is not considered a part of the asbestos mill.

*Asbestos tailings* means any solid waste that contains asbestos and is a product of asbestos mining or milling operations.

*Asbestos waste from control devices* means any waste material that contains asbestos and is collected by a pollution control device.

*Category I nonfriable asbestos-containing material (ACM)* means asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy.

*Category II nonfriable ACM* means any material, excluding Category I nonfriable ACM, containing more than 1 percent asbestos as determined using the methods specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

*Commercial asbestos* means any material containing asbestos that is extracted from ore and has value because of its asbestos content.

*Cutting* means to penetrate with a sharp-edged instrument and includes sawing, but does not include shearing, slicing, or punching.

*Demolition* means the wrecking or taking out of any load-supporting structural member of a facility together with any related handling operations or the intentional burning of any facility.

*Emergency renovation operation* means a renovation operation that was not planned but results from a sudden, unexpected event that, if not immediately attended to, presents a safety or public health hazard, is necessary to protect equipment from damage, or is necessary to avoid imposing an unreasonable financial burden. This term includes operations necessitated by non-routine failures of equipment.

*Fabricating* means any processing (e.g., cutting, sawing, drilling) of a manufactured product that contains commercial asbestos, with the exception of processing at temporary sites (field fabricating) for the construction or restoration of facilities. In the case of friction products, fabricating includes bonding, debonding, grinding, sawing, drilling, or other similar operations performed as part of fabricating.

*Facility* means any institutional, commercial, public, industrial, or residential structure, installation, or building (including any structure, installation, or building containing condominiums or individual dwelling units operated as a residential cooperative, but excluding residential buildings having four or fewer dwelling units); any ship; and any active or inactive waste disposal site. For purposes of this definition, any building, structure, or installation that contains a loft used as a dwelling is not considered a

residential structure, installation, or building. Any structure, installation or building that was previously subject to this subpart is not excluded, regardless of its current use or function.

*Facility component* means any part of a facility including equipment.

*Friable asbestos material* means any material containing more than 1 percent asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy, that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. If the asbestos content is less than 10 percent as determined by a method other than point counting by polarized light microscopy (PLM), verify the asbestos content by point counting using PLM.

*Fugitive source* means any source of emissions not controlled by an air pollution control device.

*Glove bag* means a sealed compartment with attached inner gloves used for the handling of asbestos-containing materials. Properly installed and used, glove bags provide a small work area enclosure typically used for small-scale asbestos stripping operations. Information on glove-bag installation, equipment and supplies, and work practices is contained in the Occupational Safety and Health Administration's (OSHA's) final rule on occupational exposure to asbestos (appendix G to 29 CFR 1926.58).

*Grinding* means to reduce to powder or small fragments and includes mechanical chipping or drilling.

*In poor condition* means the binding of the material is losing its integrity as indicated by peeling, cracking, or crumbling of the material.

*Inactive waste disposal site* means any disposal site or portion of it where additional asbestos-containing waste material has not been deposited within the past year.

*Installation* means any building or structure or any group of buildings or structures at a single demolition or renovation site that are under the control of the same owner or operator (or owner or operator under common control).

*Leak-tight* means that solids or liquids cannot escape or spill out. It also means dust-tight.

*Malfunction* means any sudden and unavoidable failure of air pollution control equipment or process equipment or of a process to operate in a normal or usual manner so that emissions of asbestos are increased. Failures of equipment shall not be considered malfunctions if they are caused in any way by poor maintenance, careless operation, or any other preventable upset conditions, equipment breakdown, or process failure.

*Manufacturing* means the combining of commercial asbestos—or, in the case of woven friction products, the combining of textiles containing commercial asbestos—with any other material(s), including commercial asbestos, and the processing of this combination into a product. Chlorine production is considered a part of manufacturing.

• *Natural barrier* means a natural object that effectively precludes or deters access. Natural barriers include physical obstacles such as cliffs, lakes or other large bodies of water, deep and wide ravines, and mountains. Remoteness by itself is not a natural barrier.

*Nonfriable asbestos-containing material* means any material containing more than 1 percent asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy, that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

*Nonscheduled renovation operation* means a renovation operation necessitated by the routine failure of equipment, which is expected to occur within a given period based on past operating experience, but for which an exact date cannot be predicted.

*Outside air* means the air outside buildings and structures, including, but not limited to, the air under a bridge or in an open air ferry dock.

*Owner or operator of a demolition or renovation activity* means any person who owns, leases, operates, controls, or supervises the facility being demolished or renovated or any person who owns, leases, operates, controls, or supervises the demolition or renovation operation, or both.

*Particulate asbestos material* means finely divided particles of asbestos or material containing asbestos.

*Planned renovation operations* means a renovation operation, or a number of such operations, in which some RACM will be removed or stripped within a given period of time and that can be predicted. Individual nonscheduled operations are included if a number of such operations can be predicted to occur during a given period of time based on operating experience.

*Regulated asbestos-containing material (RACM)* means (a) Friable asbestos material, (b) Category I nonfriable ACM that has become friable, (c) Category I nonfriable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations regulated by this subpart.

*Remove* means to take out RACM or facility components that contain or are covered with RACM from any facility.

*Renovation* means altering a facility or one or more facility components in any way, including the stripping or removal of RACM from a facility component. Operations in which load-supporting structural members are wrecked or taken out are demolitions.

*Resilient floor covering* means asbestos-containing floor tile, including asphalt and vinyl floor tile, and sheet vinyl floor covering containing more than 1 percent asbestos as determined using polarized light microscopy according to the method specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy.

*Roadways* means surfaces on which vehicles travel. This term includes public and private highways, roads, streets, parking areas, and driveways.

*Strip* means to take off RACM from any part of a facility or facility components.

*Structural member* means any load-supporting member of a facility, such as beams and load supporting walls; or any nonload-supporting member, such as ceilings and nonload-supporting walls.

*Visible emissions* means any emissions, which are visually detectable without the aid of instruments, coming from

RACM or asbestos-containing waste material, or from any asbestos milling, manufacturing, or fabricating operation. This does not include condensed, uncombined water vapor.

*Waste generator* means any owner or operator of a source covered by this subpart whose act or process produces asbestos-containing waste material.

*Waste shipment record* means the shipping document, required to be originated and signed by the waste generator, used to track and substantiate the disposition of asbestos-containing waste material.

*Working day* means Monday through Friday and includes holidays that fall on any of the days Monday through Friday.

[49 FR 13661, Apr. 5, 1984; 49 FR 25453, June 21, 1984, as amended by 55 FR 48414, Nov. 20, 1990; 56 FR 1669, Jan. 16, 1991; 60 FR 31920, June 19, 1995]

**§ 61.142 Standard for asbestos mills.**

(a) Each owner or operator of an asbestos mill shall either discharge no visible emissions to the outside air from that asbestos mill, including fugitive sources, or use the methods specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(b) Each owner or operator of an asbestos mill shall meet the following requirements:

(1) Monitor each potential source of asbestos emissions from any part of the mill facility, including air cleaning devices, process equipment, and buildings that house equipment for material processing and handling, at least once each day, during daylight hours, for visible emissions to the outside air during periods of operation. The monitoring shall be by visual observation of at least 15 seconds duration per source of emissions.

(2) Inspect each air cleaning device at least once each week for proper operation and for changes that signal the potential for malfunction, including, to the maximum extent possible without dismantling other than opening the device, the presence of tears, holes, and abrasions in filter bags and for dust deposits on the clean side of bags. For air cleaning devices that cannot be inspected on a weekly basis according to this paragraph, submit to the Administrator, and revise as necessary, a written maintenance plan to include, at a minimum, the following:

- (i) Maintenance schedule.
- (ii) Recordkeeping plan.

(3) Maintain records of the results of visible emissions monitoring and air cleaning device inspections using a format similar to that shown in Figures 1 and 2 and include the following:

- (i) Date and time of each inspection.
- (ii) Presence or absence of visible emissions.
- (iii) Condition of fabric filters, including presence of any tears, holes, and abrasions.
- (iv) Presence of dust deposits on clean side of fabric filters.
- (v) Brief description of corrective actions taken, including date and time.
- (vi) Daily hours of operation for each air cleaning device.

(4) Furnish upon request, and make available at the affected facility during normal business hours for inspection by the Administrator, all records required under this section.

(5) Retain a copy of all monitoring and inspection records for at least 2 years.

(6) Submit semiannually a copy of visible emission monitoring records to the Administrator if visible emissions occurred during the report period. Semiannual reports shall be postmarked by the 30th day following the end of the six-month period.

1. Air cleaning device designation or number	_____		
2. Date of inspection	_____	_____	_____
3. Time of inspection	_____	_____	_____
4. Is air cleaning device operating properly (yes/no)	_____	_____	_____
5. Tears, holes, or abrasions in fabric filter (yes/no)	_____	_____	_____
6. Dust on clean side of fabric filters (yes/no)	_____	_____	_____
7. Other signs of malfunctions or potential malfunctions (yes/no)	_____	_____	_____
8. Describe other malfunctions or signs of potential malfunctions.	_____ _____ _____		
9. Describe corrective action(s) taken.	_____ _____ _____		
10. Date and time corrective action taken	_____	_____	_____
11. Inspected by	_____		
	(Print/Type Name)	(Title)	(Signature) (Date)
	_____	_____	_____
	(Print/Type Name)	(Title)	(Signature) (Date)
	_____	_____	_____

Figure 2. Air Cleaning Device Inspection Checklist

[55 FR 48416, Nov. 20, 1990, as amended at 64 FR 7467, Feb. 12, 1999]

**§ 61.143 Standard for roadways.**

No person may construct or maintain a roadway with asbestos tailings or asbestos-containing waste material on that roadway, unless, for asbestos tailings.

(a) It is a temporary roadway on an area of asbestos ore deposits (asbestos mine); or

(b) It is a temporary roadway at an active asbestos mill site and is encapsulated with a resinous or bituminous



Date of inspection (mo/day/yr)	Time of inspection (a.m./p.m.)	Air cleaning device or fugitive source designation or number	Visible emissions observed (yes/no), corrective action taken	Daily operating hours	Inspector's initials

Figure 1. Record of Visible Emission Monitoring

binder. The encapsulated road surface must be maintained at a minimum frequency of once per year to prevent dust emissions; or

(c) It is encapsulated in asphalt concrete meeting the specifications contained in section 401 of Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, FP-85, 1985, or their equivalent.

[55 FR 48419, Nov. 20, 1990; 56 FR 1669, Jan. 16, 1991]

**§ 61.144 Standard for manufacturing.**

(a) *Applicability.* This section applies to the following manufacturing operations using commercial asbestos.

(1) The manufacture of cloth, cord, wicks, tubing, tape, twine, rope, thread, yarn, roving, lap, or other textile materials.

(2) The manufacture of cement products.

(3) The manufacture of fireproofing and insulating materials.

(4) The manufacture of friction products.

(5) The manufacture of paper, millboard, and felt.

(6) The manufacture of floor tile.

(7) The manufacture of paints, coatings, caulks, adhesives, and sealants.

(8) The manufacture of plastics and rubber materials.

(9) The manufacture of chlorine utilizing asbestos diaphragm technology.

(10) The manufacture of shotgun shell wads.

(11) The manufacture of asphalt concrete.

(b) *Standard.* Each owner or operator of any of the manufacturing operations to which this section applies shall either:

(1) Discharge no visible emissions to the outside air from these operations or from any building or structure in which they are conducted or from any other fugitive sources; or

(2) Use the methods specified by § 61.152 to clean emissions from these operations containing particulate asbestos material before they escape to, or are vented to, the outside air.

(3) Monitor each potential source of asbestos emissions from any part of the manufacturing facility, including air cleaning devices, process equipment, and buildings housing material proc-

essing and handling equipment, at least once each day during daylight hours for visible emissions to the outside air during periods of operation. The monitoring shall be by visual observation of at least 15 seconds duration per source of emissions.

(4) Inspect each air cleaning device at least once each week for proper operation and for changes that signal the potential for malfunctions, including, to the maximum extent possible without dismantling other than opening the device, the presence of tears, holes, and abrasions in filter bags and for dust deposits on the clean side of bags. For air cleaning devices that cannot be inspected on a weekly basis according to this paragraph, submit to the Administrator, and revise as necessary, a written maintenance plan to include, at a minimum, the following:

(i) Maintenance schedule.

(ii) Recordkeeping plan.

(5) Maintain records of the results of visible emission monitoring and air cleaning device inspections using a format similar to that shown in Figures 1 and 2 and include the following:

(i) Date and time of each inspection.

(ii) Presence or absence of visible emissions.

(iii) Condition of fabric filters, including presence of any tears, holes and abrasions.

(iv) Presence of dust deposits on clean side of fabric filters.

(v) Brief description of corrective actions taken, including date and time.

(vi) Daily hours of operation for each air cleaning device.

(6) Furnish upon request, and make available at the affected facility during normal business hours for inspection by the Administrator, all records required under this section.

(7) Retain a copy of all monitoring and inspection records for at least 2 years.

(8) Submit semiannually a copy of the visible emission monitoring records to the Administrator if visible emission occurred during the report period. Semiannual reports shall be postmarked by the 30th day following the end of the six-month period.

[49 FR 13661, Apr. 5, 1984, as amended at 55 FR 48419, Nov. 20, 1990; 56 FR 1669, Jan. 16, 1991; 64 FR 7467, Feb. 12, 1999]

**§61.145 Standard for demolition and renovation.**

(a) *Applicability.* To determine which requirements of paragraphs (a), (b), and (c) of this section apply to the owner or operator of a demolition or renovation activity and prior to the commencement of the demolition or renovation, thoroughly inspect the affected facility or part of the facility where the demolition or renovation operation will occur for the presence of asbestos, including Category I and Category II nonfriable ACM. The requirements of paragraphs (b) and (c) of this section apply to each owner or operator of a demolition or renovation activity, including the removal of RACM as follows:

(1) In a facility being demolished, all the requirements of paragraphs (b) and (c) of this section apply, except as provided in paragraph (a)(3) of this section, if the combined amount of RACM is

(i) At least 80 linear meters (260 linear feet) on pipes or at least 15 square meters (160 square feet) on other facility components, or

(ii) At least 1 cubic meter (35 cubic feet) off facility components where the length or area could not be measured previously.

(2) In a facility being demolished, only the notification requirements of paragraphs (b)(1), (2), (3)(i) and (iv), and (4)(i) through (vii) and (4)(ix) and (xvi) of this section apply, if the combined amount of RACM is

(i) Less than 80 linear meters (260 linear feet) on pipes and less than 15 square meters (160 square feet) on other facility components, and

(ii) Less than one cubic meter (35 cubic feet) off facility components where the length or area could not be measured previously or there is no asbestos.

(3) If the facility is being demolished under an order of a State or local government agency, issued because the facility is structurally unsound and in danger of imminent collapse, only the requirements of paragraphs (b)(1), (b)(2), (b)(3)(iii), (b)(4) (except (b)(4)(viii)), (b)(5), and (c)(4) through (c)(9) of this section apply.

(4) In a facility being renovated, including any individual nonscheduled

renovation operation, all the requirements of paragraphs (b) and (c) of this section apply if the combined amount of RACM to be stripped, removed, dislodged, cut, drilled, or similarly disturbed is

(i) At least 80 linear meters (260 linear feet) on pipes or at least 15 square meters (160 square feet) on other facility components, or

(ii) At least 1 cubic meter (35 cubic feet) off facility components where the length or area could not be measured previously.

(iii) To determine whether paragraph (a)(4) of this section applies to planned renovation operations involving individual nonscheduled operations, predict the combined additive amount of RACM to be removed or stripped during a calendar year of January 1 through December 31.

(iv) To determine whether paragraph (a)(4) of this section applies to emergency renovation operations, estimate the combined amount of RACM to be removed or stripped as a result of the sudden, unexpected event that necessitated the renovation.

(5) Owners or operators of demolition and renovation operations are exempt from the requirements of §§61.05(a), 61.07, and 61.09.

(b) *Notification requirements.* Each owner or operator of a demolition or renovation activity to which this section applies shall:

(1) Provide the Administrator with written notice of intention to demolish or renovate. Delivery of the notice by U.S. Postal Service, commercial delivery service, or hand delivery is acceptable.

(2) Update notice, as necessary, including when the amount of asbestos affected changes by at least 20 percent.

(3) Postmark or deliver the notice as follows:

(i) At least 10 working days before asbestos stripping or removal work or any other activity begins (such as site preparation that would break up, dislodge or similarly disturb asbestos material), if the operation is described in paragraphs (a) (1) and (4) (except (a)(4)(iii) and (a)(4)(iv)) of this section. If the operation is as described in paragraph (a)(2) of this section, notification

## Environmental Protection Agency

§61.145

is required 10 working days before demolition begins.

(ii) At least 10 working days before the end of the calendar year preceding the year for which notice is being given for renovations described in paragraph (a)(4)(iii) of this section.

(iii) As early as possible before, but not later than, the following working day if the operation is a demolition ordered according to paragraph (a)(3) of this section or, if the operation is a renovation described in paragraph (a)(4)(iv) of this section.

(iv) For asbestos stripping or removal work in a demolition or renovation operation, described in paragraphs (a) (1) and (4) (except (a)(4)(iii) and (a)(4)(iv)) of this section, and for a demolition described in paragraph (a)(2) of this section, that will begin on a date other than the one contained in the original notice, notice of the new start date must be provided to the Administrator as follows:

(A) When the asbestos stripping or removal operation or demolition operation covered by this paragraph will begin after the date contained in the notice,

(1) Notify the Administrator of the new start date by telephone as soon as possible before the original start date, and

(2) Provide the Administrator with a written notice of the new start date as soon as possible before, and no later than, the original start date. Delivery of the updated notice by the U.S. Postal Service, commercial delivery service, or hand delivery is acceptable.

(B) When the asbestos stripping or removal operation or demolition operation covered by this paragraph will begin on a date earlier than the original start date,

(1) Provide the Administrator with a written notice of the new start date at least 10 working days before asbestos stripping or removal work begins.

(2) For demolitions covered by paragraph (a)(2) of this section, provide the Administrator written notice of a new start date at least 10 working days before commencement of demolition. Delivery of updated notice by U.S. Postal Service, commercial delivery service, or hand delivery is acceptable.

(C) In no event shall an operation covered by this paragraph begin on a date other than the date contained in the written notice of the new start date.

(4) Include the following in the notice:

(i) An indication of whether the notice is the original or a revised notification.

(ii) Name, address, and telephone number of both the facility owner and operator and the asbestos removal contractor owner or operator.

(iii) Type of operation: demolition or renovation.

(iv) Description of the facility or affected part of the facility including the size (square meters [square feet] and number of floors), age, and present and prior use of the facility.

(v) Procedure, including analytical methods, employed to detect the presence of RACM and Category I and Category II nonfriable ACM.

(vi) Estimate of the approximate amount of RACM to be removed from the facility in terms of length of pipe in linear meters (linear feet), surface area in square meters (square feet) on other facility components, or volume in cubic meters (cubic feet) if off the facility components. Also, estimate the approximate amount of Category I and Category II nonfriable ACM in the affected part of the facility that will not be removed before demolition.

(vii) Location and street address (including building number or name and floor or room number, if appropriate), city, county, and state, of the facility being demolished or renovated.

(viii) Scheduled starting and completion dates of asbestos removal work (or any other activity, such as site preparation that would break up, dislodge, or similarly disturb asbestos material) in a demolition or renovation; planned renovation operations involving individual nonscheduled operations shall only include the beginning and ending dates of the report period as described in paragraph (a)(4)(iii) of this section.

(ix) Scheduled starting and completion dates of demolition or renovation.

(x) Description of planned demolition or renovation work to be performed

and method(s) to be employed, including demolition or renovation techniques to be used and description of affected facility components.

(xi) Description of work practices and engineering controls to be used to comply with the requirements of this subpart, including asbestos removal and waste-handling emission control procedures.

(xii) Name and location of the waste disposal site where the asbestos-containing waste material will be deposited.

(xiii) A certification that at least one person trained as required by paragraph (c)(8) of this section will supervise the stripping and removal described by this notification. This requirement shall become effective 1 year after promulgation of this regulation.

(xiv) For facilities described in paragraph (a)(3) of this section, the name, title, and authority of the State or local government representative who has ordered the demolition, the date that the order was issued, and the date on which the demolition was ordered to begin. A copy of the order shall be attached to the notification.

(xv) For emergency renovations described in paragraph (a)(4)(iv) of this section, the date and hour that the emergency occurred, a description of the sudden, unexpected event, and an explanation of how the event caused an unsafe condition, or would cause equipment damage or an unreasonable financial burden.

(xvi) Description of procedures to be followed in the event that unexpected RACM is found or Category II nonfriable ACM becomes crumbled, pulverized, or reduced to powder.

(xvii) Name, address, and telephone number of the waste transporter.

(5) The information required in paragraph (b)(4) of this section must be reported using a form similar to that shown in Figure 3.

(c) *Procedures for asbestos emission control.* Each owner or operator of a demolition or renovation activity to whom this paragraph applies, according to paragraph (a) of this section, shall comply with the following procedures:

(1) Remove all RACM from a facility being demolished or renovated before any activity begins that would break up, dislodge, or similarly disturb the material or preclude access to the material for subsequent removal. RACM need not be removed before demolition if:

(i) It is Category I nonfriable ACM that is not in poor condition and is not friable.

(ii) It is on a facility component that is encased in concrete or other similarly hard material and is adequately wet whenever exposed during demolition; or

(iii) It was not accessible for testing and was, therefore, not discovered until after demolition began and, as a result of the demolition, the material cannot be safely removed. If not removed for safety reasons, the exposed RACM and any asbestos-contaminated debris must be treated as asbestos-containing waste material and adequately wet at all times until disposed of.

(iv) They are Category II nonfriable ACM and the probability is low that the materials will become crumbled, pulverized, or reduced to powder during demolition.

(2) When a facility component that contains, is covered with, or is coated with RACM is being taken out of the facility as a unit or in sections:

(i) Adequately wet all RACM exposed during cutting or disjoining operations; and

(ii) Carefully lower each unit or section to the floor and to ground level, not dropping, throwing, sliding, or otherwise damaging or disturbing the RACM.

(3) When RACM is stripped from a facility component while it remains in place in the facility, adequately wet the RACM during the stripping operation.

(i) In renovation operations, wetting is not required if:

(A) The owner or operator has obtained prior written approval from the Administrator based on a written application that wetting to comply with this paragraph would unavoidably damage equipment or present a safety hazard; and

(B) The owner or operator uses of the following emission control methods:

be stripped, removed, or otherwise handled or disturbed at a facility regulated by this section unless at least one on-site representative, such as a foreman or management-level person or other authorized representative, trained in the provisions of this regulation and the means of complying with them, is present. Every 2 years, the trained on-site individual shall receive refresher training in the provisions of this regulation. The required training shall include as a minimum: applicability; notifications; material identification; control procedures for removals including, at least, wetting, local exhaust ventilation, negative pressure enclosures, glove-bag procedures, and High Efficiency Particulate Air (HEPA) fil-

ters; waste disposal work practices; reporting and recordkeeping; and asbestos hazards and worker protection. Evidence that the required training has been completed shall be posted and made available for inspection by the Administrator at the demolition or renovation site.

(9) For facilities described in paragraph (a)(3) of this section, adequately wet the portion of the facility that contains RACM during the wrecking operation.

(10) If a facility is demolished by intentional burning, all RACM including Category I and Category II nonfriable ACM must be removed in accordance with the NESHAP before burning.

Environmental Protection Agency

§ 61.145

(7) A local exhaust ventilation and collection system designed and operated to capture the particulate asbestos material produced by the stripping and removal of the asbestos materials. The system must exhibit no visible emissions to the outside air or be designed and operated in accordance with the requirements in § 61.152.

(2) A glove-bag system designed and operated to contain the particulate asbestos material produced by the stripping of the asbestos materials.

(3) Leak-tight wrapping to contain all RACM prior to dismantlement.

(ii) In renovation operations where wetting would result in equipment damage or a safety hazard, and the methods allowed in paragraph (c)(3)(i) of this section cannot be used, another method may be used after obtaining written approval from the Administrator based upon a determination that it is equivalent to wetting in controlling emissions or to the methods allowed in paragraph (c)(3)(i) of this section.

(iii) A copy of the Administrator's written approval shall be kept at the worksite and made available for inspection.

(4) After a facility component covered with, coated with, or containing RACM has been taken out of the facility as a unit or in sections pursuant to paragraph (c)(2) of this section, it shall be stripped or contained in leak-tight wrapping, except as described in paragraph (c)(5) of this section. If stripped, either:

(i) Adequately wet the RACM during stripping; or

(ii) Use a local exhaust ventilation and collection system designed and operated to capture the particulate asbestos material produced by the stripping. The system must exhibit no visible emissions to the outside air or be designed and operated in accordance with the requirements in § 61.152.

(5) For large facility components such as reactor vessels, large tanks, and steam generators, but not beams (which must be handled in accordance with paragraphs (c)(2), (3), and (4) of this section), the RACM is not required to be stripped if the following requirements are met:

(i) The component is removed, transported, stored, disposed of, or reused without disturbing or damaging the RACM.

(ii) The component is encased in a leak-tight wrapping.

(iii) The leak-tight wrapping is labeled according to § 61.149(d)(1)(i), (ii), and (iii) during all loading and unloading operations and during storage.

(6) For all RACM, including material that has been removed or stripped:

(i) Adequately wet the material and ensure that it remains wet until collected and contained or treated in preparation for disposal in accordance with § 61.150; and

(ii) Carefully lower the material to the ground and floor, not dropping, throwing, sliding, or otherwise damaging or disturbing the material.

(iii) Transport the material to the ground via leak-tight chutes or containers if it has been removed or stripped more than 50 feet above ground level and was not removed as units or in sections.

(iv) RACM contained in leak-tight wrapping that has been removed in accordance with paragraphs (c)(4) and (c)(3)(i)(B)(3) of this section need not be wetted.

(7) When the temperature at the point of wetting is below 0 °C (32 °F):

(i) The owner or operator need not comply with paragraph (c)(2)(i) and the wetting provisions of paragraph (c)(3) of this section.

(ii) The owner or operator shall remove facility components containing, coated with, or covered with RACM as units or in sections to the maximum extent possible.

(iii) During periods when wetting operations are suspended due to freezing temperatures, the owner or operator must record the temperature in the area containing the facility components at the beginning, middle, and end of each workday and keep daily temperature records available for inspection by the Administrator during normal business hours at the demolition or renovation site. The owner or operator shall retain the temperature records for at least 2 years.

(8) Effective 1 year after promulgation of this regulation, no RACM shall

NOTIFICATION OF DEMOLITION AND RENOVATION (continued)		
X. DESCRIPTION OF PLANNED DEMOLITION OR RENOVATION WORK, AND METHOD(S) TO BE USED:		
XI. DESCRIPTION OF WORK PRACTICES AND ENGINEERING CONTROLS TO BE USED TO PREVENT EMISSIONS OF ASBESTOS AT THE DEMOLITION AND RENOVATION SITE:		
XII. WASTE TRANSPORTER #1		
Name:		
Address:		
City:	State:	Zip:
Contact Person:	Telephone:	
WASTE TRANSPORTER #2		
Name:		
Address:		
City:	State:	Zip:
Contact Person:	Telephone:	
XIII. WASTE DISPOSAL SITE		
Name:		
Location:		
City:	State:	Zip:
Telephone:		
XIV. IF DEMOLITION ORDERED BY A GOVERNMENT AGENCY, PLEASE IDENTIFY THE AGENCY BELOW:		
Name:	Title:	
Authority:		
Date of Order (MM/DD/YY):	Date Ordered to Begin (MM/DD/YY):	
XV. FOR EMERGENCY RENOVATIONS		
Date and Hour of Emergency (MM/DD/YY):		
Description of the Sudden, Unexpected Event:		
Explanation of how the event caused unsafe conditions or would cause equipment damage or an unreasonable financial burden:		
XVI. DESCRIPTION OF PROCEDURES TO BE FOLLOWED IN THE EVENT THAT UNEXPECTED ASBESTOS IS FOUND OR PREVIOUSLY NONFRIABLE ASBESTOS MATERIAL BECOMES CRUMBLED, PULVERIZED, OR REDUCED TO POWDER.		
XVI. I CERTIFY THAT AN INDIVIDUAL TRAINED IN THE PROVISIONS OF THIS REGULATION (40 CFR PART 61, SUBPART M) WILL BE ON-SITE DURING THE DEMOLITION OR RENOVATION AND EVIDENCE THAT THE REQUIRED TRAINING HAS BEEN ACCOMPLISHED BY THIS PERSON WILL BE AVAILABLE FOR INSPECTION DURING NORMAL BUSINESS HOURS. (Required 1 year after promulgation)		
(Signature of Owner/Operator)		(Date)
XVII. I CERTIFY THAT THE ABOVE INFORMATION IS CORRECT.		
(Signature of Owner/Operator)		(Date)

Figure 3. Notification of Demolition and Renovation

[55 FR 48419, Nov. 20, 1990; 56 FR 1669, Jan. 16, 1991]

**§ 61.146 Standard for spraying.**

The owner or operator of an operation in which asbestos-containing materials are spray applied shall comply with the following requirements:

(a) For spray-on application on buildings, structures, pipes, and conduits, do not use material containing more than 1 percent asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763, section 1,



## NOTIFICATION OF DEMOLITION AND RENOVATION

Operator Project #	Postmark	Date Received	Notification #		
I. TYPE OF NOTIFICATION ( O-Original R-Revised C-Cancelled ):					
II. FACILITY INFORMATION ( Identify owner, removal contractor, and other operator )					
OWNER NAME:					
Address:					
City:	State:	Zip:			
Contact:	Tel:				
REMOVAL CONTRACTOR:					
Address:					
City:	State:	Zip:			
Contact:	Tel:				
OTHER OPERATOR:					
Address:					
City:	State:	Zip:			
Contact:	Tel:				
III. TYPE OF OPERATION ( D-Demo O-Ordered Demo R-Renovation R-Emf.Renovation ):					
IV. IS ASBESTOS PRESENT? ( Yes/No )					
V. FACILITY DESCRIPTION ( Include building name, number and floor or room number )					
Bldg Name:					
Address:					
City:	State:	County:			
Site Location:					
Building Size:	# of Floors:	Age in Years:			
Present Use:	Prior Uses:				
VI. PROCEDURE, INCLUDING ANALYTICAL METHOD, IF APPROPRIATE, USED TO DETECT THE PRESENCE OF ASBESTOS MATERIAL:					
VII. APPROXIMATE AMOUNT OF ASBESTOS, INCLUDING:	RACH To Be Removed	Nonfriable Asbestos Material Not To Be Removed		Indicate Unit of Measurement Below	
1. Regulated ACM to be removed 2. Category I ACM Not Removed 3. Category II ACM Not Removed		Cat I	Cat II	UNIT	
Pipes				Ln Ft:	Ln m:
Surface Area				Sq Ft:	Sq m:
Vols RACH Off Facility Component				Cu Ft:	Cu m:
VIII. SCHEDULED DATES ASBESTOS REMOVAL (MM/DD/YY) Start: Complete:					
IX. SCHEDULED DATES DEMO/RENOVATION (MM/DD/YY) Start: Complete:					

Continued on page two

Figure 3. Notification of Demolition and Renovation

## Environmental Protection Agency

§61.147

Polarized Light Microscopy, except as provided in paragraph (c) of this section.

(b) For spray-on application of materials that contain more than 1 percent asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy, on equipment and machinery, except as provided in paragraph (c) of this section:

(1) Notify the Administrator at least 20 days before beginning the spraying operation. Include the following information in the notice:

(i) Name and address of owner or operator.

(ii) Location of spraying operation.

(iii) Procedures to be followed to meet the requirements of this paragraph.

(2) Discharge no visible emissions to the outside air from spray-on application of the asbestos-containing material or use the methods specified by §61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(c) The requirements of paragraphs (a) and (b) of this section do not apply to the spray-on application of materials where the asbestos fibers in the materials are encapsulated with a bituminous or resinous binder during spraying and the materials are not friable after drying.

(d) Owners or operators of sources subject to this paragraph are exempt from the requirements of §§61.05(a), 61.07 and 61.09.

[49 FR 13661, Apr. 5, 1984. Redesignated and amended at 55 FR 48424, Nov. 20, 1990; 60 FR 31920, June 19, 1995]

### § 61.147 Standard for fabricating.

(a) *Applicability.* This section applies to the following fabricating operations using commercial asbestos:

(1) The fabrication of cement building products.

(2) The fabrication of friction products, except those operations that primarily install asbestos friction materials on motor vehicles.

(3) The fabrication of cement or silicate board for ventilation hoods; ovens; electrical panels; laboratory furniture, bulkheads, partitions, and ceilings for

marine construction; and flow control devices for the molten metal industry.

(b) *Standard.* Each owner or operator of any of the fabricating operations to which this section applies shall either:

(1) Discharge no visible emissions to the outside air from any of the operations or from any building or structure in which they are conducted or from any other fugitive sources; or

(2) Use the methods specified by §61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(3) Monitor each potential source of asbestos emissions from any part of the fabricating facility, including air cleaning devices, process equipment, and buildings that house equipment for material processing and handling, at least once each day, during daylight hours, for visible emissions to the outside air during periods of operation. The monitoring shall be by visual observation of at least 15 seconds duration per source of emissions.

(4) Inspect each air cleaning device at least once each week for proper operation and for changes that signal the potential for malfunctions, including, to the maximum extent possible without dismantling other than opening the device, the presence of tears, holes, and abrasions in filter bags and for dust deposits on the clean side of bags. For air cleaning devices that cannot be inspected on a weekly basis according to this paragraph, submit to the Administrator, and revise as necessary, a written maintenance plan to include, at a minimum, the following:

(i) Maintenance schedule.

(ii) Recordkeeping plan.

(5) Maintain records of the results of visible emission monitoring and air cleaning device inspections using a format similar to that shown in Figures 1 and 2 and include the following:

(i) Date and time of each inspection.

(ii) Presence or absence of visible emissions.

(iii) Condition of fabric filters, including presence of any tears, holes, and abrasions.

(iv) Presence of dust deposits on clean side of fabric filters.

(v) Brief description of corrective actions taken, including date and time.

## §61.148

## 40 CFR Ch. I (7-1-06 Edition)

(vi) Daily hours of operation for each air cleaning device.

(6) Furnish upon request and make available at the affected facility during normal business hours for inspection by the Administrator, all records required under this section.

(7) Retain a copy of all monitoring and inspection records for at least 2 years.

(8) Submit semiannually a copy of the visible emission monitoring records to the Administrator if visible emission occurred during the report period. Semiannual reports shall be postmarked by the 30th day following the end of the six-month period.

[49 FR 13661, Apr. 5, 1984. Redesignated and amended at 55 FR 48424, Nov. 20, 1991; 64 FR 7467, Feb. 12, 1999]

### §61.148 Standard for insulating materials.

No owner or operator of a facility may install or reinstall on a facility component any insulating materials that contain commercial asbestos if the materials are either molded and friable or wet-applied and friable after drying. The provisions of this section do not apply to spray-applied insulating materials regulated under §61.146.

[55 FR 48424, Nov. 20, 1990]

### §61.149 Standard for waste disposal for asbestos mills.

Each owner or operator of any source covered under the provisions of §61.142 shall:

(a) Deposit all asbestos-containing waste material at a waste disposal site operated in accordance with the provisions of §61.154; and

(b) Discharge no visible emissions to the outside air from the transfer of control device asbestos waste to the tailings conveyor, or use the methods specified by §61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air. Dispose of the asbestos waste from control devices in accordance with §61.150(a) or paragraph (c) of this section; and

(c) Discharge no visible emissions to the outside air during the collection, processing, packaging, or on-site transporting of any asbestos-containing

waste material, or use one of the disposal methods specified in paragraphs (c) (1) or (2) of this section, as follows:

(1) Use a wetting agent as follows:

(i) Adequately mix all asbestos-containing waste material with a wetting agent recommended by the manufacturer of the agent to effectively wet dust and tailings, before depositing the material at a waste disposal site. Use the agent as recommended for the particular dust by the manufacturer of the agent.

(ii) Discharge no visible emissions to the outside air from the wetting operation or use the methods specified by §61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(iii) Wetting may be suspended when the ambient temperature at the waste disposal site is less than  $-9.5^{\circ}\text{C}$  ( $15^{\circ}\text{F}$ ), as determined by an appropriate measurement method with an accuracy of  $\pm 1^{\circ}\text{C}$  ( $\pm 2^{\circ}\text{F}$ ). During periods when wetting operations are suspended, the temperature must be recorded at least at hourly intervals, and records must be retained for at least 2 years in a form suitable for inspection.

(2) Use an alternative emission control and waste treatment method that has received prior written approval by the Administrator. To obtain approval for an alternative method, a written application must be submitted to the Administrator demonstrating that the following criteria are met:

(i) The alternative method will control asbestos emissions equivalent to currently required methods.

(ii) The suitability of the alternative method for the intended application.

(iii) The alternative method will not violate other regulations.

(iv) The alternative method will not result in increased water pollution, land pollution, or occupational hazards.

(d) When waste is transported by vehicle to a disposal site:

(1) Mark vehicles used to transport asbestos-containing waste material during the loading and unloading of the waste so that the signs are visible. The markings must:

Environmental Protection Agency

§61.149

(i) Be displayed in such a manner and location that a person can easily read the legend.

(ii) Conform to the requirements for 51 cm x 36 cm (20 in x 14 in) upright format signs specified in 29 CFR 1910.145(d)(4) and this paragraph; and

(iii) Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified in this paragraph.

Legend  
DANGER  
ASBESTOS DUST HAZARD  
CANCER AND LUNG DISEASE HAZARD  
Authorized Personnel Only  
Notation  
2.5 cm (1 inch) Sans Serif, Gothic or Block  
2.5 cm (1 inch) Sans Serif, Gothic or Block  
1.9 cm (¾ inch) Sans Serif, Gothic or Block  
14 Point Gothic

Spacing between any two lines must be at least equal to the height of the upper of the two lines.

(2) For off-site disposal, provide a copy of the waste shipment record, described in paragraph (e)(1) of this section, to the disposal site owner or operator at the same time as the asbestos-containing waste material is delivered to the disposal site.

(e) For all asbestos-containing waste material transported off the facility site:

(1) Maintain asbestos waste shipment records, using a form similar to that shown in Figure 4, and include the following information:

(i) The name, address, and telephone number of the waste generator.

(ii) The name and address of the local, State, or EPA Regional agency responsible for administering the asbestos NESHAP program.

(iii) The quantity of the asbestos-containing waste material in cubic meters (cubic yards).

(iv) The name and telephone number of the disposal site operator.

(v) The name and physical site location of the disposal site.

(vi) The date transported.

(vii) The name, address, and telephone number of the transporter(s).

(viii) A certification that the contents of this consignment are fully and accurately described by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

(2) For waste shipments where a copy of the waste shipment record, signed by the owner or operator of the designated disposal site, is not received by the waste generator within 35 days of the date the waste was accepted by the initial transporter, contact the transporter and/or the owner or operator of the designated disposal site to determine the status of the waste shipment.

(3) Report in writing to the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the waste generator if a copy of the waste shipment record, signed by the owner or operator of the designated waste disposal site, is not received by the waste generator within 45 days of the date the waste was accepted by the initial transporter. Include in the report the following information:

(i) A copy of the waste shipment record for which a confirmation of delivery was not received, and

(ii) A cover letter signed by the waste generator explaining the efforts taken to locate the asbestos waste shipment and the results of those efforts.

(4) Retain a copy of all waste shipment records, including a copy of the waste shipment record signed by the owner or operator of the designated waste disposal site, for at least 2 years.

(f) Furnish upon request, and make available for inspection by the Administrator, all records required under this section.

Generator	1. Work site name and mailing address		Owner's name	Owner's telephone no.
	2. Operator's name and address			Operator's telephone no.
	3. Waste disposal site (WDS) name, mailing address, and physical site location			WDS phone no.
	4. Name, and address of responsible agency			
	5. Description of materials		6. Containers No.      Type	7. Total quantity m <sup>3</sup> (yd <sup>3</sup> )
Transporter	8. Special handling instructions and additional information			
	9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.			
	Printed/typed name & title		Signature	Month   Day   Year
	10. Transporter 1 (Acknowledgment of receipt of materials)			
	Printed/typed name & title		Signature	Month   Day   Year
Disposal Site	Address and telephone no.			
	11. Transporter 2 (Acknowledgment of receipt of materials)			
	Printed/typed name & title		Signature	Month   Day   Year
	Address and telephone no.			
	12. Discrepancy indication space			
13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.				
Printed/typed name & title		Signature	Month   Day   Year	

(Continued)

Figure 4. Waste Shipment Record

INSTRUCTIONS	
<u>Waste Generator Section (Items 1-9)</u>	
1.	Enter the name of the facility at which asbestos waste is generated and the address where the facility is located. In the appropriate spaces, also enter the name of the owner of the facility and the owner's phone number.
2.	If a demolition or renovation, enter the name and address of the company and authorized agent responsible for performing the asbestos removal. In the appropriate spaces, also enter the phone number of the operator.
3.	Enter the name, address, and physical site location of the waste disposal site (WDS) that will be receiving the asbestos materials. In the appropriate spaces, also enter the phone number of the WDS. Enter "on-site" if the waste will be disposed of on the generator's property.
4.	Provide the name and address of the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program.
5.	Indicate the types of asbestos waste materials generated. If from a demolition or renovation, indicate the amount of asbestos that is <ul style="list-style-type: none"><li>- Friable asbestos material</li><li>- Nonfriable asbestos material</li></ul>
6.	Enter the number of containers used to transport the asbestos materials listed in item 5. Also enter one of the following container codes used in transporting each type of asbestos material (specify any other type of container used if not listed below): <ul style="list-style-type: none"><li>DM - Metal drums, barrels</li><li>DP - Plastic drums, barrels</li><li>BA - 6 mil plastic bags or wrapping</li></ul>
7.	Enter the quantities of each type of asbestos material removed in units of cubic meters (cubic yards).
8.	Use this space to indicate special transportation, treatment, storage or disposal or Bill of Lading information. If an alternate waste disposal site is designated, note it here. Emergency response telephone numbers or similar information may be included here.
9.	The authorized agent of the waste generator must read and then sign and date this certification. The date is the date of receipt by transporter.
NOTE: The waste generator must retain a copy of this form.	

(continued)

Figure 4. Waste Shipment Record

<p><b>Transporter Section (Items 10 &amp; 11)</b></p> <p>10. &amp; 11. Enter name, address, and telephone number of each transporter used, if applicable. Print or type the full name and title of person accepting responsibility and acknowledging receipt of materials as listed on this waste shipment record for transport. Enter date of receipt and signature.</p> <p>NOTE: The transporter must retain a copy of this form.</p> <p><b>Disposal Site Section (Items 12 &amp; 13)</b></p> <p>12. The authorized representative of the WDS must note in this space any discrepancy between waste described on this manifest and waste actually received as well as any improperly enclosed or contained waste. Any rejected materials should be listed and destination of those materials provided. A site that converts asbestos-containing waste material to nonasbestos material is considered a WDS.</p> <p>13. The signature (by hand) of the authorized WDS agent indicates acceptance and agreement with statements on this manifest except as noted in item 12. The date is the date of signature and receipt of shipment.</p> <p>NOTE: The WDS must retain a completed copy of this form. The WDS must also send a completed copy to the operator listed in item 2.</p>
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Figure 4. Waste Shipment Record

**§61.150 Standard for waste disposal for manufacturing, fabricating, demolition, renovation, and spraying operations.**

Each owner or operator of any source covered under the provisions of §§ 61.144, 61.145, 61.146, and 61.147 shall comply with the following provisions:

(a) Discharge no visible emissions to the outside air during the collection, processing (including incineration), packaging, or transporting of any asbestos-containing waste material generated by the source, or use one of the emission control and waste treatment methods specified in paragraphs (a) (1) through (4) of this section.

(1) Adequately wet asbestos-containing waste material as follows:

(i) Mix control device asbestos waste to form a slurry; adequately wet other asbestos-containing waste material; and

(ii) Discharge no visible emissions to the outside air from collection, mixing, wetting, and handling operations, or use the methods specified by §61.152 to clean emissions containing particulate

asbestos material before they escape to, or are vented to, the outside air; and

(iii) After wetting, seal all asbestos-containing waste material in leak-tight containers while wet; or, for materials that will not fit into containers without additional breaking, put materials into leak-tight wrapping; and

(iv) Label the containers or wrapped materials specified in paragraph (a)(1)(iii) of this section using warning labels specified by Occupational Safety and Health Standards of the Department of Labor, Occupational Safety and Health Administration (OSHA) under 29 CFR 1910.1001(j)(4) or 1926.1101(k)(8). The labels shall be printed in letters of sufficient size and contrast so as to be readily visible and legible.

(v) For asbestos-containing waste material to be transported off the facility site, label containers or wrapped materials with the name of the waste generator and the location at which the waste was generated.

(2) Process asbestos-containing waste material into nonfriable forms as follows:

(i) Form all asbestos-containing waste material into nonfriable pellets or other shapes;

(ii) Discharge no visible emissions to the outside air from collection and processing operations, including incineration, or use the method specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(3) For facilities demolished where the RACM is not removed prior to demolition according to §§ 61.145(c)(1) (i), (ii), (iii), and (iv) or for facilities demolished according to § 61.145(c)(9), adequately wet asbestos-containing waste material at all times after demolition and keep wet during handling and loading for transport to a disposal site. Asbestos-containing waste materials covered by this paragraph do not have to be sealed in leak-tight containers or wrapping but may be transported and disposed of in bulk.

(4) Use an alternative emission control and waste treatment method that has received prior approval by the Administrator according to the procedure described in § 61.149(c)(2).

(5) As applied to demolition and renovation, the requirements of paragraph (a) of this section do not apply to Category I nonfriable ACM waste and Category II nonfriable ACM waste that did not become crumbled, pulverized, or reduced to powder.

(b) All asbestos-containing waste material shall be deposited as soon as is practical by the waste generator at:

(1) A waste disposal site operated in accordance with the provisions of § 61.154, or

(2) An EPA-approved site that converts RACM and asbestos-containing waste material into nonasbestos (asbestos-free) material according to the provisions of § 61.155.

(3) The requirements of paragraph (b) of this section do not apply to Category I nonfriable ACM that is not RACM.

(c) Mark vehicles used to transport asbestos-containing waste material during the loading and unloading of waste so that the signs are visible. The

markings must conform to the requirements of §§ 61.149(d)(1) (i), (ii), and (iii).

(d) For all asbestos-containing waste material transported off the facility site:

(1) Maintain waste shipment records, using a form similar to that shown in Figure 4, and include the following information:

(i) The name, address, and telephone number of the waste generator.

(ii) The name and address of the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program.

(iii) The approximate quantity in cubic meters (cubic yards).

(iv) The name and telephone number of the disposal site operator.

(v) The name and physical site location of the disposal site.

(vi) The date transported.

(vii) The name, address, and telephone number of the transporter(s).

(viii) A certification that the contents of this consignment are fully and accurately described by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

(2) Provide a copy of the waste shipment record, described in paragraph (d)(1) of this section, to the disposal site owners or operators at the same time as the asbestos-containing waste material is delivered to the disposal site.

(3) For waste shipments where a copy of the waste shipment record, signed by the owner or operator of the designated disposal site, is not received by the waste generator within 35 days of the date the waste was accepted by the initial transporter, contact the transporter and/or the owner or operator of the designated disposal site to determine the status of the waste shipment.

(4) Report in writing to the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the waste generator if a copy of the waste shipment record, signed by the owner or operator of the designated waste disposal site, is not received by the waste generator within 45 days of the date the waste



was accepted by the initial transporter. Include in the report the following information:

- (i) A copy of the waste shipment record for which a confirmation of delivery was not received, and
- (ii) A cover letter signed by the waste generator explaining the efforts taken to locate the asbestos waste shipment and the results of those efforts.
- (5) Retain a copy of all waste shipment records, including a copy of the waste shipment record signed by the owner or operator of the designated waste disposal site, for at least 2 years.
- (e) Furnish upon request, and make available for inspection by the Administrator, all records required under this section.

[55 FR 48429, Nov. 20, 1990; 56 FR 1669, Jan. 16, 1991, as amended at 68 FR 54793, Sept. 18, 2003]

**§61.151 Standard for inactive waste disposal sites for asbestos mills and manufacturing and fabricating operations.**

Each owner or operator of any inactive waste disposal site that was operated by sources covered under §61.142, 61.144, or 61.147 and received deposits of asbestos-containing waste material generated by the sources, shall:

- (a) Comply with one of the following:
  - (1) Either discharge no visible emissions to the outside air from an inactive waste disposal site subject to this paragraph; or
  - (2) Cover the asbestos-containing waste material with at least 15 centimeters (6 inches) of compacted non-asbestos-containing material, and grow and maintain a cover of vegetation on the area adequate to prevent exposure of the asbestos-containing waste material. In desert areas where vegetation would be difficult to maintain, at least 8 additional centimeters (3 inches) of well-graded, nonasbestos crushed rock may be placed on top of the final cover instead of vegetation and maintained to prevent emissions; or
  - (3) Cover the asbestos-containing waste material with at least 60 centimeters (2 feet) of compacted non-asbestos-containing material, and maintain it to prevent exposure of the asbestos-containing waste; or

(4) For inactive waste disposal sites for asbestos tailings, a resinous or petroleum-based dust suppression agent that effectively binds dust to control surface air emissions may be used instead of the methods in paragraphs (a) (1), (2), and (3) of this section. Use the agent in the manner and frequency recommended for the particular asbestos tailings by the manufacturer of the dust suppression agent to achieve and maintain dust control. Obtain prior written approval of the Administrator to use other equally effective dust suppression agents. For purposes of this paragraph, any used, spent, or other waste oil is not considered a dust suppression agent.

(b) Unless a natural barrier adequately deters access by the general public, install and maintain warning signs and fencing as follows, or comply with paragraph (a)(2) or (a)(3) of this section.

(1) Display warning signs at all entrances and at intervals of 100 m (328 ft) or less along the property line of the site or along the perimeter of the sections of the site where asbestos-containing waste material was deposited. The warning signs must:

- (i) Be posted in such a manner and location that a person can easily read the legend; and
- (ii) Conform to the requirements for 51 cm×36 cm (20"×14") upright format signs specified in 29 CFR 1910.145(d)(4) and this paragraph; and
- (iii) Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified in this paragraph.

Legend	Notation
Asbestos Waste Disposal Site.	2.5 cm (1 inch) Sans Serif, Gothic or Block
Do Not Create Dust .....	1.9 cm (¾ inch) Sans Serif, Gothic or Block
Breathing Asbestos is Hazardous to Your Health.	14 Point Gothic.

Spacing between any two lines must be at least equal to the height of the upper of the two lines.

(2) Fence the perimeter of the site in a manner adequate to deter access by the general public.

(3) When requesting a determination on whether a natural barrier adequately deters public access, supply information enabling the Administrator to determine whether a fence or a natural barrier adequately deters access by the general public.

(c) The owner or operator may use an alternative control method that has received prior approval of the Administrator rather than comply with the requirements of paragraph (a) or (b) of this section.

(d) Notify the Administrator in writing at least 45 days prior to excavating or otherwise disturbing any asbestos-containing waste material that has been deposited at a waste disposal site under this section, and follow the procedures specified in the notification. If the excavation will begin on a date other than the one contained in the original notice, notice of the new start date must be provided to the Administrator at least 10 working days before excavation begins and in no event shall excavation begin earlier than the date specified in the original notification. Include the following information in the notice:

(1) Scheduled starting and completion dates.

(2) Reason for disturbing the waste.

(3) Procedures to be used to control emissions during the excavation, storage, transport, and ultimate disposal of the excavated asbestos-containing waste material. If deemed necessary, the Administrator may require changes in the emission control procedures to be used.

(4) Location of any temporary storage site and the final disposal site.

(e) Within 60 days of a site becoming inactive and after the effective date of this subpart, record, in accordance with State law, a notation on the deed to the facility property and on any other instrument that would normally be examined during a title search; this notation will in perpetuity notify any potential purchaser of the property that:

(1) The land has been used for the disposal of asbestos-containing waste material;

(2) The survey plot and record of the location and quantity of asbestos-containing waste disposed of within the

disposal site required in § 61.154(f) have been filed with the Administrator; and

(3) The site is subject to 40 CFR part 61, subpart M.

[49 FR 13661, Apr. 5, 1984, as amended at 53 FR 36972, Sept. 23, 1988. Redesignated and amended at 55 FR 48429, Nov. 20, 1990]

#### § 61.152 Air-cleaning.

(a) The owner or operator who uses air cleaning, as specified in §§ 61.142(a), 61.144(b)(2), 61.145(c)(3)(i)(B)(I), 61.145(c)(4)(ii), 61.145(c)(11)(i), 61.146(b)(2), 61.147(b)(2), 61.149(b), 61.149(c)(1)(ii), 61.150(a)(1)(ii), 61.150(a)(2)(ii), and 61.155(e) shall:

(1) Use fabric filter collection devices, except as noted in paragraph (b) of this section, doing all of the following:

(i) Ensuring that the airflow permeability, as determined by ASTM Method D737-75, does not exceed 9 m<sup>3</sup>/min/m<sup>2</sup> (30 ft<sup>3</sup>/min/ft<sup>2</sup>) for woven fabrics or 11<sup>3</sup>/min/m<sup>2</sup> (35 ft<sup>3</sup>/min/ft<sup>2</sup>) for felted fabrics, except that 12 m<sup>3</sup>/min/m<sup>2</sup> (40 ft<sup>3</sup>/min/ft<sup>2</sup>) for woven and 14 m<sup>3</sup>/min/m<sup>2</sup> (45 ft<sup>3</sup>/min/ft<sup>2</sup>) for felted fabrics is allowed for filtering air from asbestos ore dryers; and

(ii) Ensuring that felted fabric weighs at least 475 grams per square meter (14 ounces per square yard) and is at least 1.6 millimeters (one-sixteenth inch) thick throughout; and

(iii) Avoiding the use of synthetic fabrics that contain fill yarn other than that which is spun.

(2) Properly install, use, operate, and maintain all air-cleaning equipment authorized by this section. Bypass devices may be used only during upset or emergency conditions and then only for so long as it takes to shut down the operation generating the particulate asbestos material.

(3) For fabric filter collection devices installed after January 10, 1989, provide for easy inspection for faulty bags.

(b) There are the following exceptions to paragraph (a)(1):

(1) After January 10, 1989, if the use of fabric creates a fire or explosion hazard, or the Administrator determines that a fabric filter is not feasible, the Administrator may authorize as a substitute the use of wet collectors designed to operate with a unit contacting energy of at least 9.95

## §61.153

## 40 CFR Ch. I (7-1-06 Edition)

kilopascals (40 inches water gage pressure).

(2) Use a HEPA filter that is certified to be at least 99.97 percent efficient for 0.3 micron particles.

(3) The Administrator may authorize the use of filtering equipment other than described in paragraphs (a)(1) and (b)(1) and (2) of this section if the owner or operator demonstrates to the Administrator's satisfaction that it is equivalent to the described equipment in filtering particulate asbestos material.

[49 FR 13661, Apr. 5, 1984; 49 FR 25453, June 21, 1984, as amended at 51 FR 8199, Mar. 10, 1986. Redesignated and amended at 55 FR 48430, Nov. 20, 1990]

### §61.153 Reporting.

(a) Any new source to which this subpart applies (with the exception of sources subject to §§61.143, 61.145, 61.146, and 61.148), which has an initial startup date preceding the effective date of this revision, shall provide the following information to the Administrator postmarked or delivered within 90 days of the effective date. In the case of a new source that does not have an initial startup date preceding the effective date, the information shall be provided, postmarked or delivered, within 90 days of the initial startup date. Any owner or operator of an existing source shall provide the following information to the Administrator within 90 days of the effective date of this subpart unless the owner or operator of the existing source has previously provided this information to the Administrator. Any changes in the information provided by any existing source shall be provided to the Administrator, postmarked or delivered, within 30 days after the change.

(1) A description of the emission control equipment used for each process; and

(i) If the fabric device uses a woven fabric, the airflow permeability in  $\text{m}^3/\text{min}/\text{m}^2$  and; if the fabric is synthetic, whether the fill yarn is spun or not spun; and

(ii) If the fabric filter device uses a felted fabric, the density in  $\text{g}/\text{m}^2$ , the minimum thickness in inches, and the airflow permeability in  $\text{m}^3/\text{min}/\text{m}^2$ .

(2) If a fabric filter device is used to control emissions,

(i) The airflow permeability in  $\text{m}^3/\text{min}/\text{m}^2$  ( $\text{ft}^3/\text{min}/\text{ft}^2$ ) if the fabric filter device uses a woven fabric, and, if the fabric is synthetic, whether the fill yarn is spun or not spun; and

(ii) If the fabric filter device uses a felted fabric, the density in  $\text{g}/\text{m}^2$  ( $\text{oz}/\text{yd}^2$ ), the minimum thickness in millimeters (inches), and the airflow permeability in  $\text{m}^3/\text{min}/\text{m}^2$  ( $\text{ft}^3/\text{min}/\text{ft}^2$ ).

(3) If a HEPA filter is used to control emissions, the certified efficiency.

(4) For sources subject to §§61.149 and 61.150:

(i) A brief description of each process that generates asbestos-containing waste material; and

(ii) The average volume of asbestos-containing waste material disposed of, measured in  $\text{m}^3/\text{day}$  ( $\text{yd}^3/\text{day}$ ); and

(iii) The emission control methods used in all stages of waste disposal; and

(iv) The type of disposal site or incineration site used for ultimate disposal, the name of the site operator, and the name and location of the disposal site.

(5) For sources subject to §§61.151 and 61.154:

(i) A brief description of the site; and

(ii) The method or methods used to comply with the standard, or alternative procedures to be used.

(b) The information required by paragraph (a) of this section must accompany the information required by §61.10. Active waste disposal sites subject to §61.154 shall also comply with this provision. Roadways, demolition and renovation, spraying, and insulating materials are exempted from the requirements of §61.10(a). The information described in this section must be reported using the format of appendix A of this part as a guide.

(Sec. 114, Clean Air Act as amended (42 U.S.C. 7414))

[49 FR 13661, Apr. 5, 1984. Redesignated and amended at 55 FR 48430, Nov. 20, 1990; 56 FR 1669, Jan. 16, 1991]

### §61.154 Standard for active waste disposal sites.

Each owner or operator of an active waste disposal site that receives asbestos-containing waste material from a source covered under §61.149, 61.150, or

## Environmental Protection Agency

## Pt. 61, Subpt. M, App. A

- (1) Section 61.149(c)(2)
- (2) Section 61.150(a)(4)
- (3) Section 61.151(c)
- (4) Section 61.152(b)(3)
- (5) Section 61.154(d)
- (6) Section 61.155(a).

[55 FR 48433, Nov. 20, 1990]

### APPENDIX A TO SUBPART M OF PART 61—INTERPRETIVE RULE GOVERNING ROOF REMOVAL OPERATIONS

#### *I. Applicability of the Asbestos NESHAP*

1.1. Asbestos-containing material (ACM) is material containing more than one percent asbestos as determined using the methods specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy. The NESHAP classifies ACM as either "friable" or "nonfriable". Friable ACM is ACM that, when dry, can be crumbled, pulverized or reduced to powder by hand pressure. Nonfriable ACM is ACM that, when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure.

1.2. Nonfriable ACM is further classified as either Category I ACM or Category II ACM. Category I ACM and Category II ACM are distinguished from each other by their potential to release fibers when damaged. Category I ACM includes asbestos-containing gaskets, packings, resilient floor coverings, resilient floor covering mastic, and asphalt roofing products containing more than one percent asbestos. Asphalt roofing products which may contain asbestos include built-up roofing; asphalt-containing single ply membrane systems; asphalt shingles; asphalt-containing underlayment felts; asphalt-containing roof coatings and mastics; and asphalt-containing base flashings. ACM roofing products that use other bituminous or resinous binders (such as coal tars or pitches) are also considered to be Category I ACM. Category II ACM includes all other nonfriable ACM, for example, asbestos-cement (A/C) shingles, A/C tiles, and transite boards or panels containing more than one percent asbestos. Generally speaking, Category II ACM is more likely to become friable when damaged than is Category I ACM. The applicability of the NESHAP to Category I and II ACM depends on: (1) the condition of the material at the time of demolition or renovation, (2) the nature of the operation to which the material will be subjected, (3) the amount of ACM involved.

1.3. Asbestos-containing material regulated under the NESHAP is referred to as "regulated asbestos-containing material" (RACM). RACM is defined in §61.141 of the NESHAP and includes: (1) friable asbestos-containing material; (2) Category I nonfriable ACM that has become friable; (3) Category I nonfriable ACM that has been or will be sanded, ground,

cut, or abraded; or (4) Category II nonfriable ACM that has already been or is likely to become crumbled, pulverized, or reduced to powder. If the coverage threshold for RACM is met or exceeded in a renovation or demolition operation, then all friable ACM in the operation, and in certain situations, nonfriable ACM in the operation, are subject to the NESHAP.

#### *A. Threshold Amounts of Asbestos-Containing Roofing Material*

1.A.1. The NESHAP does not cover roofing projects on single family homes or on residential buildings containing four or fewer dwelling units, 40 CFR 61.141. For other roofing renovation projects, if the total asbestos-containing roof area undergoing renovation is less than 160 ft<sup>2</sup>, the NESHAP does not apply, regardless of the removal method to be used, the type of material (Category I or II), or its condition (friable versus nonfriable). 40 CFR 61.145(a)(4). However, EPA would recommend the use of methods that damage asbestos-containing roofing material as little as possible. EPA has determined that where a rotating blade (RB) roof cutter or equipment that similarly damages the roofing material is used to remove Category I nonfriable asbestos-containing roofing material, the removal of 5580 ft<sup>2</sup> of that material will create 160 ft<sup>2</sup> of RACM. For the purposes of this interpretive rule, "RB roof cutter" means an engine-powered roof cutting machine with one or more rotating cutting blades the edges of which are blunt. (Equipment with blades having sharp or tapered edges, and/or which does not use a rotating blade, is used for "slicing" rather than "cutting" the roofing material; such equipment is not included in the term "RB roof cutter".) Therefore, it is EPA's interpretation that when an RB roof cutter or equipment that similarly damages the roofing material is used to remove Category I nonfriable asbestos-containing roofing material, any project that is 5580 ft<sup>2</sup> or greater is subject to the NESHAP; conversely, it is EPA's interpretation that when an RB roof cutter or equipment that similarly damages the roofing material is used to remove Category I nonfriable asbestos-containing roofing material in a roof removal project that is less than 5580 ft<sup>2</sup>, the project is not subject to the NESHAP, except that notification is always required for demolitions. EPA further construes the NESHAP to mean that if slicing or other methods that do not sand, grind, cut or abrade will be used on Category I nonfriable ACM, the NESHAP does not apply, regardless of the area of roof to be removed.

1.A.2. For asbestos cement (A/C) shingles (or other Category II roofing material), if the area of the roofing material to be removed is at least 160 ft<sup>2</sup> and the removal methods will

crumble, pulverize, reduce to powder, or contaminate with RACM (from other ACM that has been crumbled, pulverized or reduced to powder) 160 ft<sup>2</sup> or more of such roofing material, the removal is subject to the NESHAP. Conversely, if the area of the A/C shingles (or other Category II roofing materials) to be removed is less than 160 ft<sup>2</sup>, the removal is not subject to the NESHAP regardless of the removal method used, except that notification is always required for demolitions. 40 CFR 61.145(a). However, EPA would recommend the use of methods that damage asbestos-containing roofing material as little as possible. If A/C shingles (or other Category II roofing materials) are removed without 160 ft<sup>2</sup> or more of such roofing material being crumbled, pulverized, reduced to powder, or contaminated with RACM (from other ACM that has been crumbled, pulverized or reduced to powder), the operation is not subject to the NESHAP, even where the total area of the roofing material to be removed exceeds 160 ft<sup>2</sup>; provided, however, that if the renovation includes other operations involving RACM, the roof removal operation is covered if the total area of RACM from all renovation activities exceeds 160 ft<sup>2</sup>. See the definition of regulated asbestos-containing material (RACM), 40 CFR 61.141.

1.A.3. Only roofing material that meets the definition of ACM can qualify as RACM subject to the NESHAP. Therefore, to determine if a removal operation that meets or exceeds the coverage threshold is subject to the NESHAP, any suspect roofing material (i.e. roofing material that may be ACM) should be tested for asbestos. If any such roofing material contains more than one percent asbestos and if the removal operation is covered by the NESHAP, then EPA must be notified and the work practices in §61.145(c) must be followed. In EPA's view, if a removal operation involves at least the threshold level of suspect material, a roofing contractor may choose not to test for asbestos if the contractor follows the notification and work practice requirements of the NESHAP.

#### B. A/C Shingle Removal (Category II ACM Removal)

1.B.1. A/C shingles, which are Category II nonfriable ACM, become regulated ACM if the material has a high probability of becoming or has become crumbled, pulverized or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations. 40 CFR 61.141. However, merely breaking an A/C shingle (or any other category II ACM) that is not friable may not necessarily cause the material to become RACM. A/C shingles are typically nailed to buildings on which they are attached. EPA believes that the extent of breakage that will normally result from carefully removing A/C shingles and low-

ering the shingles to the ground will not result in crumbling, pulverizing or reducing the shingles to powder. Conversely, the extent of breakage that will normally occur if the A/C shingles are dropped from a building or scraped off of a building with heavy machinery would cause the shingles to become RACM. EPA therefore construes the NESHAP to mean that the removal of A/C shingles that are not friable, using methods that do not crumble, pulverize, or reduce the A/C shingles to powder (such as pry bars, spud bars and shovels to carefully pry the material), is not subject to the NESHAP provided that the A/C shingles are properly handled during and after removal, as discussed in this paragraph and the asbestos NESHAP. This interpretation also applies to other Category II nonfriable asbestos-containing roofing materials.

#### C. Cutting vs. Slicing and Manual Methods for Removal of Category I ACM

1.C.1. Because of damage to the roofing material, and the potential for fiber release, roof removal operations using rotating blade (RB) roof cutters or other equipment that sand, grind, cut or abrade the roof material are subject to the NESHAP. As EPA interprets the NESHAP, the use of certain manual methods (using equipment such as axes, hatchets, or knives, spud bars, pry bars, and shovels, but not saws) or methods that slice, shear, or punch (using equipment such as a power slicer or power plow) does not constitute "cutting, sanding, grinding or abrading." This is because these methods do not destroy the structural matrix or integrity of the material such that the material is crumbled, pulverized or reduced to powder. Hence, it is EPA's interpretation that when such methods are used, assuming the roof material is not friable, the removal operation is not subject to the regulation.

1.C.2. Power removers or power tear-off machines are typically used to pry the roofing material up from the deck after the roof membrane has been cut. It is EPA's interpretation that when these machines are used to pry roofing material up, their use is not regulated by the NESHAP.

1.C.3. As noted previously, the NESHAP only applies to the removal of asbestos-containing roofing materials. Thus, the NESHAP does not apply to the use of RB cutters to remove non-asbestos built up roofing (BUR). On roofs containing some asbestos-containing and some non-asbestos-containing materials, coverage under the NESHAP depends on the methods used to remove each type of material in addition to other coverage thresholds specified above. For example, it is not uncommon for existing roofs to be made of non-asbestos BUR and base flashings that do contain asbestos. In that situation, EPA construes the

## Environmental Protection Agency

§ 61.154

61.155 shall meet the requirements of this section:

(a) Either there must be no visible emissions to the outside air from any active waste disposal site where asbestos-containing waste material has been deposited, or the requirements of paragraph (c) or (d) of this section must be met.

(b) Unless a natural barrier adequately deters access by the general public, either warning signs and fencing must be installed and maintained as follows, or the requirements of paragraph (c)(1) of this section must be met.

(1) Warning signs must be displayed at all entrances and at intervals of 100 m (330 ft) or less along the property line of the site or along the perimeter of the sections of the site where asbestos-containing waste material is deposited. The warning signs must:

(i) Be posted in such a manner and location that a person can easily read the legend; and

(ii) Conform to the requirements of 51 cm x 36 cm (20"x14") upright format signs specified in 29 CFR 1910.145(d)(4) and this paragraph; and

(iii) Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified in this paragraph.

Legend	Notation
Asbestos Waste Disposal Site.	2.5 cm (1 inch) Sans Serif, Gothic or Block.
Do Not Create Dust .....	1.9 cm (¾ inch) Sans Serif, Gothic or Block.
Breathing Asbestos is Hazardous to Your Health.	14 Point Gothic.

Spacing between any two lines must be at least equal to the height of the upper of the two lines.

(2) The perimeter of the disposal site must be fenced in a manner adequate to deter access by the general public.

(3) Upon request and supply of appropriate information, the Administrator will determine whether a fence or a natural barrier adequately deters access by the general public.

(c) Rather than meet the no visible emission requirement of paragraph (a) of this section, at the end of each operating day, or at least once every 24-hour period while the site is in continuous operation, the asbestos-con-

taining waste material that has been deposited at the site during the operating day or previous 24-hour period shall:

(1) Be covered with at least 15 centimeters (6 inches) of compacted non-asbestos-containing material, or

(2) Be covered with a resinous or petroleum-based dust suppression agent that effectively binds dust and controls wind erosion. Such an agent shall be used in the manner and frequency recommended for the particular dust by the dust suppression agent manufacturer to achieve and maintain dust control. Other equally effective dust suppression agents may be used upon prior approval by the Administrator. For purposes of this paragraph, any used, spent, or other waste oil is not considered a dust suppression agent.

(d) Rather than meet the no visible emission requirement of paragraph (a) of this section, use an alternative emissions control method that has received prior written approval by the Administrator according to the procedures described in § 61.149(c)(2).

(e) For all asbestos-containing waste material received, the owner or operator of the active waste disposal site shall:

(1) Maintain waste shipment records, using a form similar to that shown in Figure 4, and include the following information:

(i) The name, address, and telephone number of the waste generator.

(ii) The name, address, and telephone number of the transporter(s).

(iii) The quantity of the asbestos-containing waste material in cubic meters (cubic yards).

(iv) The presence of improperly enclosed or uncovered waste, or any asbestos-containing waste material not sealed in leak-tight containers. Report in writing to the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the waste generator (identified in the waste shipment record), and, if different, the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the disposal site, by the following working day, the presence of a significant amount of improperly enclosed or uncovered waste. Submit a copy of the

waste shipment record along with the report.

(v) The date of the receipt.

(2) As soon as possible and no longer than 30 days after receipt of the waste, send a copy of the signed waste shipment record to the waste generator.

(3) Upon discovering a discrepancy between the quantity of waste designated on the waste shipment records and the quantity actually received, attempt to reconcile the discrepancy with the waste generator. If the discrepancy is not resolved within 15 days after receiving the waste, immediately report in writing to the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the waste generator (identified in the waste shipment record), and, if different, the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the disposal site. Describe the discrepancy and attempts to reconcile it, and submit a copy of the waste shipment record along with the report.

(4) Retain a copy of all records and reports required by this paragraph for at least 2 years.

(f) Maintain, until closure, records of the location, depth and area, and quantity in cubic meters (cubic yards) of asbestos-containing waste material within the disposal site on a map or diagram of the disposal area.

(g) Upon closure, comply with all the provisions of §61.151.

(h) Submit to the Administrator, upon closure of the facility, a copy of records of asbestos waste disposal locations and quantities.

(i) Furnish upon request, and make available during normal business hours for inspection by the Administrator, all records required under this section.

(j) Notify the Administrator in writing at least 45 days prior to excavating or otherwise disturbing any asbestos-containing waste material that has been deposited at a waste disposal site and is covered. If the excavation will begin on a date other than the one contained in the original notice, notice of the new start date must be provided to the Administrator at least 10 working days before excavation begins and in no event shall excavation begin earlier than the date specified in the original

notification. Include the following information in the notice:

(1) Scheduled starting and completion dates.

(2) Reason for disturbing the waste.

(3) Procedures to be used to control emissions during the excavation, storage, transport, and ultimate disposal of the excavated asbestos-containing waste material. If deemed necessary, the Administrator may require changes in the emission control procedures to be used.

(4) Location of any temporary storage site and the final disposal site.

(Secs. 112 and 301(a) of the Clean Air Act as amended (42 U.S.C. 7412, 7601(a))

[49 FR 13661, Apr. 5, 1990. Redesignated and amended at 55 FR 48431, Nov. 20, 1990; 56 FR 1669, Jan. 16, 1991]

**§61.155 Standard for operations that convert asbestos-containing waste material into nonasbestos (asbestos-free) material.**

Each owner or operator of an operation that converts RACM and asbestos-containing waste material into nonasbestos (asbestos-free) material shall:

(a) Obtain the prior written approval of the Administrator to construct the facility. To obtain approval, the owner or operator shall provide the Administrator with the following information:

(1) Application to construct pursuant to §61.07.

(2) In addition to the information requirements of §61.07(b)(3), a

(i) Description of waste feed handling and temporary storage.

(ii) Description of process operating conditions.

(iii) Description of the handling and temporary storage of the end product.

(iv) Description of the protocol to be followed when analyzing output materials by transmission electron microscopy.

(3) Performance test protocol, including provisions for obtaining information required under paragraph (b) of this section.

(4) The Administrator may require that a demonstration of the process be performed prior to approval of the application to construct.

(b) Conduct a start-up performance test. Test results shall include:

(1) A detailed description of the types and quantities of nonasbestos material, RACM, and asbestos-containing waste material processed, *e.g.*, asbestos cement products, friable asbestos insulation, plaster, wood, plastic, wire, etc. Test feed is to include the full range of materials that will be encountered in actual operation of the process.

(2) Results of analyses, using polarized light microscopy, that document the asbestos content of the wastes processed.

(3) Results of analyses, using transmission electron microscopy, that document that the output materials are free of asbestos. Samples for analysis are to be collected as 8-hour composite samples (one 200-gram (7-ounce) sample per hour), beginning with the initial introduction of RACM or asbestos-containing waste material and continuing until the end of the performance test.

(4) A description of operating parameters, such as temperature and residence time, defining the full range over which the process is expected to operate to produce nonasbestos (asbestos-free) materials. Specify the limits for each operating parameter within which the process will produce nonasbestos (asbestos-free) materials.

(5) The length of the test.

(c) During the initial 90 days of operation,

(1) Continuously monitor and log the operating parameters identified during start-up performance tests that are intended to ensure the production of nonasbestos (asbestos-free) output material.

(2) Monitor input materials to ensure that they are consistent with the test feed materials described during start-up performance tests in paragraph (b)(1) of this section.

(3) Collect and analyze samples, taken as 10-day composite samples (one 200-gram (7-ounce) sample collected every 8 hours of operation) of all output material for the presence of asbestos. Composite samples may be for fewer than 10 days. Transmission electron microscopy (TEM) shall be used to analyze the output material for the presence of asbestos. During the initial 90-day period, all output materials must be stored on-site until analysis shows the material to be asbestos-free

or disposed of as asbestos-containing waste material according to §61.150.

(d) After the initial 90 days of operation,

(1) Continuously monitor and record the operating parameters identified during start-up performance testing and any subsequent performance testing. Any output produced during a period of deviation from the range of operating conditions established to ensure the production of nonasbestos (asbestos-free) output materials shall be:

(i) Disposed of as asbestos-containing waste material according to §61.150, or

(ii) Recycled as waste feed during process operation within the established range of operating conditions, or

(iii) Stored temporarily on-site in a leak-tight container until analyzed for asbestos content. Any product material that is not asbestos-free shall be either disposed of as asbestos-containing waste material or recycled as waste feed to the process.

(2) Collect and analyze monthly composite samples (one 200-gram (7-ounce) sample collected every 8 hours of operation) of the output material. Transmission electron microscopy shall be used to analyze the output material for the presence of asbestos.

(e) Discharge no visible emissions to the outside air from any part of the operation, or use the methods specified by §61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(f) Maintain records on-site and include the following information:

(1) Results of start-up performance testing and all subsequent performance testing, including operating parameters, feed characteristic, and analyses of output materials.

(2) Results of the composite analyses required during the initial 90 days of operation under §61.155(c).

(3) Results of the monthly composite analyses required under §61.155(d).

(4) Results of continuous monitoring and logs of process operating parameters required under §61.155 (c) and (d).

(5) The information on waste shipments received as required in §61.154(e).

(6) For output materials where no analyses were performed to determine the presence of asbestos, record the



§61.156

40 CFR Ch. I (7-1-06 Edition)

name and location of the purchaser or disposal site to which the output materials were sold or deposited, and the date of sale or disposal.

(7) Retain records required by paragraph (f) of this section for at least 2 years.

(g) Submit the following reports to the Administrator:

(1) A report for each analysis of product composite samples performed during the initial 90 days of operation.

(2) A quarterly report, including the following information concerning activities during each consecutive 3-month period:

(i) Results of analyses of monthly product composite samples.

(ii) A description of any deviation from the operating parameters established during performance testing, the duration of the deviation, and steps taken to correct the deviation.

(iii) Disposition of any product produced during a period of deviation, including whether it was recycled, disposed of as asbestos-containing waste material, or stored temporarily on-site until analyzed for asbestos content.

(iv) The information on waste disposal activities as required in §61.154(f).

(h) Nonasbestos (asbestos-free) output material is not subject to any of the provisions of this subpart. Output materials in which asbestos is detected, or output materials produced when the operating parameters deviated from those established during the start-up performance testing, unless shown by TEM analysis to be asbestos-free, shall be considered to be asbestos-containing waste and shall be handled and disposed of according to §§61.150 and 61.154 or reprocessed while all of the established operating parameters are being met.

[55 FR 48431, Nov. 20, 1990]

§61.156 Cross-reference to other asbestos regulations.

In addition to this subpart, the regulations referenced in Table 1 also apply to asbestos and may be applicable to those sources specified in §§61.142 through 61.151, 61.154, and 61.155 of this subpart. These cross-references are presented for the reader's information and to promote compliance with the cited regulations.

TABLE 1—CROSS-REFERENCE TO OTHER ASBESTOS REGULATIONS

Agency	CFR citation	Comment
EPA	40 CFR part 763, subpart E .....	Requires schools to inspect for asbestos and implement response actions and submit asbestos management plans to States. Specifies use of accredited inspectors, air sampling methods, and waste disposal procedures.
	40 CFR part 427 .....	Effluent standards for asbestos manufacturing source categories.
	40 CFR part 763, subpart G .....	Protects public employees performing asbestos abatement work in States not covered by OSHA asbestos standard.
OSHA	29 CFR 1910.1001 .....	Worker protection measures—engineering controls, worker training, labeling, respiratory protection, bagging of waste, permissible exposure level.
	29 CFR 1926.1101 .....	Worker protection measures for all construction work involving asbestos, including demolition and renovation-work practices, worker training, bagging of waste, permissible exposure level.
MSHA	30 CFR part 56, subpart D .....	Specifies exposure limits, engineering controls, and respiratory protection measures for workers in surface mines.
	30 CFR part 57, subpart D .....	Specifies exposure limits, engineering controls, and respiratory protection measures for workers in underground mines.
DOT	49 CFR parts 171 and 172 .....	Regulates the transportation of asbestos-containing waste material. Requires waste containment and shipping papers.

[55 FR 48432, Nov. 20, 1990, as amended at 60 FR 31920, June 19, 1995; 68 FR 54793, Sept. 18, 2003; 69 FR 43324, July 20, 2004]

§61.157 Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 112(d) 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 that will not be delegated to States:

NESHAP to be inapplicable to the removal of the non-asbestos BUR using an RB cutter so long as the RB cutter is not used to cut 5580 ft<sup>2</sup> or more of the asbestos-containing base flashing or other asbestos-containing material into sections. In addition, the use of methods that slice, shear, punch or pry could then be used to remove the asbestos flashings and not trigger coverage under the NESHAP.

## II. Notification

2.1. Notification for a demolition is always required under the NESHAP. However, EPA believes that few roof removal jobs constitute "demolitions" as defined in the NESHAP (§61.141). In particular, it is EPA's view that the removal of roofing systems (i.e., the roof membrane, insulation, surfacing, coatings, flashings, mastic, shingles, and felt underlayment), when such removal is not a part of a demolition project, constitutes a "renovation" under the NESHAP. If the operation is a renovation, and Category I roofing material is being removed using either manual methods or slicing, notification is not required by the NESHAP. If Category II material is not friable and will be removed without crumbling, pulverizing, or reducing it to powder, no notification is required. Also, if the renovation involves less than the threshold area for applicability as discussed above, then no notification is required. However, if a roof removal meets the applicability and threshold requirements under the NESHAP, then EPA (or the delegated agency) must be notified in advance of the removal in accordance with the requirements of §61.145(b), as follows:

- Notification must be given in writing at least 10 working days in advance and must include the information in §61.145(b)(4), except for emergency renovations as discussed below.
- The notice must be updated as necessary, including, for example, when the amount of asbestos-containing roofing material reported changes by 20 percent or more.
- EPA must be notified if the start date of the roof removal changes. If the start date of a roof removal project is changed to an earlier date, EPA must be provided with a written notice of the new start date at least 10 working days in advance. If the start date changes to a later date, EPA must be notified by telephone as soon as possible before the original start date and a written notice must be sent as soon as possible.
- For emergency renovations (as defined in §61.141), where work must begin immediately to avoid safety or public health hazards, equipment damage, or unreasonable financial burden, the notification must be postmarked or delivered to EPA as soon as possible, but no later than the following work day.

## III. Emission Control Practices

### A. Requirements To Adequately Wet and Discharge No Visible Emission

3.A.1. The principal controls contained in the NESHAP for removal operations include requirements that the affected material be adequately wetted, and that asbestos waste be handled, collected, and disposed of properly. The requirements for disposal of waste materials are discussed separately in section IV below. The emission control requirements discussed in this section III apply only to roof removal operations that are covered by the NESHAP as set forth in Section I above.

3.A.2. For any operation subject to the NESHAP, the regulation (§61.145(c)(2)(i), (3), (6)(1)) requires that RACM be adequately wet (as defined in §61.141) during the operation that damages or disturbs the asbestos material until collected for disposal.

3.A.3. When using an RB roof cutter (or any other method that sands, grinds, cuts or abrades the roofing material) to remove Category I asbestos-containing roofing material, the emission control requirements of §61.145(c) apply as discussed in Section I above. EPA will consider a roof removal project to be in compliance with the "adequately wet" and "discharge no visible emission" requirements of the NESHAP if the RB roof cutter is equipped and operated with the following: (1) a blade guard that completely encloses the blade and extends down close to the roof surface; and (2) a device for spraying a fine mist of water inside the blade guard, and which device is in operation during the cutting of the roof.

### B. Exemptions From Wetting Requirements

3.B.1. The NESHAP provides that, in certain instances, wetting may not be required during the cutting of Category I asbestos roofing material with an RB roof cutter. If EPA determines in accordance with §61.145(c)(3)(i), that wetting will unavoidably damage the building, equipment inside the building, or will present a safety hazard while stripping the ACM from a facility component that remains in place, the roof removal operation will be exempted from the requirement to wet during cutting. EPA must have sufficient written information on which to base such a decision. Before proceeding with a dry removal, the contractor must have received EPA's written approval. Such exemptions will be made on a case-by-case basis.

3.B.2. It is EPA's view that, in most instances, exemptions from the wetting requirements are not necessary. Where EPA grants an exemption from wetting because of the potential for damage to the building, damage to equipment within the building or a safety hazard, the NESHAP specifies alternative control methods (§61.145(c)(3)(i)(B)).

Alternative control methods include (a) the use of local exhaust ventilation systems that capture the dust, and do not produce visible emissions, or (b) methods that are designed and operated in accordance with the requirements of §61.152, or (c) other methods that have received the written approval of EPA. EPA will consider an alternative emission control method in compliance with the NESHAP if the method has received written approval from EPA and the method is being implemented consistent with the approved procedures (§61.145(c)(3)(ii) or §61.152(b)(3)).

3.B.3. An exemption from wetting is also allowed when the air or roof surface temperature at the point of wetting is below freezing, as specified in §61.145(c)(7). If freezing temperatures are indicated as the reason for not wetting, records must be kept of the temperature at the beginning, middle and end of the day on which wetting is not performed and the records of temperature must be retained for at least 2 years. 42 CFR §61.145(c)(7)(iii). It is EPA's interpretation that in such cases, no written application to, or written approval by the Administrator is needed for using emission control methods listed in §61.145(c)(3)(i)(B), or alternative emission control methods that have been previously approved by the Administrator. However, such written application or approval is required for alternative emission control methods that have not been previously approved. Any dust and debris collected from cutting must still be kept wet and placed in containers. All of the other requirements for notification and waste disposal would continue to apply as described elsewhere in this notice and the Asbestos NESHAP.

#### C. Waste Collection and Handling

3.C.1. It is EPA's interpretation that waste resulting from slicing and other methods that do not cut, grind, sand or abrade Category I nonfriable asbestos-containing roofing material is not subject to the NESHAP and can be disposed of as nonasbestos waste. EPA further construes the NESHAP to provide that if Category II roofing material (such as A/C shingles) is removed and disposed of without crumbling, pulverizing, or reducing it to powder, the waste from the removal is not subject to the NESHAP waste disposal requirements. EPA also interprets the NESHAP to be inapplicable to waste resulting from roof removal operations that do not meet or exceed the coverage thresholds described in section I above. Of course, other State, local, or Federal regulations may apply.

3.C.2. It is EPA's interpretation that when an RB roof cutter, or other method that similarly damages the roofing material, is used to cut Category I asbestos containing roofing material, the damaged material from

the cut (the sawdust or debris) is considered asbestos containing waste subject to §61.150 of the NESHAP, provided the coverage thresholds discussed above in section I are met or exceeded. This sawdust or debris must be disposed of at a disposal site operated in accordance with the NESHAP. It is also EPA's interpretation of the NESHAP that if the remainder of the roof is free of the sawdust and debris generated by the cutting, or if such sawdust or debris is collected as discussed below in paragraphs 3.C.3, 3.C.4, 3.C.5 and 3.C.6, the remainder of the roof can be disposed of as nonasbestos waste because it is considered to be Category I nonfriable material (as long as the remainder of the roof is in fact nonasbestos material or if it is Category I asbestos material and the removal methods do not further sand, grind, cut or abrade the roof material). EPA further believes that if the roof is not cleaned of such sawdust or debris, i.e., it is contaminated, then it must be treated as asbestos-containing waste material and be handled in accordance with §61.150.

3.C.3. In order to be in compliance with the NESHAP while using an RB roof cutter (or device that similarly damages the roofing material) to cut Category I asbestos containing roofing material, the dust and debris resulting from the cutting of the roof should be collected as soon as possible after the cutting operation, and kept wet until collected and placed in leak-tight containers. EPA believes that where the blade guard completely encloses the blade and extends down close to the roof surface and is equipped with a device for spraying a fine mist of water inside the blade guard, and the spraying device is in operation during the cutting, most of the dust and debris from cutting will be confined along the cut. The most efficient methods to collect the dust and debris from cutting are to immediately collect or vacuum up the damaged material where it lies along the cut using a filtered vacuum cleaner or debris collector that meets the requirements of 40 CFR 61.152 to clean up as much of the debris as possible, or to gently sweep up the bulk of the debris, and then use a filtered vacuum cleaner that meets the requirements of 40 CFR 61.152 to clean up as much of the remainder of the debris as possible. On smooth surfaced roofs (nonaggregate roofs), sweeping up the debris and then wet wiping the surface may be done in place of using a filtered vacuum cleaner. It is EPA's view that if these decontamination procedures are followed, the remaining roofing material does not have to be collected and disposed of as asbestos waste. Additionally, it is EPA's view that where such decontamination procedures are followed, if the remaining portions of the roof are non-asbestos or Category I nonfriable asbestos material, and if the remaining portions are removed using removal methods that slice, shear, punch or

pry, as discussed in section 1.C above, then the remaining portions do not have to be collected and disposed of as asbestos waste and the NESHAP's no visible emissions and adequately wet requirements are not applicable to the removal of the remaining portions. In EPA's interpretation, the failure of a filtered vacuum cleaner or debris collector to collect larger chunks or pieces of damaged roofing material created by the RB roof cutter does not require the remaining roofing material to be handled and disposed of as asbestos waste, provided that such visible chunks or pieces of roofing material are collected (e.g. by gentle sweeping) and disposed of as asbestos waste. Other methods of decontamination may not be adequate, and should be approved by the local delegated agency.

3.C.4. In EPA's interpretation, if the debris from the cutting is not collected immediately, it will be necessary to lightly mist the dust or debris, until it is collected, as discussed above, and placed in containers. The dust or debris should be lightly misted frequently enough to prevent the material from drying, and to prevent airborne emissions, prior to collection as described above. It is EPA's interpretation of the NESHAP that if these procedures are followed, the remaining roofing material does not have to be collected and disposed of as asbestos waste, as long as the remaining roof material is in fact nonasbestos material or if it is Category I asbestos material and the removal methods do not further sand, grind, cut or abrade the roof material.

3.C.5. It is EPA's interpretation that, provided the roofing material is not friable prior to the cutting operation, and provided the roofing material has not been made friable by the cutting operation, the appearance of rough, jagged or damaged edges on the remaining roofing material, due to the use of an RB roof cutter, does not require that such remaining roofing material be handled and disposed of as asbestos waste. In addition, it is also EPA's interpretation that if the sawdust or debris generated by the use of an RB roof cutter has been collected as discussed in paragraphs 3.C.3, 3.C.4 and 3.C.6, the presence of dust along the edge of the remaining roof material does not render such material "friable" for purposes of this interpretive rule or the NESHAP, provided the roofing material is not friable prior to the cutting operation, and provided that the remaining roofing material near the cutline has not been made friable by the cutting operation. Where roofing material near the cutline has been made friable by the use of the RB cutter (i.e. where such remaining roofing material near the cutline can be crumbled, pulverized or reduced to powder using hand pressure), it is EPA's interpretation that the use of an encapsulant will ensure that such friable material need not be treated or disposed of as asbestos containing

waste material. The encapsulant may be applied to the friable material after the roofing material has been collected into stacks for subsequent disposal as nonasbestos waste. It is EPA's view that if the encapsulation procedure set forth in this paragraph is followed in operations where roofing material near the cutline has been rendered friable by the use of an RB roof cutter, and if the decontamination procedures set forth in paragraph 3.C.3 have been followed, the NESHAP's no visible emissions and adequately wet requirements would be met for the removal, handling and disposal of the remaining roofing material.

3.C.6. As one way to comply with the NESHAP, the dust and debris from cutting can be placed in leak-tight containers, such as plastic bags, and the containers labeled using warning labels required by OSHA (29 CFR 1926.58). In addition, the containers must have labels that identify the waste generator (such as the name of the roofing contractor, abatement contractor, and/or building owner or operator) and the location of the site at which the waste was generated.

#### IV. Waste Disposal

##### A. Disposal Requirements

4.A.1. Section 61.150(b) requires that, as soon as is practical, all collected dust and debris from cutting as well as any contaminated roofing squares, must be taken to a landfill that is operated in accordance with §61.154 or to an EPA-approved site that converts asbestos waste to nonasbestos material in accordance with §61.155. During the loading and unloading of affected waste, asbestos warning signs must be affixed to the vehicles.

##### B. Waste Shipment Record

4.B.1. For each load of asbestos waste that is regulated under the NESHAP, a waste shipment record (WSR) must be maintained in accordance with §61.150(d). Information that must be maintained for each waste load includes the following:

- Name, address, and telephone number of the waste generator
- Name and address of the local, State, or EPA regional office responsible for administering the asbestos NESHAP program
- Quantity of waste in cubic meters (or cubic yards)
- Name and telephone number of the disposal site operator
- Name and physical site location of the disposal site
- Date transported
- Name, address, and telephone number of the transporter(s)
- Certification that the contents meet all government regulations for transport by highways.

4.B.2. The waste generator is responsible for ensuring that a copy of the WSR is delivered to the disposal site along with the waste shipment. If a copy of the WSR signed by the disposal site operator is not returned to the waste generator within 35 days, the waste generator must contact the transporter and/or the disposal site to determine the status of the waste shipment. 40 CFR 61.150(d)(3). If the signed WSR is not received within 45 days, the waste generator must report, in writing, to the responsible NESHAP program agency and send along a copy of the WSR. 40 CFR 61.150(d)(4). Copies of WSRs, including those signed by the disposal site operator, must be retained for at least 2 years. 40 CFR 61.150(d)(5).

#### V. Training

5.1. For those roof removals that are subject to the NESHAP, at least one on-site supervisor trained in the provisions of the NESHAP must be present during the removal of the asbestos roofing material. 40 CFR 61.145(c)(8). In EPA's view, this person can be a job foreman, a hired consultant, or someone who can represent the building owner or contractor responsible for the removal. In addition to the initial training requirement, a refresher training course is required every 2 years. The NESHAP training requirements became effective on November 20, 1991.

5.2. Asbestos training courses developed specifically to address compliance with the NESHAP in roofing work, as well as courses developed for other purposes can satisfy this requirement of the NESHAP, as long as the course covers the areas specified in the regulation. EPA believes that Asbestos Hazard Emergency Response Act (AHERA) training courses will, for example, satisfy the NESHAP training requirements. However, nothing in this interpretive rule or in the NESHAP shall be deemed to require that roofing contractors or roofing workers performing operations covered by the NESHAP must be trained or accredited under AHERA, as amended by the Asbestos School Hazard Abatement Reauthorization Act (ASHARA). Likewise, state or local authorities may independently impose additional training, licensing, or accreditation requirements on roofing contractors performing operations covered by the NESHAP, but such additional training, licensing or accreditation is not called for by this interpretive rule or the federal NESHAP.

5.3. For removal of Category I asbestos containing roofing material where RB roof cutters or equipment that similarly damages the asbestos-containing roofing material are used, the NESHAP training requirements (§61.145(c)(8)) apply as discussed in Section I above. It is EPA's intention that removal of Category I asbestos-containing roofing mate-

rial using hatchets, axes, knives, and/or the use of spud bars, pry bars and shovels to lift the roofing material, or similar removal methods that slice, punch, or shear the roof membrane are not subject to the training requirements, since these methods do not cause the roof removal to be subject to the NESHAP. Likewise, it is EPA's intention that roof removal operations involving Category II nonfriable ACM are not subject to the training requirements where such operations are not subject to the NESHAP as discussed in section I above.

[59 FR 31158, June 17, 1994, as amended at 60 FR 31920, June 19, 1995]

### Subpart N—National Emission Standard for Inorganic Arsenic Emissions From Glass Manufacturing Plants

SOURCE: 51 FR 28025, Aug. 4, 1986, unless otherwise noted.

#### §61.160 Applicability and designation of source.

(a) The source to which this subpart applies is each glass melting furnace that uses commercial arsenic as a raw material. This subpart does not apply to pot furnaces.

(b) Rebricking is not considered construction or modification for the purposes of §61.05(a).

#### §61.161 Definitions.

The terms used in this subpart are defined in the Clean Air Act, in §61.02, or in this section as follows:

*Arsenic-containing glass type* means any glass that is distinguished from other glass solely by the weight percent of arsenic added as a raw material and by the weight percent of arsenic in the glass produced. Any two or more glasses that have the same weight percent of arsenic in the raw materials as well as in the glass produced shall be considered to belong to one arsenic-containing glass type, without regard to the recipe used or any other characteristics of the glass or the method of production.

*By-pass the control device* means to operate the glass melting furnace without operating the control device to which that furnace's emissions are directed routinely.

*Commercial arsenic* means any form of arsenic that is produced by extraction

**APPENDIX F**  
NESHAP S

**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, knotter, 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 knotter system equipment includes the knotter, 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. Ex-

amples 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  $\pm 1.0$  percent of the temperature being monitored expressed in degrees Celsius or  $\pm 0.5$  degrees Celsius ( $^{\circ}\text{C}$ ), 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

## Environmental Protection Agency

## § 63.444

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 pulping 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.

**§ 63.445 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;

## Environmental Protection Agency

§ 63.446

(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]

#### §§ 63.448–63.449 [Reserved]

#### § 63.450 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]

**§§ 63.451–63.452 [Reserved]**

**§ 63.453 Monitoring requirements.**

(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 BOD<sub>5</sub> 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 BOD<sub>5</sub> test required in paragraph (j)(1)(i)(A) of this section are obtained. The storage requirement is needed since the soluble BOD<sub>5</sub> test re-

quires 5 days or more to obtain results. If the results of the soluble BOD<sub>5</sub> 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.

(1) Each pulping process condensate closed collection system used to comply with § 63.446(d) shall comply with the requirements specified in paragraphs (1)(1) through (1)(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  $f_{bio}$  (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(1) 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]

**§ 63.454 Recordkeeping 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

## Environmental Protection Agency

## § 63.455

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]

### § 63.455 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]

#### § 63.456 [Reserved]

#### § 63.457 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;
- (3) Magnetic stirring apparatus and stir bar;
- (4) Calibrated pH Meter;
- (5) 150-250 ml beaker or flask; and
- (6) A 5 ml pipette.

(E) The procedures listed in paragraphs (b)(5)(ii)(E)(1) through (b)(5)(ii)(E)(7) 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.

(3) 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.

(4) 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.

(5) 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:

$$\text{Normality of SodiumThiosulfate} = \frac{1}{\text{ml Sodium Thiosulfate Consumed}}$$

(6) 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.

(7) 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)(5) 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.

(3) *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.

(4) *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 pe-

riod 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.

(5) *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:

$$Cl_2 \text{ Moles} = 1/8000 (5 T_N - T_A) \times N_{\text{Thio}}$$

Where:

$T_N$ =Volume neutral titer, ml;

# Environmental Protection Agency

§ 63.457

$T_A$ =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:

$$Cl_2 ppmv = \frac{3005(5 T_N - T_A) \times N_{Thio}}{S_C \times t_S}$$

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:

$$ClO_2 \text{ Moles} = 1/4000(T_A - T_N) \times N_{Thio}$$

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:

$$ClO_2 ppmv = \frac{6010(T_A - T_N) \times N_{Thio}}{S_C \times t_S}$$

Where:

$S_C$ =Corrected (dry standard) sampling flow rate, liters per minute;

$t_S$ =Time sampled, minutes;

$T_A$ =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:

$\bar{C}$ =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 BOD<sub>5</sub> 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 side-arm. 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 BOD<sub>5</sub>. 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 ac-

cording 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(1)(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,  $2.494 \times 10^{-6}$  (parts per million by volume)<sup>-1</sup> (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:

# Environmental Protection Agency

§ 63.457

F=Mass loading of total HAP or methanol in the sample, in kilograms per megagram of ODP.

E<sub>a</sub>=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<sub>b</sub>=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<sub>a</sub>=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<sub>c</sub>=Concentration of total HAP corrected to 10 percent oxygen, dry basis, parts per million by volume.

C<sub>m</sub>=Concentration of total HAP dry basis, parts per million by volume, as specified in paragraph (b) of this section.

%O<sub>2d</sub>=Concentration of oxygen, dry basis, percent by volume.

(1) *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:

$$R = \frac{f_{bio}(MeOH)}{(1 + 1.087(r))} \times 100$$

$$r = \frac{F_{(nonmethanol)}}{F_{(methanol)}}$$

Where:

R = Percent destruction.

f<sub>bio</sub>(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<sub>(nonmethanol)</sub> = 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.

## § 63.458

## 40 CFR Ch. I (7-1-06 Edition)

$F_{\text{(methanol)}}$  = 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:

$$F = F_b * (f_{\text{bio}}(\text{MeOH}) / (1 + 1.087(r)))$$

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.

$f_{\text{bio}}(\text{MeOH})$  = 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 determined using the procedures in paragraph (l) of this section.

(3) The owner or operator of a non-thoroughly 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,  $K_s$ , 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]

### § 63.458 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]

#### § 63.459 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 op-

erator 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



TABLE 2 TO SUBPART S—ISOTHERMAL COOKING SYSTEM OPERATIONAL VALUES—Continued

Parameter	Instrument number	Limit	Units
Difference in Digester Vapor Zone Temperature and Digester Extraction Header Temperature .....	03T10311 .....	<10 .....	Degrees F.
	03T10329.		

(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);

*Utility 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:

$$\text{HAP}_d = \frac{[(\text{RME}_{fr} \times \text{RME}_c) + (\text{PPC}_{fr} \times \text{PPC}_c) - (\text{ABD}_{fr} \times \text{ABD}_c)] \times 8.34}{\text{ODP}_r}$$

Where:

$\text{HAP}_d$  = HAP destruction efficiency of wastewater treatment plant (pounds of HAPs per ton of ODP);

$\text{RME}_{fr}$  = flow rate of raw mill effluent (millions of gallons per day);

$\text{RME}_c$  = HAP concentration of raw mill effluent (milligrams per liter);

$\text{PPC}_{fr}$  = flow rate of pulping process condensates (millions of gallons per day);

$\text{PPC}_c$  = HAP concentration of pulping process condensates (milligrams per liter);

$\text{ABD}_{fr}$  = flow rate of anaerobic basin discharge (millions of gallons per day);

$\text{ABD}_c$  = HAP concentration of anaerobic basin discharge (milligrams per liter); and

$\text{ODP}_r$  = 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 en-

closure 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,

pipings, 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)(i)(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<sup>A</sup>

Reference	Applies to Subpart S	Comment
63.1(a)(1)–(3) .....	Yes	Subpart S (this table) specifies applicability of each paragraph in subpart A to subpart S.
63.1(a)(4) .....	Yes	
63.1(a)(5) .....	No	Section reserved.
63.1(a)(6)–(8) .....	Yes	
63.1(a)(9) .....	No	Subpart S and other cross-referenced subparts specify calendar or operating day.
63.1(a)(10) .....	No	
63.1(a)(11)–(14) .....	Yes	

## Environmental Protection Agency

## Pt. 63, Subpt. S, Table 1

Reference	Applies to Subpart S	Comment
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.

Reference	Applies to Subpart S	Comment
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	

\* Wherever 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]

### Subpart T—National Emission Standards for Halogenated Solvent Cleaning

SOURCE: 59 FR 61805, Dec. 2, 1994, unless otherwise noted.

#### § 63.460 Applicability and designation of source.

(a) The provisions of this subpart apply to each individual batch vapor, in-line vapor, in-line cold, and batch cold solvent cleaning machine that uses any solvent containing methylene chloride (CAS No. 75-09-2), perchloroethylene (CAS No. 127-18-4), trichloroethylene (CAS No. 79-01-6), 1,1,1-trichloroethane (CAS No. 71-55-6), carbon tetrachloride (CAS No. 56-23-5) or chloroform (CAS No. 67-66-3), or any combination of these halogenated HAP solvents, in a total concentration greater than 5 percent by weight, as a cleaning and/or drying agent. The concentration of these solvents may be determined using EPA test method 18, material safety data sheets, or engineering calculations. Wipe cleaning activities, such as using a rag containing halogenated solvent or a spray cleaner containing halogenated solvent are not covered under the provisions of this subpart.

(b) Except as noted in appendix C (General Provisions Applicability to Subpart T) of this subpart, the provisions of subpart A of this part (General Provisions) apply to owners or operators of any solvent cleaning machine meeting the applicability criteria of paragraph (a) of this section.

(c) Except as provided in paragraph (g) of this section, each solvent cleaning machine subject to this subpart that commences construction or reconstruction after November 29, 1993 shall achieve compliance with the provisions of this subpart immediately upon start-up or by December 2, 1994, whichever is later.

(d) Except as provided in paragraph (g) of this section, each solvent cleaning machine subject to this subpart that commenced construction or reconstruction on or before November 29, 1993 shall achieve compliance with the provisions of this subpart no later than December 2, 1997.

(e) In delegating implementation and enforcement authority to a State under section 112(d) of the Act, the authority contained in paragraph (f) of this section shall be retained by the Administrator and not transferred to a State.

(g) Each continuous web cleaning machine subject to this subpart shall achieve compliance with the provisions

## **APPENDIX G**

### **10A BOILER ALTERNATIVE MONITORING EXEMPTION**



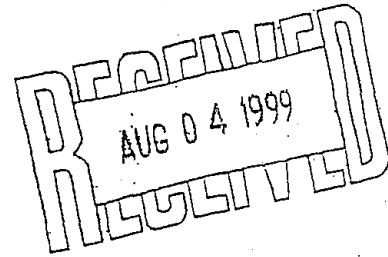


UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6

1445 ROSS AVENUE, SUITE 1200  
DALLAS, TX 75202-2733

JUL 8 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:

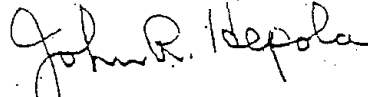
On July 9, 1999, we received your letter of July 1, 1999, which supported and transmitted Georgia-Pacific's (GP) June 21, 1999, request for alternative monitoring of their 10A boiler that is subject to NSPS Subpart D. GP has noted that new Permit 597-AOP-R1 reflects an appropriate means of monitoring 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,

A handwritten signature in dark ink, appearing to read "John R. Hepola". The signature is fluid and cursive, with the first name "John" being the most prominent.

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

**APPENDIX H**  
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.

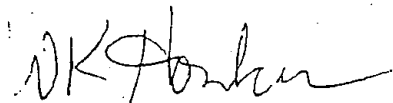
According to your letter, G-P Crossett conducted preliminary testing of the minor fugitive leaks found around the feed and exit roll seals and along the side gaskets of the Chemiwashers using EPA Method 21 and had found that all were well under 500 ppm. Based upon these tests, you believe that the closed 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 Rheaume, ADEQ



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6  
1445 ROSS AVENUE, SUITE 1200  
DALLAS, TX 75202-2733

D.P.

DEC 10 2003

02-00013

REC'D DEC 15 2003

Charles E. Hodges  
Senior Vice President  
Manufacturing Southern Region  
Georgia Pacific  
Crossett Paper Operations  
P.O. Box 3333  
Crossett, Arkansas 71635

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 Rheaume, 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.

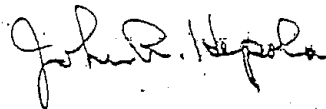
Furthermore, in case of future replacement of the fan blades or fan motor, you must demonstrate that gas flow to the scrubber has not increased as a result of changes to the fan or conduct another performance test to ensure that the gas scrubber meets the emission limitations of the air permit.

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 Rheaume, ADEQ



**APPENDIX I**  
NESHAP MM

[40 CFR part 63, subpart A to Subpart LL]

General provisions citation	Requirement	Applies to subpart LL	Comment
63.11(a)-(b) .....	Control device requirements .....	No .....	Flares not applicable.

**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, Wash-

ington 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 fa-

cility. 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)(I), 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 on-site 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 10 percent oxygen.

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 start-up 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  $\pm 500$  pascals ( $\pm 2$  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  $\pm 5$  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  $\pm 1$  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 doc-

ument 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, as specified in the startup, shutdown, and malfunction plan prepared under § 63.866(a) 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, corrective action is not completed in accordance with the startup, shutdown, and malfunction plan, 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]

**§ 63.865 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:

$$EL_{PM} = \frac{[(C_{ref,RF})(Q_{RFtot}) + (C_{ref,LK})(Q_{LKtot})](F1)}{(BLS_{tot})} + ER1_{ref,SDT} \quad (\text{Eq. 1})$$

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.

$Q_{RFtot}$  = 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)).

$C_{ref,LK}$  = reference concentration of 0.15 g/dscm (0.064 gr/dscf) corrected to 10 percent oxygen for existing kraft or soda lime kilns.

$Q_{LKtot}$  = 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-lb/d-gr)).

$BLS_{tot}$  = sum of the average black liquor solids firing rates of all existing recovery fur-

naces 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.

$ER1_{ref,SDT}$  = 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:

$$ER_{RF} = (F1)(C_{EL, RF})(Q_{RF})/(BLS) \quad (\text{Eq. 2})$$

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·lb/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:

$$ER_{SDT} = (F1)(C_{EL, SDT})(Q_{SDT})/(BLS) \quad (\text{Eq. 3})$$

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 liquor solids 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:

$$ER_{LK} = (F1)(C_{EL, LK})(Q_{LK})(CaO_{tot}/BLS_{tot})/(CaO_{LK}) \quad (\text{Eq. 4})$$

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:

$$ER_{PUI_{tot}} = ER_{PUI} (PR_{PUI} / PR_{tot}) + \dots + (ER_{PUI_i}) (PR_{PUI_i} / PR_{tot}) \quad (\text{Eq. 5})$$

Where:

$ER_{PUI_{tot}}$  = overall PM emission rate from all similar process units, kg/Mg (lb/ton) of black liquor solids fired.

$ER_{PUI}$  = 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.

$PR_{PUI}$  = 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.

$ER_{PUI_i}$  = PM emission rate from process unit No. i, kg/Mg (lb/ton) of black liquor solids fired.

$PR_{PUI_i}$  = 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:

$$ER_{tot} = ER_{RF_{tot}} + ER_{SDT_{tot}} + ER_{LK_{tot}} \quad (\text{Eq. 6})$$

Where:

$ER_{tot}$  = overall PM emission rate for the chemical recovery system at the mill, kg/Mg (lb/ton) of black liquor solids fired.

$ER_{RF_{tot}}$  = 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.

$ER_{SDT_{tot}}$  = 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.

$ER_{LK_{tot}}$  = 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:

$C_{\text{corr}}$  = The measured concentration corrected for oxygen, g/dscm (gr/dscf);

$C_{\text{meas}}$  = 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:

$Q_{\text{corr}}$  = the measured volumetric gas flow rate corrected for oxygen, dscm/min (dscf/min).

$Q_{\text{meas}}$  = 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:

$$ER_{\text{NDCE}} = \frac{(MR_{\text{meas}})}{\text{BLS}} \quad (\text{Eq. 9})$$

Where:

$ER_{\text{NDCE}}$  = Methanol emission rate from the NDCE recovery furnace, kg/Mg (lb/ton) of black liquor solids fired;

$MR_{\text{meas}}$  = 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:

$$ER_{SCCU} = \frac{(THC_{meas})}{BLS} \quad (\text{Eq. 11})$$

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:

$$(\%R_{THC}) = \left( \frac{E_i - E_o}{E_i} \right) \times 100 \quad (\text{Eq. 12})$$

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 Recordkeeping requirements.

(a) *Startup, shutdown, and malfunction plan.* The owner or operator must develop and implement a written plan as described in § 63.6(e)(3) that contains specific procedures to be followed 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]

#### § 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)(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.

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 .....	
63.1(b)(3) .....	Record of the applicability determination.	No .....	All affected sources are required to obtain a title V permit.
63.1(c)(1) .....	Applicability of subpart A of this part after a relevant standard has been set.	Yes .....	
63.1(c)(2) .....	Title V permit requirement .....	Yes .....	All affected sources are subject to subpart MM according to the applicability definition of subpart MM.
63.1(c)(3) .....	[Reserved] .....	NA.	
63.1(c)(4) .....	Requirements for existing source that obtains an extension of compliance.	Yes.	Subpart MM clarifies the applicability of each paragraph of subpart A of this part to sources subject to subpart MM.
63.1(c)(5) .....	Notification requirements for an area source that increases HAP emissions to major source levels.	Yes.	
63.1(d) .....	[Reserved] .....	NA.	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(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.	Additional terms defined in § 63.861; when overlap between subparts A and MM of this part occurs, subpart MM takes precedence.
63.5(a) .....	Construction and reconstruction—applicability.	Yes.	
63.5(b)(1) .....	Upon construction, relevant standards for new sources.	Yes.	Additional terms defined in § 63.861; when overlap between subparts A and MM of this part occurs, subpart MM takes precedence.
63.5(b)(2) .....	[Reserved] .....	NA.	
63.5(b)(3) .....	New construction/reconstruction.	Yes.	

Environmental Protection Agency

Pt. 63, Subpt. MM, Table 1

General provisions reference	Summary of requirements	Applies to subpart MM	Explanation
63.5(b)(4) .....	Construction/reconstruction notification.	Yes.	Subpart MM specifically stipulates the compliance schedule for existing sources.
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 does not contain any opacity or VE standards; however, § 63.864 specifies opacity monitoring requirements.
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 .....	
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 .....	
63.8(b) .....	Conduct of monitoring .....	Yes .....	
63.8(c) .....	Operation and maintenance of CMS.	Yes .....	
63.8(d) .....	Quality control program .....	Yes .....	

Pt. 63, Subpt. MM, Table 1

40 CFR Ch. I (7-1-04 Edition)

General provisions reference	Summary of requirements	Applies to subpart MM	Explanation
63.8(e)(1) .....	Performance evaluation of CMS.	Yes.	Subpart MM does not contain any opacity or VE standards; however, § 63.864 specifies opacity monitoring requirements.
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 compliance.	Yes.	
63.9(d) .....	Notification that source subject to special compliance requirements.	Yes.	Subpart MM does not contain any opacity or VE emissions standards; however, § 63.864 specifies opacity monitoring requirements.
63.9(e) .....	Notification of performance test.	Yes.	
63.9(f) .....	Notification of opacity and VE observations.	Yes .....	
63.9(g)(1) .....	Additional notification requirements for sources with CMS.	Yes.	
63.9(g)(2) .....	Notification of compliance with opacity emissions standard.	Yes .....	
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.	Applicability requirements are given in § 63.860.
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 .....	
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 .....	
63.10(d)(4) .....	Progress reports .....	Yes.	

Environmental Protection Agency

§ 63.901

General provisions reference	Summary of requirements	Applies to subpart MM	Explanation
63.10(d)(5) .....	Periodic and immediate start-up, shutdown, and malfunction reports.	Yes.	The use of flares to meet the standards in subpart MM is not anticipated.
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 .....	
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; 69 FR 25323, May 6, 2004]

**Subpart OO—National Emission Standards for Tanks—Level 1**

SOURCE: 61 FR 34184, July 1, 1996, unless otherwise noted.

**§ 63.900 Applicability.**

The provisions of this subpart apply to the control of air emissions from tanks for which another subpart of 40 CFR parts 60, 61, or 63 references the use of this subpart for such air emission control. These air emission standards for tanks are placed here for administrative convenience and only apply to those owners and operators of facilities subject to the other subparts that reference this subpart. The provisions of 40 CFR part 63, subpart A—General Provisions do not apply to this subpart except as noted in the subpart that references this subpart.

**§ 63.901 Definitions.**

All terms used in this subpart shall have the meaning given to them in the Act and in this section. If a term is defined in both this section and in another subpart that references the use of this subpart, then the definition in this subpart shall take precedence when implementing this subpart.

*Closure device* means a cap, hatch, lid, plug, seal, valve, or other type of fitting that, when the device is secured in the closed position, prevents or reduces air emissions to the atmosphere by blocking an opening in a fixed roof.

Closure devices include devices that are detachable from the cover (e.g., a sampling port cap), manually operated (e.g., a hinged access lid or hatch), or automatically operated (e.g., a spring-loaded pressure relief valve).

*Fixed roof* means a cover that is mounted on a tank in a stationary position and does not move with fluctuations in the level of the liquid managed in the tank.

*No detectable organic emissions* means no escape of organics to the atmosphere as determined using the procedure specified in § 63.905(a) of this subpart.

*Regulated-material* means the material (e.g. waste, wastewater, off-site material) required to be managed in tanks using air emission controls in accordance with the standards specified in this subpart.

*Safety device* means a closure device such as a pressure relief valve, frangible disc, fusible plug, or any other type of device which functions to prevent physical damage or permanent deformation to equipment by venting gases or vapors during unsafe conditions resulting from an unplanned, accidental, or emergency event. For the purpose of this subpart, a safety device is not used for routine venting of gases or vapors from the vapor headspace underneath a cover such as during filling of the unit or to adjust the pressure in this vapor headspace in response to

**APPENDIX J**  
LINE WASHER ALTERNATIVE MONITORING  
EXEMPTION



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6  
1445 ROSS AVENUE, SUITE 1200  
DALLAS, TX 75202-2733

D.P.

02.00013

DEC 10 2003

REC'D DEC 15 2003

Charles E. Hodges  
Senior Vice President  
Manufacturing Southern Region  
Georgia Pacific  
Crossett Paper Operations  
P.O. Box 3333  
Crossett, Arkansas 71635

Dear Mr. Hodges:

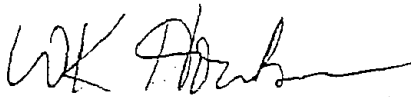
This is in response to your letter dated August 18, 2003, regarding a 40 C.F.R. 63 Subpart S request for the use of alternative monitoring and inspection procedures for the closed vent systems subject to § 63.453(k)(2).

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 Rheaume, ADEQ



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.

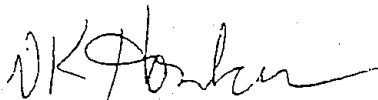
According to your letter, G-P Crossett conducted preliminary testing of the minor fugitive leaks found around the feed and exit roll seals and along the side gaskets of the Chemiwashers using EPA Method 21 and had found that all were well under 500 ppm. Based upon these tests, you believe that the closed 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



**CERTIFICATE OF SERVICE**

I, Pam Owen, hereby certify that a copy of this permit has been mailed by first class mail to Georgia-Pacific LLC - Crossett Paper Operations, PO Box 3333, Crossett, AR, 71635-3333, on this 1<sup>st</sup> day of November, 2007.

Pam Owen  
Pam Owen, AAI, Air Division