ADEQ
DRAFT
OPERATING
AIR PERMIT

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

Permit No. : 1681-AOP-R19

IS ISSUED TO:

Anthony Forest Products Company, LLC
1236 Urbana Road
El Dorado, AR 71730
Union County
AFIN: 70-00473

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:

AND

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

Signed:

William K. Montgomery
Interim Associate Director
DEQ, Office of Air Quality

Date

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List of Acronyms and Abbreviations

Ark. Code Ann.	Arkansas Code Annotated
AFIN	ADEQ Facility Identification Number
C.F.R.	Code of Federal Regulations
CO	Carbon Monoxide
HAP	Hazardous Air Pollutant
lb/hr	Pound Per Hour
MVAC	Motor Vehicle Air Conditioner
No.	Number
NO_x	Nitrogen Oxide
PM	Particulate Matter
PM_{10}	Particulate Matter Smaller Than Ten Microns
SNAP	Significant New Alternatives Program (SNAP)
SO_2	Sulfur Dioxide
SSM	Startup, Shutdown, and Malfunction Plan
Tpy	Tons Per Year
UTM	Universal Transverse Mercator
VOC	Volatile Organic Compound

SECTION I: FACILITY INFORMATION

PERMITTEE:	Anthony Forest Products Company, LLC
AFIN:	70-00473
PERMIT NUMBER:	1681-AOP-R19
FACILITY ADDRESS:	1236 Urbana Road El Dorado, AR 71730
MAILING ADDRESS:	P.O. Box 724 Strong, AR 71765
COUNTY:	Union County
CONTACT NAME:	Ryan Schmidt
CONTACT POSITION:	Manager
TELEPHONE NUMBER:	(870) 864-8793
REVIEWING ENGINEER:	Alexander Sudibjo
UTM North South (Y):	Zone 15: 3669126.84 m
UTM East West (X):	Zone 15: 551893.98 m

SECTION II: INTRODUCTION

Summary of Permit Activity

Anthony Forest Products Company (AFIN: 70-00473) operates a sawmill and ancillary operations in Urbana, Arkansas. This is a Title V permit renewal for the facility. In this renewal, the facility is requesting the following changes:

1. Update the emissions from the abort stacks (SN-25, SN-28, and SN-31) to be bubbled with the emissions from the DPKs (SN-23, SN-27, and SN-30) during normal operations. The hot gas stream from the gasifier/burners may be diverted to the DPK abort stacks (SN-25 for DPK #1, SN-31 for DPK #2, and SN-28 for DPK #3) for unplanned shutdowns or temporary idling during normal operations. There is no emissions increase.
2. Remove the throughput limit for sawdust from Specific Condition #4. The DPK emissions are calculated based on dried lumber throughput only.
3. Update Specific Condition #10 to remove the requirement to test at 90% of the gasifier/burner capacity. Testing shall be conducted with the source operating at 90% of the kiln capacity only.
4. Update Specific Condition #11 to apply only during startups. Diesel will only be burned during startups and the hour of operation limits only apply for startups.
5. Remove Specific Condition #18 and #19. Emissions from the sawmill (SN-06) will be based on the logs being transported since all raw logs transported onsite are processed through the sawmill.
6. Remove throughput limits for by-products from Specific Condition #24. The emission calculations for the by-products are based on the mill's recovery factors and they have been updated to provide a more conservative estimate.

The facility's permitted annual emissions are increasing by 1.4 tpy PM and 0.2 tpy PM_{10}.

Process Description

Anthony Forest Products Company operates a sawmill and ancillary operations in Urbana, Arkansas. The physical address of the facility is 1236 Urbana Road, El Dorado, AR 71768. The facility falls under Standard Industrial Classification code (SIC) 2421, Sawmills and Planing Mills, General, and North American Industry Classification System code (NAICS) 321113, Sawmills.

Raw materials (pine logs) are delivered to the facility by contractor log trucks on facility Haul Roads (SN-20). These logs are routed directly to sawmill log decks, dry runs, or to wet-log storage. Water is sprayed onto the logs in the wet log storage area to prevent stain and insect damage.

Logs are taken by truck to the Sawmill (SN-06) where they are debarked. Bark is collected and eventually loaded into tractor trailers to be shipped off-site. Debarked logs enter the Sawmill Building to be sawed into cants, or rough lumber, and edged and trimmed. Trimmings and edgings are routed to a chipper. Chips are mechanically conveyed to shaker screens where oversized chips and fines are removed. The chips are belt conveyed to a chip bin or chip

overflow pile and eventually loaded into tractor trailers to be shipped off-site. Oversized chips are routed back through the chipper. Sawdust is collected from sources within the Sawmill Building and blown to the Fuel Storage Silo or overflow sawdust pile. The Fuel Storage Silo is included as an Insignificant Activity; it will primarily be filled from the Sawmill Building collections, but can be filled by purchased sawdust. Emissions from the chip bin and byproduct storage piles are estimated as Insignificant Activities.

From the Sawmill, the green lumber is stacked and stored. The lumber is then dried in kilns. The facility utilizes three dual path kilns (DPK), DPK #1 (SN-23), DPK #2 (SN-30), and DPK #3 (SN-27). The DPKs allow for continuous drying operation as stacks of green wood move through the kilns on two parallel tracks. The bundles of lumber on the two tracks travel concurrently to each other to increase heat transfer efficiency. The continuous kilns have a design drying capacity of 8.2 thousand board feet per hour (MBf/hr) for SN-23, 11.9 MBf/hr for SN-30, and 8.7 MBf/hr for SN-27. The emissions generated from the operation of the three DPKs are released through vents above the entrance and exit doors at the ends of the kilns. DPK #2 and #3 have powered vents above their doors.

The DPKs utilize heat from biomass gasifiers. Green sawdust collected from the sawmill or purchased from outside sources is stored within the Fuel Storage Silo and fed to the biomass gasifiers on each DPK. The fuel is gasified in these devices to produce a combustible gas stream. The fuel gas stream is burned in a combustion/air mixing chamber. The gas is conveyed to a blend box to be mixed with ambient air and return air or circulated kiln air. The blend box is used to obtain the desired temperature and moisture content of the air steam. The hot gas stream is blown into the drying chamber, located at the center of each DPK. Additionally, a natural gas burner for auxiliary fuel use has been installed on DPK #3. The hot gas stream from the gasifier/burners may be diverted to the DPK Abort Stacks (SN-25 for DPK #1, SN-31 for DPK #2, and SN-28 for DPK #3) for startup, unplanned shutdowns, or temporary idling.

A sloped grate two-stage combustion chamber is operated on DPK #1, DPK #2, and DPK #3. The emissions from the biomass gasifiers are included within DPK emissions (SN-23, SN-30, and SN-27).

Dried lumber is stored in protected areas before planing. Within the Planer Mill Building, dried lumber is planed and trimmed. The lumber is then graded, packaged, and placed in storage for loading and shipping off site. The Planer Mill Building is equipped with dust handling systems (SN-21 and IA-13) that meets National Fire Protection Association combustible dust standards. Planer Mill shavings and sawdust are collected by a cyclone venting through a Planer Mill Baghouse (SN-21). The particulate emissions from the trimsaw and grinder hog are collected by the Planer Mill Trim Cyclone (IA-13). The woodwaste from the Planer Mill processes are pneumatically collected into a woodwaste storage bin, where it is then loaded onto a truck and shipped off-site. Emissions from the woodwaste storage bin are estimated as an Insignificant Activity.

The facility utilizes an Emergency Fire Pump Engine (SN-26) for emergency fire suppression system. A 240 gallon Diesel Tank used to fuel the engine (Insignificant Activity) is located

directly outside the pump house building. Additionally, a Parts Washer (Insignificant Activity) is utilized for maintenance activities at the facility.

Regulations

The following table contains the regulations applicable to this permit.

Regulations
Arkansas Air Pollution Control Code, Regulation 18, effective March 14, 2016
Regulations of the Arkansas Plan of Implementation for Air Pollution Control, Regulation 19, effective March 14, 2016
Regulations of the Arkansas Operating Air Permit Program, Regulation 26, effective March 14, 2016
40 C.F.R. § 63, Subpart DDDD—*National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products*
40 C.F.R. § 60, Subpart IIII—*Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*
40 C.F.R. § 63, Subpart ZZZZ—*National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*
40 C.F.R. § 52.21 *Prevention of significant deterioration of air quality*

Emission Summary

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

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
Total Allowable Emissions		PM	45.3	59.3
		PM_{10}	18.5	26.6
		$PM_{2.5}$[1]	-	-
		SO_2	3.7	10.1
		VOC	110.7	456.8
		CO	68.8	230.1
		NO_X	28.3	92.3
		Lead	5.41E-03	1.84E-02
HAPs[2]		Acrolein	3.21E-01	9.16E-01
		Formaldehyde	1.27	4.83
		Methanol	4.64	19.34
		Pentachlorophenol	5.75E-06	1.95E-05
		Antimony	8.91E-04	3.02E-03
		Arsenic	2.48E-03	8.42E-03
		Beryllium	1.24E-04	4.21E-04
		Cadmium	4.62E-04	1.57E-03
		Chromium	2.37E-03	8.04E-03
		Chromium VI	3.03E-04	1.33E-03
		Cobalt	7.33E-04	2.49E-03
		Manganese	1.80E-01	6.12E-01
		Mercury	3.95E-04	1.34E-03
		Phosphorus	3.05E-03	1.03E-02
		Selenium	3.16E-04	1.07E-03
		Total Other HAPs	4.94	18.29
06	Sawmill	PM	8.2	16.7
		PM_{10}	0.9	1.9

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
23	Dual Path Kiln #1 (25 MMBtu/hr)	PM[3]	1.2	5.2
		PM_{10}[3]	1.2	5.2
		SO_2[3]	0.7	2.8
		VOC[3]	31.1	136.1
		CO[3]	15.0	65.7
		NO_X[3]	5.5	24.1
		Lead[3]	1.20E-03	5.26E-03
		Acrolein[3]	6.15E-02	2.69E-01
		Formaldehyde[3]	3.28E-01	1.44
		Methanol[3]	1.32	5.77
25	Abort Stack for DPK#1 (Normal Operations)	Pentachlorophenol[3]	1.28E-06	5.58E-06
		Antimony[3]	1.98E-04	8.65E-04
		Arsenic[3]	5.50E-04	2.41E-03
		Beryllium[3]	2.75E-05	1.20E-04
		Cadmium[3]	1.03E-04	4.49E-04
		Chromium[3]	5.25E-04	2.30E-03
		Chromium VI[3]	8.75E-05	3.83E-04
		Cobalt[3]	1.63E-04	7.12E-04
		Manganese[3]	4.00E-02	1.75E-01
		Mercury[3]	8.75E-05	3.83E-04
		Phosphorus[3]	6.75E-04	2.96E-03
		Selenium[3]	7.00E-05	3.07E-04
		Total Other HAPs[3]	1.20	5.24
	Abort Stack for DPK#1 (Startups)	PM	3.0	0.5
		PM_{10}	2.6	0.4
		SO_2	0.3	0.1
		VOC	0.2	0.1
		CO	5.3	0.8
		NO_X	2.1	0.3
		Lead	4.21E-04	6.06E-05
		Acrolein	3.51E-02	5.05E-03
		Formaldehyde	3.86E-02	5.55E-03
		Pentachlorophenol	4.47E-07	6.44E-08
		Antimony	6.92E-05	9.97E-06
		Arsenic	1.93E-04	2.78E-05
		Beryllium	9.64E-06	1.39E-06
		Cadmium	3.59E-05	5.17E-06
		Chromium	1.84E-04	2.65E-05
		Cobalt	5.70E-05	8.20E-06
		Manganese	1.40E-02	2.02E-03

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Manganese	1.40E-02	2.02E-03
		Mercury	3.07E-05	4.42E-06
		Phosphorus	2.37E-04	3.41E-05
		Selenium	2.45E-05	3.53E-06
		Total Other HAPs	0.23	0.04
20	Log Yard	PM	20.1	17.0
		PM_{10}	4.0	3.4
21	Planer Mill	PM	3.7	6.7
		PM_{10}	1.5	2.7
26	Emergency Fire Pump (175 bhp, diesel-fired)	PM	0.1	0.1
		PM_{10}	0.1	0.1
		SO_2	0.5	0.2
		VOC	0.6	0.2
		CO	1.0	0.3
		NO_X	1.2	0.3
		Acetaldehyde	1.13E-03	2.81E-04
		Formaldehyde	1.71E-03	4.32E-04
		Total Other HAPs	2.86E-03	7.15E-04
27	Dual Path Kiln #3 (31.5 MMBtu/hr + 31.6 MMBtu/hr auxiliary natural gas burner)	PM[4]	1.3	5.4
		PM_{10}[4]	1.3	5.4
		SO_2[4]	0.8	3.5
		VOC[4]	33.1	142.5
		CO[4]	18.9	82.8
28	Abort Stack for DPK#3 (Normal Operations)	NO_X[4]	8.7	38.0
		Lead[4]	1.51E-03	6.62E-03
		Acrolein[4]	6.53E-02	2.81E-01
		Formaldehyde[4]	3.48E-01	1.50
		Methanol[4]	1.40	6.04
		Pentachlorophenol[4]	1.61E-06	7.04E-06
		Antimony[4]	2.49E-04	1.09E-03
		Arsenic[4]	6.93E-04	3.04E-03
		Beryllium[4]	3.47E-05	1.52E-04
		Cadmium[4]	1.29E-04	5.66E-04
		Chromium[4]	6.62E-04	2.90E-03
		Chromium VI[4]	1.10E-04	4.83E-04
		Cobalt[4]	2.05E-04	8.97E-04
		Manganese[4]	5.04E-02	2.21E-01
		Mercury[4]	1.10E-04	4.83E-04
		Phosphorus[4]	8.51E-04	3.73E-03
		Selenium[4]	8.82E-05	3.86E-04

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Total Other HAPs[4]	1.47	6.40
	Abort Stack for DPK#3 (Startups)	PM	3.0	0.5
		PM_{10}	2.6	0.4
		SO_2	0.3	0.1
		VOC	0.2	0.1
		CO	5.3	0.8
		NO_X	2.1	0.3
		Lead	4.21E-04	6.06E-05
		Acrolein	3.51E-02	5.05E-03
		Formaldehyde	3.86E-02	5.55E-03
		Pentachlorophenol	4.47E-07	6.44E-08
		Antimony	6.92E-05	9.97E-06
		Arsenic	1.93E-04	2.78E-05
		Beryllium	9.64E-06	1.39E-06
		Cadmium	3.59E-05	5.17E-06
		Chromium	1.84E-04	2.65E-05
		Cobalt	5.70E-05	8.20E-06
		Manganese	1.40E-02	2.02E-03
		Mercury	3.07E-05	4.42E-06
		Phosphorus	2.37E-04	3.41E-05
		Selenium	2.45E-05	3.53E-06
		Total Other HAPs	0.23	0.04
30	Dual Path Kiln #2 (30 MMBtu/hr)	PM[5]	1.7	6.7
		PM_{10}[5]	1.7	6.7
		SO_2[5]	0.8	3.3
		VOC[5]	45.3	177.7
31	Abort Stack for DPK#2 (Normal Operations)	CO[5]	18.0	78.9
		NO_X[5]	6.6	29.0
		Lead[5]	1.44E-03	6.31E-03
		Acrolein[5]	8.93E-02	3.51E-01
		Formaldehyde[5]	4.76E-01	1.87
		Methanol[5]	1.92	7.53
		Pentachlorophenol[5]	1.53E-06	6.70E-06
		Antimony[5]	2.37E-04	1.04E-03
		Arsenic[5]	6.60E-04	2.89E-03
		Beryllium[5]	3.30E-05	1.45E-04

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
		Cadmium[5]	1.23E-04	5.39E-04
		Chromium[5]	6.30E-04	2.76E-03
		Chromium VI[5]	1.05E-04	4.60E-04
		Cobalt[5]	1.95E-04	8.54E-04
		Manganese[5]	4.80E-02	2.10E-01
		Mercury[5]	1.05E-04	4.60E-04
		Phosphorus[5]	8.10E-04	3.55E-03
		Selenium[5]	8.40E-05	3.68E-04
		Total Other HAPs[5]	1.57	6.52
	Abort Stack for DPK#2 (Startups)	PM	3.0	0.5
		PM_{10}	2.6	0.4
		SO_2	0.3	0.1
		VOC	0.2	0.1
		CO	5.3	0.8
		NO_X	2.1	0.3
		Lead	4.21E-04	6.06E-05
		Acrolein	3.51E-02	5.05E-03
		Formaldehyde	3.86E-02	5.55E-03
		Pentachlorophenol	4.47E-07	6.44E-08
		Antimony	6.92E-05	9.97E-06
		Arsenic	1.93E-04	2.78E-05
		Beryllium	9.64E-06	1.39E-06
		Cadmium	3.59E-05	5.17E-06
		Chromium	1.84E-04	2.65E-05
		Cobalt	5.70E-05	8.20E-06
		Manganese	1.40E-02	2.02E-03
		Mercury	3.07E-05	4.42E-06
		Phosphorus	2.37E-04	3.41E-05
		Selenium	2.45E-05	3.53E-06
		Total Other HAPs	0.23	0.04

[1] $PM_{2.5}$ limits are source specific, if required. Not all sources have $PM_{2.5}$ limits.
[2] HAPs included in the VOC totals. Other HAPs are not included in any other totals unless specifically stated.
[3] Emissions from SN-23 and SN-25 are bubbled during normal operations.
[4] Emissions from SN-27 and SN-28 are bubbled during normal operations.
[5] Emissions from SN-30 and SN-31 are bubbled during normal operations.

SECTION III: PERMIT HISTORY

The initial permit #1681-A was issued on March 3, 1996. A Title V permit application was submitted for the Urbana sawmill on July 15, l996, which included the following proposed changes to the existing SIP permit:

1. An increase in annual production at the facility;
2. Installation of two wood-fired boilers.
3. Installation of a third dry kiln, a cyclone, and other equipment.

The original Title V permit, #1681-AOP-R0, was issued on September 12, l997. It included some provisions in the specific conditions dealing with visible emissions from the boilers that reflected new EPA enforcement guidelines. These conditions were not included in the original Draft permit that had been submitted to Anthony Forest Products, and the company challenged these changes because they had been denied an opportunity to respond.

A revised version was prepared after discussion with the applicant, and issued as 1681-AOP-R1 on January 13, l998.

Permit #1681-AOP-R2 was issued on August 6, 1999. This permit changed the required hourly steam readings in the wood-fired boilers from hourly readings to a maximum 24 hour rate of 489,600 pounds per day.

Permit #1681-AOP-R3 was issued on September 18, 2001. The Lumber Dry Kiln #1 (SN-01) has been removed from service as a result of a fire that destroyed the kiln and combustion equipment in April 2000. The permit minor modification also allowed increased production capacity for the Planer Mill (SN-03, 04, 07, and 15) and the two remaining Dry Kilns (SN-02 and 14). VOC annual emissions from Dry Kilns #2 and #3 have increased by 19.25 tpy, with decreases in other criteria pollutants based on revised estimates. There were no new emission sources.

Permit #1681-AOP-R4 was issued on June 14, 2002. Anthony requested to add a 29.8 MMBtu/hr wood-fired boiler (SN-16), a lumber drying kiln (SN-17), and to increase the permitted production capacity to 650,000 tons per year for the planer mill and the lumber kilns to 135,000,000 board feet per year to account for the increased production from the installation of a new kiln. Anthony also requested Planer Cyclone #3 (SN-15) to be removed because the cyclone was never installed. The source descriptions for the Planer Cyclone #1 and the Planer Mill emissions were revised. The emissions from the sawmill were declared as an insignificant activity in the previous permits; however, these emissions from the sawmill did not classify as an insignificant activity and were included in this revision as a permitted emission source. Emissions generated from the bark and saw dust storage piles (SN-18) were also included in the permit as a permitted emission source.

Permit #1681-AOP-R5 was issued on December 16, 2003. This was the first Title V Renewal for the facility. The facility also requested to install a completely enclosed air lock system to route shavings and sawdust from the Planer Mill (SN-07) to an existing fuel storage bin on an as

needed basis. PM emissions did not change due to the installation of the air lock system, and the total waste from the Planer Mill did not increase. PM and VOC emissions increased by 48.2 tpy and 39.7 tpy, respectively. PM_{10} and Heavy Metals emissions decreased by 23.5 tpy and 1.5 tpy, respectively. Changes in emissions were due to revised methods of calculation and updated emission factors.

Permit #1681-AOP-R6 was issued on March 23, 2007 to incorporate the applicable requirements of 40 CFR Part 63, Subpart DDDDD – *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters* and to revise the particulate matter emission limits in order to account for emission control provided by the building enclosure. The VOC and HAP emission limits were also revised in order to correct a rounding error in the previous estimates. Dry Kiln #4 (SN-17) was removed. The two remaining dry kilns consumed the production capacity of Dry Kiln #4. Permitted PM and HAPs decreased by 25.1 tpy and 5.91 tpy, respectively. Permitted PM_{10} and VOC increased by 2.4 tpy and 2.7 tpy, respectively.

Permit #1681-AOP-R7 was issued on July 31, 2007 which revised the applicable requirements of 40 CFR Part 63, Subpart DDDDD – *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters*. No physical changes or changes to method of operation were requested.

Permit #1681-AOP-R8 was issued on November 3, 2008. Previously applicable requirements of 40 CFR Part 63, Subpart DDDDD – *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters* were removed as the subpart was vacated. Emission calculations for PM_{10} for several sources were revised based on updated emission factors and estimate methodology. As a result of these changes the permitted PM_{10} emission from planer cyclones (SN-03 and SN-04) and the sawmill (SN-06) were reduced, and the permitted emissions from the bark (SN-18A), sawdust (SN-18B), and ash (SN-19) storage pile and the planer mill woodwaste bin (SN-07) were reclassified as insignificant activities (A-13). Emissions from the log yard road (SN-20) were identified and quantified for the first time. Anthony also requested to modify the PM and PM_{10} emission limits by increasing the limits for all three boilers because Boiler #3 (SN-16) failed the required stack test. Overall, permitted PM and PM_{10} emission limits decreased by 0.9 tpy and 58.9 tpy, respectively.

Permit #1681-AOP-R9 was issued on December 11, 2009 to use water instead of a chemical dust suppressant to control haul road dust emissions. Permitted PM and PM_{10} limits increased 9.7 tpy and 2.8 tpy, respectively.

Permit #1681-AOP-R10 was issued August 31, 2010. Anthony replaced two existing planer cyclones (SN-03 and SN-04) with a higher capacity cyclone in series with a baghouse (SN-21). Permitted PM and PM_{10} limits decreased by 29.8 tpy and 11.9 tpy, respectively.

Permit #1681-AOP-R11 was issued on November 14, 2011. Anthony replaced or upgraded various pieces of equipment at the sawmill (headrigs, planer machine, trimmer, and drop/sorter system). Dry Kiln #3 (SN-14) was converted to a continuous dual path, direct fired kiln (DPK

#2). A new kiln (DPK #1) was constructed that is also a continuous dual path direct fired kiln. It was designated as SN-23. Each kiln was constructed with an abort stack (SN-24 and SN-25). The Dry Kiln #2 (SN-02) and the three wood-fired boilers (SN-12, SN-13, and SN-16) were decommissioned. Permitted emission limits increased by78.2 tpy VOC and 0.0016 tpy Lead and decreased by 39.2 tpy PM, 38.8 tpy PM_{10}, 0.3 tpy SO_2, 50.9 tpy CO, and 50.1 tpy NO_X.

Permit #1681-AOP-R12 was issued on January 21, 2015. The Title V permit was renewed with modifications. The permitted production rate and emission limits for SN-23 were decreased, the stacks at the end of DPK #2 were physically modified, and DPK #2 was repaired and recommissioned. Overall, permitted emissions decreased by 0.6 tpy PM, 0.3 tpy PM_{10}, and 6.1 tpy VOC.

Permit #1681-AOP-R13 was issued on December 1, 2015. AFP submitted an application to modify the haul roads and update the fenceline UTM coordinates in Appendix A, "Facility Fenceline Data". Previous emission estimates were replaced using a refined methodology. As a result of these changes short-term emission limits were increased and annual emissions decreased. Overall, permitted annual emissions decreased by 6.3 tpy PM and 2.5 tpy PM_{10}.

Permit #1681-AOP-R14 was issued on June 13, 2017. With this minor modification, the facility installed a new 175 bhp diesel-fired emergency fire pump (SN-26) and a 240 gallon tank for diesel fuel (insignificant activity). The facility's permitted annual emissions increased by 0.1 tpy PM/PM_{10}, 0.2 tpy SO_2, 0.2 tpy VOC, 0.3 tpy CO, and 0.3 tpy NOx.

Permit #1681-AOP-R15 was issued on October 2, 2017. With this modification, the facility requested the following changes:

1. Installation of a Dual Path Kiln #3 (SN-27) and an Abort Stack associated with DPK#3 (SN-28). The additional kiln increased the production capacity from 165.1 MMBF/yr to 240.1 MMBF/yr. This resulted in a net increase in VOC emissions that exceeds the PSD significance level. An initial test was required to verify PM_{10} and CO emissions.
2. Paving of additional road segments in the facility (SN-20) to accommodate additional traffic.
3. Installation of product quality upgrades to DPK#1 and #2 (SN-23 and SN-14). There were also updates in the emission calculations for these sources not related to these upgrades.
4. Installation of a new Planer Mill Trim Cyclone (IA) to meet National Fire Protection Association combustible dust standards.
5. Additions of a chip overflow pile and a chip bin to the insignificant activities list.

The facility's annual permitted emissions increased by 3.6 tpy SO_2, 140.1 tpy VOC, 83.6 tpy CO, 22.4 tpy NOx, and 11.63 tpy total HAPs.

Prevention of Significant Deterioration

The addition of the third dual path kiln will increase the overall potential production of the facility from 165.1 MMBf/yr to 240.1 MMBf/yr. This new kiln is being installed without the need to modify any of the existing upstream or downstream production processes. However, the

increased production will debottleneck most production processes at the facility including the Sawmill (SN-06), Log Yard Haul Roads (SN-20), Planermill Building (SN-21), Sawdust Storage Silo (IA-13), Chip Bin (IA-13), Planer Mill Biomass Storage Bins (IA-13), and storage piles (bark, sawdust, biochar, and chip) handling (IA-13).

The existing kilns (SN-23 and SN-14), existing kiln abort stacks (SN-25 and SN-24), and storage pile wind erosion will not be debottlenecked nor will they see any increase in production as a result of the additional kiln.

Significant Emission Increase

According to 40 CFR §52.21(a)(2)(iv)(b), the procedure for calculating whether a significant emission increase will occur depends on the type of emission units being modified. These procedures are outlined in §52.21(a)(2)(iv)(c)-(f). Since the proposed project subject to PSD analysis will add new and debottleneck existing emission units, the hybrid applicability test of §52.21(a)(2)(iv)(f) is the relevant method for calculating the emission increase associated with the project. The hybrid test requires the addition of emission increases using the actual-to-projected- actual applicability test for debottlenecked sources (SN-06, SN-20, SN-21, and IA-13), and emission increases using the actual-to-potential test for new emission units (SN-27 and SN-28).

Actual-to-Projected-Actual Test

To determine Baseline Actual Emissions (BAE), a facility is allowed to select any consecutive 24- month period over the ten years preceding commencement of construction or the date a complete permit application is received for the project, whichever date is earlier. For the purposes of this review, the 24-month period from February 2015 to January 2017 was selected.

For Projected Actual Emissions (PAE), the debottlenecked sources (SN-06, SN-20, SN-21, and IA-13) were set at their potential to emit (PTE). The actual-to-projected-actual test emission increases are outlined in the table below.

Actual-to-projected-actual test (ATPA): Debottlenecked Sources			
Source	PM	PM_{10}	$PM_{2.5}$
Sawmill (SN-06) BAE	8.13	0.89	0.45
Log Yard Haul Roads (SN-20) BAE	15.79	4.02	0.57
Sawdust Storage Silo (IA-13) BAE	0.061	0.005	0.002
Chip Bin (IA-13) BAE	0.058	0.006	0.003
Planer Mill Biomass Storage Bins (IA-13) BAE	0.041	0.003	0.002
Bark Pile (IA-13) BAE	0.117	0.055	0.008

Actual-to-projected-actual test (ATPA): Debottlenecked Sources			
Source	PM	PM_{10}	$PM_{2.5}$
Sawdust Pile (IA-13) BAE	0.019	0.009	0.001
BioChar Pile (IA-13) BAE	0.013	0.006	0.006
Chip Overflow Pile (IA-13) BAE	0.056	0.026	0.004
Planermill Building (SN-21) BAE	4.05	1.66	0.83
Sawmill (SN-06) PTE	15.85	1.74	0.87
Log Yard Haul Roads (SN-20) PTE	22.00	4.88	0.96
Sawdust Storage Silo (IA-13) PTE	0.143	0.012	0.006
Chip Bin (IA-13) PTE	0.132	0.013	0.007
Planer Mill Biomass Storage Bins (IA-13) PTE	0.083	0.007	0.003
Bark Pile (IA-13) PTE	0.239	0.113	0.113
Sawdust Pile (IA-13) PTE	0.036	0.017	0.017
BioChar Pile (IA-13) PTE	0.030	0.014	0.014
Chip Overflow Pile (IA-13) PTE	0.115	0.054	0.054
Planermill Building (SN-21) PTE	6.60	2.64	1.32
Total ATPA BAE	28.33	6.69	1.87
Total PAE	45.23	9.49	3.37
Total ATPA Debottlenecked Sources Emission Increase	**16.90**	**2.80**	**1.50**

Actual-to-Potential Test

To determine the BAE, a facility is required to set the baseline emissions equal to 0 tpy for the initial permitting of the emission source. The actual-to-potential test emission increases are outlined in the table below.

Actual-to-Potential test (ATP): New Sources									
Source	PM	PM_{10}	$PM_{2.5}$	VOC	SO_2	NOx	CO	Lead	CO_2e
DPK#3 (SN-27) BAE	0	0	0	0	0	0	0	0	0
DPK#3 Abort Stack (SN-28) BAE	0	0	0	0	0	0	0	0	0

Actual-to-Potential test (ATP): New Sources									
Source	PM	PM_{10}	$PM_{2.5}$	VOC	SO_2	NOx	CO	Lead	CO_2e
DPK#3 (SN-27) PTE	5.36	5.36	5.36	142.5	3.45	30.74	82.78	0.007	28,535
DPK#3 Abort Stack (SN-28) PTE	0.42	0.37	0.37	0.02	0.03	0.28	0.76	6E-05	264
Total BAE	0	0	0	0	0	0	0	0	0
Total PAE	5.78	5.73	5.73	142.52	3.48	31.02	83.54	0.007	28,799
Total ATP New Sources Emission Increase	**5.78**	**5.73**	**5.73**	**142.52**	**3.48**	**31.02**	**83.54**	**0.007**	**28,799**

Hybrid Test

The total increases from both the actual-to-projected-actual test and the actual-to-potential test are summed together to determine the total project increases. These increases are compared against the Significant Emission Rate (SER) for each NSR pollutant.

Summary of Hybrid Test									
Source	PM	PM_{10}	$PM_{2.5}$	VOC	SO_2	NOx	CO	Lead	CO_2e
Total ATPA Debottlenecked Sources Emission Increase	16.90	2.80	1.50	0	0	0	0	0	0
Total ATP New Sources Emission Increase	5.78	5.73	5.73	142.52	3.48	31.02	83.54	0.007	28,799
Hybrid Test Total Emission Increase	22.68	8.53	7.23	142.52	3.48	31.02	83.54	0.007	28,799
PSD Significant Emission Rate (SER)	25	15	10	40	40	40	100	0.6	75,000
% of PSD SER Threshold	90.7%	56.7%	72.3%	**356%**	8.8%	77.5%	83.6%	1.1%	38.4%

As shown above, a significant emission increase will occur for VOC as a result of the project. Anthony Forest Products has elected not perform an emission netting review. Therefore, the evaluation of the significant emission increase as outlined above is sufficient.

As Anthony Forest Products Company is subject to PSD permitting for VOC, review of the Best Available Control Technology (BACT) for VOC was completed as required by PSD regulation, 40 CFR §52.21(j). The BACT summary outlines the control technology analysis completed to ensure the application of BACT for VOC.

Additionally, the PSD required impact analysis of the ambient air impacts associated with the project was completed. The purpose of the analysis is to demonstrate that the emissions from the proposed new major stationary source, in conjunction with applicable emissions increases and decreases from existing and "proposed" new off-site sources, will neither cause nor contribute to a violation of the National Ambient Air Quality Standard (NAAQS). There are separate increment standards for Class I areas (federally protected lands) and Class II areas (all other areas). A PSD impact analysis for this project is required only for ozone of which VOC is a precursor, not for VOC.

Ozone Impact Analysis

VOC and NOx are recognized as precursors to ozone, which has an established NAAQS. Since the project has a significant emissions increase of VOC, an evaluation in terms of VOC effect on attainment status of ozone is required. Pursuant to 40 CFR §52.21(m), air quality monitoring must be conducted for each pollutant potentially emitted at a significant emission rate by the proposed source or modification. Therefore, a pre-construction ambient monitoring analysis would be required for ozone emissions, and monitoring data would be required to be submitted as part of this application. As demonstrated below, the pre-construction monitoring is fulfilled with the existing monitoring stations operated by the ADEQ, as the monitoring is representative of the conditions at the facility.

The two ozone monitoring sites that best represent the ozone concentration in the region surrounding the facility are Caddo Valley station (05-019-9991) and the Monroe Airport (22-073-0004). These monitors were identified based on the proximity to the facility and the similarity of the surrounding air shed in the region of the monitoring station to Anthony Forest Products. Note that both Little Rock (168 - 186 km) and Shreveport (140 - 170 km) metropolitan areas have multiple monitors, but these monitors' ozone concentrations are driven by their urban air shed and are not representative of the rural nature of Anthony Forest Products. The 4th high daily maximum 8-hour concentrations averaged over 3 years (2014-2016) are shown in the table below.

Background Ozone Concentration						
Station	County	Distance (km)	Emissions ($\mu g/m^3$)			
			2014	2015	2016	3-Year Average (2014-2016)
Caddo Valley	Clark County, AR	127	59	60	54	58
Monroe Airport	Ouachita Parish, LA	81	59	60	60	60

The increase in ozone formation from the proposed kiln conversion at the Anthony Forest Products facility is expected to be insignificant. The total potential emission increases associated with the projects is 142.5 tpy VOC and 31.0 tpy NOx. This represents a total emitted VOC

increase of 0.2% over a 2014 baseline (72,711 tpy) and a NOx increase of 0.9% over a 2014 baseline (3,532 tpy) from Union County as obtained from EPA AirData County Emissions Map, 2011 (http://www.epa.gov/air/emissions/). Only accounting for the baseline emissions from Union County, the ratio of VOC to NOx is 20.6:1. This approach is a conservative estimation of the VOC to NOx ratio as it does not account for the less industrially developed surrounding counties and other regional impacts. The proposed project will have a negligible impact on this ratio.

Based on the Union County area's low concentration of ozone, attainment status, and continued declining background concentration (in decline from 2006 to 2014), along with the Anthony Forest Products projected VOC emissions presenting a minor increase in total VOC emissions, there is no expected effect on the attainment status of the region.

Additional Impacts Analysis

The potential impact due to the proposed project of air emissions associated with construction, and related growth, are presented in this section along with an assessment of the impact on soil, vegetation, endangered species, and visibility. A qualitative approach has been taken to these analyses for areas which do not have well established analytical techniques.

Construction and Growth Impacts

The proposed project has no effect on construction and growth impacts. During construction, Anthony Forest Products will minimize the impact on the surrounding environment primarily focusing on reduction of the formation of fugitive particles.

The construction and operation from the project at Anthony Forest Products should not result in any noticeable residential growth in the area. There is expected gradual commercial growth in the area; however, this growth is not expected to be directly due to the proposed project at the Anthony Forest Products facility.

Impact on Soil and Vegetation

The effects of air pollution on vegetation can be classified into three distinct categories: acute, chronic, and long-term. Acute effects are those resulting from a short exposure (< 1 month) to high concentrations. Chronic effects refer to those developed from exposure to a threshold level of pollutant over months or years. Long-term effects refer to abnormal changes in ecosystems and subtle physiological alterations in organisms. Both acute and chronic effects can be the result of an air borne pollutant acting directly on an organism while long-term effects can be indirectly caused by secondary effects such as changes in soil pH.

The secondary NAAQS are intended to protect the public welfare from adverse effects of airborne pollutants. This protection extends to soil and vegetation. Predicted concentrations of VOC resulting from the kiln project will not significantly impact ozone concentration and will not cause or contribute to violation of the NAAQS. Because the NAAQS were established to

protect soil and vegetation, no significant impacts on the soil and vegetation are expected due to the proposed project.

In addition to BACT, Anthony Forest Products will utilize good working practices for equipment associated with the proposed kiln project. The combination of BACT, good work practices, and minimal air quality impacts will result in minimal impact on the soil and vegetation in and around the site.

Analysis of Endangered Species

An air quality impact analysis has been performed for VOC. The proposed project will result in potential impacts below the secondary NAAQS. It is possible that some endangered species may be present in Union County; however, through compliance with the NAAQS, Anthony Forest Products does not expect to have an impact on any endangered species. According to the U.S. Fish and Wildlife Service, the only currently endangered species possibly located in Union County is the Red-cockaded woodpecker.

In addition to BACT, Anthony Forest Products will utilize good working practices for equipment associated with the proposed project. The combination of BACT, good work practices, and minimal air quality impacts will result in the proposed project having minimal impact on endangered species potentially near the site.

Impact on Visibility (Regional Haze Analysis)

One component of the PSD regulations includes the protection of air quality and air quality related values (AQRV) at potentially affected nearby Class I areas. Assessment of the potential impact to visibility is required within 300 km of a Class I area. The only Class I area within 300 km of Anthony Forest Products is the Caney Creek Wilderness Area at about 200 km.

Based on the Federal Land Managers Air Quality Related Values Work Group (FLAG) 2010 Report, Class I evaluations for visibility are not required for a facility if the Q/D ratio for the project is less than or equal to 10 (as long as the Class I area is beyond 50 km from the site). The Q in the Q/D equation is equal to 57.2 tpy and is based on the increase in all visibility affecting pollutants (NOx, SO_2, PM, and H_2SO_4) calculated on the basis of maximum 24-hr emissions in tons/yr resulting from the project. The D in the equation is based on the distance (km) from the site to the Class I area. The Q/D for the Caney Creek Wilderness Area is 0.3 well below the screening value of 10.

Given that the amount of visibility affecting pollutants emitted from the project are minimal and the low Q/D value, it is concluded that the project will have an insignificant effect on visibility in this Class I area. Anthony Forest Products does not believe additional screening is required. The Request for Applicability of Class I Area Modeling Analysis form is attached to confirm this assumption.

BACT Analysis

During the lumber drying process, organic compounds present in the wood will be released. These are organic compounds that are in gaseous form at the elevated temperature of the wood, and are comprised largely of lower molecular weight volatiles, and higher molecular weight resin and fatty acids. The type and amounts of compounds released will depend on several factors related to the drying process, including the kiln temperature, the surface area of the wood material relative to its mass, initial moisture content, and the amount of moisture removed from the material as well as the wood species dried. A biomass gasifier/burner is the heat source for DPK #3 (SN-27), the kiln can utilize a natural gas burner as an auxiliary fuel. An abort stack (SN-28) is necessary during startup or for unplanned shutdown of the gasifier/burner. The EPA RACT/BACT/LAER Clearinghouse (RBLC) was searched for lumber drying kilns (process type 30.8) permitted after January 1, 2007. In cases where BACT was specified, it was determined to be proper maintenance & operations such as "work practice standards", "proper maintenance and operation", and "proper temperature and process management; drying to appropriate moisture content" with no additional/add-on control.

As the review of the RBLC did not reveal any facilities that have add on control for lumber drying kilns, a search was also completed of VOC control technologies for other processes that could possibly be applied to a lumber drying kiln. Control technologies evaluated are:

- Regenerative Thermal Oxidation
- Regenerative Catalytic Oxidation
- Carbon Adsorption
- Condensation
- Biofiltration
- Wet Scrubbing
- Proper Maintenance & Operation

Regenerative Thermal Oxidation: Regenerative Thermal Oxidizer (RTO) units use beds of ceramic pieces to recover and store heat. A VOC-laden air stream passes through a heated ceramic bed before entering a combustion chamber. In the combustion chamber, the VOC- laden gas stream is heated by auxiliary fuel (natural gas) combustion to a final oxidation temperature typically between 1,400°F to 1,500°F and maintained at this temperature to achieve maximum VOC destruction. The exhaust gases from the combustion chamber are used to heat another ceramic bed. Periodically, the flow is reversed so the bed that was being heated is now used to preheat the VOC-laden gas stream. Usually, there are three or more beds that are continually cycled. Destruction efficiency of VOC depends upon the design criteria (i.e., chamber temperature, residence time, inlet VOC concentration, compound type, and degree of mixing). Typical VOC destructive efficiency ranges from 95 to 99% for RTO systems depending on system requirements and characteristics of the contaminated stream. Lower control efficiencies are generally associated with lower concentration flows.

Due to the high moisture content and low exit temperature in the exhaust stream, RTO would be technically infeasible.

Regenerative Catalytic Oxidation: Regenerative catalytic oxidizer (RCO) units function similar to RTO, except that the heat recovery beds in RCO contain catalytic media. The catalyst accelerates the rate of VOC oxidation and allows for VOC destruction at lower temperatures than in an RTO, typically 600°F to 1,000°F, which reduces auxiliary fuel usage. Typical VOC destructive efficiency ranges from 90 to 99% for RCO systems. However, this also depends on system requirements and characteristics of the contaminated stream.

Although regenerative catalytic oxidizers can operate at a lower temperature than thermal oxidizers, the temperature of the exit stream from lumber drying kilns is still not high enough for optimal function of the catalytic oxidizer. Furthermore, loss of catalytic activity occurs due to fouling by particulate matter or suppression or poisoning from other contaminants in the waste gas stream. In order to effectively use catalytic oxidation, the contaminants must be removed from the waste gas stream. Removing these contaminants would require additional control equipment which adds greatly to the cost of the system. Catalysts must periodically be replaced due to thermal aging, adding significantly to the cost of operating the unit in addition to creating solid waste. Catalytic oxidation has never been applied to a lumber drying kiln. Regenerative catalytic oxidation is not considered feasible for the kiln.

Carbon Adsorption: The core component of a carbon adsorption system is an activated carbon bed contained in a steel vessel. The VOC-laden gases pass through the carbon bed and the VOCs are adsorbed on the activated carbon. The cleaned gas is discharged to the atmosphere. The spent carbon is regenerated either at an onsite regeneration facility or by an off-site activated carbon supplier. Steam is used to replace adsorbed organic compounds at high temperatures to regenerate the spent carbon. At proper operating conditions, carbon adsorption systems have demonstrated VOC reduction efficiencies of approximately 90 to 95%.

Carbon adsorption is not practical because of the high moisture content of the exhaust stream from lumber drying kilns. At high moisture content, water molecules begin to compete with the hydrocarbon molecules for active adsorption sites. This reduces the capacity and the efficiency of the adsorption system. For the reason stated above and because there are currently no known lumber drying kilns that are equipped with carbon adsorption system, the use of carbon adsorption systems for the proposed kiln is not considered technically feasible.

Condensation: Condensation removes vaporous contaminants from the gas stream by cooling it and converting the vapor into a liquid. In some instances, control of VOC can be satisfactorily achieved entirely by condensation. However, most applications require additional control methods. In such cases, the use of a condensation process reduces the concentration load on downstream control equipment. The two most common type of condensation devices are contact or barometric condensers and surface condensers.

Condensation is only effective when the gas steam can be cooled to a temperature where VOC constituent condenses as a liquid out of the gas stream. To condense terpenes, the primary constituent of lumber kiln VOC emissions, the temperature would need to be reduced to -40°F. At this temperature, freezing of the water vapor would generate ice, causing unacceptable plugging of the unit. Condensation is not technically feasible for the proposed kiln.

Biofiltration: Biofiltration is an air pollution control technology in which off-gases containing biodegradable organic compounds are vented, under controlled temperature and humidity, through a special filter material containing microorganisms. As exhaust gases pass through the biofilter, VOC is absorbed on the filter material, and the microorganisms break down the compounds and transform them into CO_2 and H_2O with varying efficiency.

The most important variable affecting bioreactor operations is temperature. Most microorganisms can survive and flourish in a temperature range of 60 to 105°F (30 to 41°C). The exiting exhaust temperature of the proposed lumber kiln is approximately 140 - 200°F. Furthermore, the VOC emissions from the kilns are primarily terpenes. Terpenes are highly viscous and would foul the biofilter. Biofiltration is not technically feasible for the proposed lumber drying kiln.

Wet Scrubbing: Scrubbing of gas or vapor pollutants from a gas stream is usually accomplished in a packed column (or other type of column) where pollutants are absorbed by counter-current flow of a scrubbing liquid. A VOC-laden gas stream with relatively high water solubility is required in order for the wet scrubber to be effective.

The VOC emissions from the kiln are primarily terpenes. Terpenes are not highly soluble. Moreover, they are highly viscous and would foul the absorption media of a wet scrubber. Wet scrubbing is not technically feasible for the proposed lumber drying kiln.

Proper Maintenance and Operation: Proper maintenance and operation of lumber drying kilns can effectively reduce VOC emissions. Proper drying schedule and temperature should be selected based on moisture content and manufacturer's specifications. Routine maintenance should also be completed on all kilns based on manufacturer's recommendations.

Proper maintenance and operation is the only control technology considered technically feasible. The RBLC search shows other emission factors utilized in permitting emission limits of VOC; there is no information to determine that these factors can be routinely "achieved in practice". The species of wood dried within a kiln has a distinct impact on the resulting VOC emissions. The emission factor proposed for the VOC emission limits of 3.8 lb/MBf matches the uncontrolled emission factor in the Arkansas Department of Environmental Quality (ADEQ) VOC Emissions from Lumber Drying Kilns Guidance memorandum dated October 31, 2014.

Permit #1681-AOP-R16 was issued on September 25, 2018. With this minor modification, the facility requested to remove the hour of operation limit for burning natural gas as fuel for DPK #3 (SN-27). Only the annual NOx and HAPs emissions increased as a result of this change. The facility's permitted annual emissions are increasing by 7.2 tpy NOx and 0.26 tpy total other HAPs.

Permit #1681-AOP-R17 was issued on February 6, 2019. With this minor modification, the facility removed the existing direct fired dual path lumber kiln, DPK #2 (SN-14), and associated abort stack (SN-24) that burned down in August. The facility also installed a new direct fired dual path lumber kiln, DPK #2 (SN-30), and abort stack (SN-31). SN-30 has a drying capacity

of 11.9 MBf/hr and a production limit of 93.5 MMBf/yr. There were no changes to the facility's permitted annual emissions.

Permit #1681-AOP-R18 was issued on April 30, 2019. With this minor modification, the facility paved sections of the log yard haul road and reduced the emission limits for the log yard haul road fugitive emissions (SN-20). The facility's permitted annual emissions decreased by 5.6 tpy PM and 1.6 tpy PM_{10}.

SECTION IV: SPECIFIC CONDITIONS

SN-23, SN-25, SN-27, and SN-28, SN-30, and SN-31
Dual Path Kiln #1, DPK#1 Abort Stack, Dual Path Kiln #3, DPK#3 Abort Stack, Dual Path Kiln #2, and DPK#2 Abort Stack

Source Description

The DPKs utilize heat from biomass gasifiers. Green sawdust collected from the sawmill or purchased from outside sources is stored within the Fuel Storage Silo and fed to the biomass gasifiers on each DPK. The fuel is gasified in these devices to produce a combustible gas stream. The fuel gas stream is burned in a combustion/air mixing chamber. The gas is conveyed to a blend box to be mixed with return air or recirculated kiln air. The blend box is used to obtain the desired temperature of the air steam. The hot gas stream is blown into the drying chamber, located at the center of each DPK.

The hot gas stream from the gasifier/burners may be diverted to the DPK Abort Stacks (SN-25 for DPK #1, SN-31 for DPK #2, and SN-28 for DPK #3) for startup, unplanned shutdowns, or temporary idling.

Dual Path Kiln #3 (SN-27) went through PSD review for VOC emissions prior to installation. Proper maintenance and operation was determined to be BACT.

Specific Conditions

1. The permittee shall not exceed the emission rates set forth in the following table. Under normal operations, hot gas stream from the gasifier/burners shall only be diverted to the Abort Stacks (SN-25, SN-28, and SN-31) during unplanned shutdowns and temporary idling for operational, maintenance, or safety reasons. Emissions from the Abort Stacks during these events are accounted for in the bubbled emissions. Compliance with this condition will be demonstrated by compliance with Specific Conditions #4 and #11. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
23	Dual Path Kiln #1 (25 MMBtu/hr)	PM_{10}[1]	1.2	5.2
		SO_2[1]	0.7	2.8
		VOC[1]	31.1	136.1
25	Abort Stack for DPK#1 (Normal Operations)	CO[1]	15.0	65.7
		NO_X[1]	5.5	24.1
		Lead[1]	1.20E-03	5.26E-03

SN	Description	Pollutant	lb/hr	tpy
	Abort Stack for DPK#1 (Startups)	PM_{10}	2.6	0.4
		SO_2	0.3	0.1
		VOC	0.2	0.1
		CO	5.3	0.8
		NO_X	2.1	0.3
		Lead	4.21E-04	6.06E-05
27	Dual Path Kiln #3 (31.5 MMBtu/hr + 31.6 MMBtu/hr auxiliary natural gas burner)	PM_{10}[2]	1.3	5.4
		SO_2[2]	0.8	3.5
		VOC[2]	33.1	142.5
		CO[2]	18.9	82.8
		NO_X[2]	8.7	38.0
		Lead[2]	1.51E-03	6.62E-03
28	Abort Stack for DPK#3 (Normal Operations)			
	Abort Stack for DPK#3 (Startups)	PM_{10}	2.6	0.4
		SO_2	0.3	0.1
		VOC	0.2	0.1
		CO	5.3	0.8
		NO_X	2.1	0.3
		Lead	4.21E-04	6.06E-05
30	Dual Path Kiln #2 (30 MMBtu/hr)	PM_{10}[3]	1.7	6.7
		SO_2[3]	0.8	3.3
		VOC[3]	45.3	177.7
		CO[3]	18.0	78.9
		NO_X[3]	6.6	29.0
		Lead[3]	1.44E-03	6.31E-03
31	Abort Stack for DPK#2 (Normal Operations)			
	Abort Stack for DPK#2 (Startups)	PM_{10}	2.6	0.4
		SO_2	0.3	0.1
		VOC	0.2	0.1
		CO	5.3	0.8
		NO_X	2.1	0.3
		Lead	4.21E-04	6.06E-05

[1] Emissions from SN-23 and SN-25 are bubbled during normal operations.
[2] Emissions from SN-27 and SN-28 are bubbled during normal operations.
[3] Emissions from SN-30 and SN-31 are bubbled during normal operations.

2. The permittee shall not exceed the emission rates set forth in the following table. Under normal operations, hot gas stream from the gasifier/burners shall only be diverted to the Abort Stacks (SN-25, SN-28, and SN-31) during unplanned shutdowns and temporary idling for operational, maintenance, or safety reasons. Emissions from the Abort Stacks during these events are accounted for in the bubbled emissions. Compliance with this condition will be demonstrated by compliance with Specific Conditions #4 and #11. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
23	Dual Path Kiln #1 (25 MMBtu/hr)	PM[1]	1.2	5.2
		Acrolein[1]	6.15E-02	2.69E-01
		Formaldehyde[1]	3.28E-01	1.43
		Methanol[1]	1.32	5.76
		Pentachlorophenol[1]	1.28E-06	5.58E-06
		Antimony[1]	1.98E-04	8.65E-04
		Arsenic[1]	5.50E-04	2.41E-03
		Beryllium[1]	2.75E-05	1.20E-04
		Cadmium[1]	1.03E-04	4.49E-04
		Chromium[1]	5.25E-04	2.30E-03
		Chromium VI[1]	8.75E-05	3.83E-04
		Cobalt[1]	1.63E-04	7.12E-04
		Manganese[1]	4.00E-02	1.75E-01
		Mercury[1]	8.75E-05	3.83E-04
		Phosphorus[1]	6.75E-04	2.96E-03
		Selenium[1]	7.00E-05	3.07E-04
		Total Other HAPs[1]	1.20	5.24
25	Abort Stack for DPK#1 (Normal Operations)			
	Abort Stack for DPK#1 (Startups)	PM	3.0	0.5
		Acrolein	3.51E-02	5.05E-03
		Formaldehyde	3.86E-02	5.55E-03
		Pentachlorophenol	4.47E-07	6.44E-08
		Antimony	6.92E-05	9.97E-06
		Arsenic	1.93E-04	2.78E-05
		Beryllium	9.64E-06	1.39E-06
		Cadmium	3.59E-05	5.17E-06
		Chromium	1.84E-04	2.65E-05
		Cobalt	5.70E-05	8.20E-06
		Manganese	1.40E-02	2.02E-03
		Mercury	3.07E-05	4.42E-06
		Phosphorus	2.37E-04	3.41E-05
		Selenium	2.45E-05	3.53E-06
		Total Other HAPs	0.23	0.04
27	Dual Path Kiln #3 (31.5 MMBtu/hr + 31.6 MMBtu/hr auxiliary natural gas burner)	PM[2]	1.3	5.4
		Acrolein[2]	6.53E-02	2.81E-01
		Formaldehyde[2]	3.48E-01	1.50
		Methanol[2]	1.40	6.04
		Pentachlorophenol[2]	1.61E-06	7.04E-06
		Antimony[2]	2.49E-04	1.09E-03
		Arsenic[2]	6.93E-04	3.04E-03
		Beryllium[2]	3.47E-05	1.52E-04
		Cadmium[2]	1.29E-04	5.66E-04
		Chromium[2]	6.62E-04	2.90E-03
		Chromium VI[2]	1.10E-04	4.83E-04
28	Abort Stack for DPK#3 (Normal Operations)			

SN	Description	Pollutant	lb/hr	tpy
		Cobalt[2]	2.05E-04	8.97E-04
		Manganese[2]	5.04E-02	2.21E-01
		Mercury[2]	1.10E-04	4.83E-04
		Phosphorus[2]	8.51E-04	3.73E-03
		Selenium[2]	8.82E-05	3.86E-04
		Total Other HAPs[2]	1.47	6.40
	Abort Stack for DPK#3 (Startups)	PM	3.0	0.5
		Acrolein	3.51E-02	5.05E-03
		Formaldehyde	3.86E-02	5.55E-03
		Pentachlorophenol	4.47E-07	6.44E-08
		Antimony	6.92E-05	9.97E-06
		Arsenic	1.93E-04	2.78E-05
		Beryllium	9.64E-06	1.39E-06
		Cadmium	3.59E-05	5.17E-06
		Chromium	1.84E-04	2.65E-05
		Cobalt	5.70E-05	8.20E-06
		Manganese	1.40E-02	2.02E-03
		Mercury	3.07E-05	4.42E-06
		Phosphorus	2.37E-04	3.41E-05
		Selenium	2.45E-05	3.53E-06
		Total Other HAPs	0.23	0.04
30	Dual Path Kiln #2 (30 MMBtu/hr)	PM[3]	1.7	6.7
		Acrolein[3]	8.93E-02	3.51E-01
		Formaldehyde[3]	4.76E-01	1.87
		Methanol[3]	1.92	7.53
		Pentachlorophenol[3]	1.53E-06	6.70E-06
		Antimony[3]	2.37E-04	1.04E-03
		Arsenic[3]	6.60E-04	2.89E-03
		Beryllium[3]	3.30E-05	1.45E-04
31	Abort Stack for DPK#2 (Normal Operations)	Cadmium[3]	1.23E-04	5.39E-04
		Chromium[3]	6.30E-04	2.76E-03
		Chromium VI[3]	1.05E-04	4.60E-04
		Cobalt[3]	1.95E-04	8.54E-04
		Manganese[3]	4.80E-02	2.10E-01
		Mercury[3]	1.05E-04	4.60E-04
		Phosphorus[3]	8.10E-04	3.55E-03
		Selenium[3]	8.40E-05	3.68E-04
		Total Other HAPs[3]	1.57	6.52
	Abort Stack for DPK#2 (Startups)	PM	3.0	0.5
		Acrolein	3.51E-02	5.05E-03
		Formaldehyde	3.86E-02	5.55E-03
		Pentachlorophenol	4.47E-07	6.44E-08
		Antimony	6.92E-05	9.97E-06

SN	Description	Pollutant	lb/hr	tpy
		Arsenic	1.93E-04	2.78E-05
		Beryllium	9.64E-06	1.39E-06
		Cadmium	3.59E-05	5.17E-06
		Chromium	1.84E-04	2.65E-05
		Cobalt	5.70E-05	8.20E-06
		Manganese	1.40E-02	2.02E-03
		Mercury	3.07E-05	4.42E-06
		Phosphorus	2.37E-04	3.41E-05
		Selenium	2.45E-05	3.53E-06
		Total Other HAPs	0.23	0.04

[1] Emissions from SN-23 and SN-25 are bubbled during normal operations.
[2] Emissions from SN-27 and SN-28 are bubbled during normal operations.
[3] Emissions from SN-30 and SN-31 are bubbled during normal operations.

3. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by compliance with Specific Condition #15. [Reg.19.901 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
27	Dual Path Kiln #3 (31.5 MMBtu/hr + 31.6 MMBtu/hr auxiliary natural gas burner)	VOC	33.1	142.5

4. The facility shall not exceed the throughput limits listed in the following table. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

SN	Throughput Limit Dried Lumber Produced Per Consecutive 12 Months
23 and 25	71.61 MMBF
27 and 28	75.0 MMBF
30 and 31	93.5 MMBF

5. The facility shall maintain monthly records which demonstrate compliance with the limits set in Specific Condition #4 which may be used by the Department for enforcement purposes. These records shall be updated by the fifteenth day of the month following the month to which the records pertain. These records shall be kept on site, and shall be made available to Department personnel upon request. The twelve month rolling totals

and each individual month's kiln production data shall be submitted to the Department in accordance with General Provision #7. [Reg.19.705 and 40 C.F.R. § 52 Subpart E]

6. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9 as found in 40 CFR Part 60 Appendix A.

SN	Limit	Regulatory Citation
23, 25, 27, 28, 30, and 31	20%	Reg.19.503

7. The permittee shall conduct weekly observations of the opacity from SN-23, SN-27, and SN-30 when operating and SN-25, SN-28, and SN-31 during startup operation and keep a record of these observations. The facility shall maintain personnel trained in EPA Reference Method 9. If visible emissions which appear to be in excess of the permitted opacity are detected, the permittee shall take immediate action to identify and correct the cause of the visible emissions. After corrective action has been taken, another observation of the opacity from the affected source shall be conducted in order to confirm that excess visible emissions are no longer present. The permittee shall maintain records of all corrective actions taken following the observance of visible emissions. Records of all visible emissions observations and any corrective action taken shall be kept onsite and made available to the Department personnel upon request. If the source is not operating, a note shall be made in the records stating such. [Reg.19.705 and 40 C.F.R. § 52 Subpart E]

8. The permittee shall conduct a one time performance test at SN-23 (DPK#1) and SN-30 (DPK#2) for PM_{10} and CO using EPA Reference Method 5 and 10 respectively to demonstrate compliance with the emissions limits set in the Specific Conditions #1 and #2. The permittee may conduct an approved alternate test method provided that the permittee makes such a request in writing at least 30 days prior to a required or scheduled test date. If the permittee fails a stack test for a given pollutant, then the permittee shall conduct subsequent stack tests every twelve months until two consecutive, passing tests are achieved. All tests shall be conducted in accordance with Plantwide Condition #3. Test results shall be maintained onsite, made available to the Department personnel upon request, and shall be submitted to the Department in accordance with Plantwide Condition #3. Testing for SN-23 was performed on February 28, 2018. [Reg.19.702 and 40 C.F.R. § 52 Subpart E]

9. The permittee shall conduct a one time performance test at SN-27 (DPK#3) for PM_{10} and CO using EPA Reference Method 201 or 201A and 10 respectively to demonstrate compliance with the emissions limits set in the Specific Conditions #1 and #2. This test shall be conducted in accordance with Plantwide Condition #3. Test results shall be maintained onsite, made available to the Department personnel upon request, and shall be submitted to the Department in accordance with Plantwide Condition #3. Testing for SN-27 was performed on October 2, 2018. [Reg.19.702 and 40 C.F.R. § 52 Subpart E]

10. The testing required in Specific Conditions #8 and #9 shall be conducted with the source operating at least at 90% of its permitted capacity as listed in the following table. Emission testing results shall be extrapolated to correlate with 100% of the permitted capacity to demonstrate compliance. Failure to test within this range shall limit the permittee to operating within 10% above the tested rate. If testing is conducted below 90% of the permitted capacity, records shall be maintained at all times to demonstrate that the source does not exceed operation at 10% above the tested rate. The permittee shall track and document the lumber throughput over the duration of the test. The lumber throughput data for each run shall be included in the stack test report. An average of the three runs shall be reported on the emission summary page of the report. [Reg.19.702 and 40 C.F.R. § 52 Subpart E]

SN	Permitted Capacity of DP Kiln
SN-23 (DPK#1)	8,175 BF of lumber per hour
SN-27 (DPK#3)	8,700 BF of lumber per hour
SN-30 (DPK#2)	11,900 BF of lumber per hour

11. The permittee shall not exceed the limits specified in the following table during startup. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

SN	Diesel fuel usage limit as starter fluid during startup	Sawdust throughput limit for gasifier/burner during startup	Operating hour limits for each Abort Stack during startup
25	360 gallons per consecutive 12 months	2000 lb of sawdust per hour	288 hours per consecutive 12 months
28	360 gallons per consecutive 12 months	2000 lb of sawdust per hour	288 hours per consecutive 12 months
31	360 gallons per consecutive 12 months	2000 lb of sawdust per hour	288 hours per consecutive 12 months

12. The facility shall maintain monthly records which demonstrate compliance with the operating hour limits set in Specific Condition #11 which may be used by the Department for enforcement purposes. These records shall be updated by the fifteenth day of the month following the month to which the records pertain. These records shall be kept on site, and shall be made available to Department personnel upon request. The twelve month rolling totals and each individual month's data shall be submitted to the Department in accordance with General Provision #7. [Reg.19.705 and 40 C.F.R. § 52 Subpart E]

13. The facility shall maintain daily records when in startup mode which demonstrate compliance with the sawdust throughput limits for gasifier/burner and diesel fuel usage

limit set in Specific Condition #11 which may be used by the Department for enforcement purposes. These records shall be updated daily. These records shall be kept on site, and shall be made available to Department personnel upon request. [Reg.19.705 and 40 C.F.R. § 52 Subpart E]

14. The permittee will apply water and maintain a moisture content to all ash generated by the gasifiers so there will be no visible emissions from the handling of gasifier ash prior to removal from the facility. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

15. The permittee shall comply with the following BACT determination for SN-27. Compliance with the emission limits set forth in the following table shall be demonstrated through compliance with good combustion practices, proper kiln design and maintenance. [Reg.19.901 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	BACT Determination	BACT Limit
SN-27	Dual Path Kiln #3	Good Combustion Practices, Proper Kiln Design, and Maintenance	3.8 lb VOC/MBF
SN-28	Abort Stack for DPK#3	Good Combustion Practices	0.017 lb/MMBtu

SN-06
Sawmill

Source Description

Logs are taken by truck to the Sawmill (SN-06) where they are debarked. After entering the Sawmill Building, the mill uses three headrigs to saw the logs into cants, or rough lumber, and edge and trim. Trimmings and edgings are routed to a chipper. Chips are mechanically conveyed to shaker screens where oversized chips and fines are removed. The chips are belt conveyed to a chip bin and eventually loaded into tractor trailers to be shipped off-site. Oversized chips are routed back through the chipper. Bark is collected and eventually loaded into tractor trailers to be shipped off-site. Emissions from bark storage areas along with other storage piles are estimated as Insignificant Activities. Sawdust is collected from all the sources within the Sawmill Building and blown to the Fuel Storage Silo or overflow dust bin. The Fuel Storage Silo is included as an Insignificant Activity; it will primarily be filled from the Sawmill Building collections, but can be filled by outside purchased sawdust. Emissions from the Sawmill Building and debarking are estimated as SN-06.

Specific Conditions

16. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by compliance with Specific Condition #22. [Reg.19.501 *et seq*. and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
06	Sawmill	PM_{10}	0.9	1.9

17. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by compliance with Specific Condition #22. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
06	Sawmill	PM	8.2	16.7

18. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

SN	Limit	Regulatory Citation
06	20%	Reg.19.503

19. The permittee shall conduct weekly observations of the opacity from SN-06 and keep a record of these observations. The facility shall maintain personnel trained in EPA Reference Method 9. If visible emissions which appear to be in excess of the permitted opacity are detected, the permittee shall take immediate action to identify and correct the cause of the visible emissions. After corrective action has been taken, another observation of the opacity from the affected source shall be conducted in order to confirm that excess visible emissions are no longer present. The permittee shall maintain records of all corrective actions taken following the observance of visible emissions. Records of all visible emissions observations and any corrective action taken shall be kept onsite and made available to the Department personnel upon request. If the source is not operating, a note shall be made in the records stating such. [Reg.19.705 and 40 C.F.R. § 52 Subpart E]

SN-20
Log Yard Road

Source Description

Logs are delivered to the mill at the log yard located north of the main mill site. Emissions of particulate matter result from log truck traffic on this road.

Specific Conditions

20. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by compliance with Specific Condition #22. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
20	Log Yard Road	PM_{10}	4.0	3.4

21. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by compliance with Specific Condition #22. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
20	Log Yard Road	PM	20.1	17.0

22. The facility shall not exceed the throughput limits listed in the following table. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

Products	Throughput Limit of Products Transported on SN-20 Per Consecutive 12 Months
Logs	920,000 tons
Finished Lumber	261,535 tons

23. The facility shall maintain records which demonstrate compliance with the limit set in Specific Condition #22 which may be used by the Department for enforcement purposes. These records shall be updated by the fifteenth day of the month following the month to which the records pertain. These records shall be kept on site, and shall be made available to the Department personnel upon request. An annual total and each individual

month's sawmill production data shall be submitted to the Department in accordance with General Provision #7. [Reg.19.705 and 40 C.F.R. § 52 Subpart E]

24. The permittee shall not operate in a manner such that emissions from the log yard roads (SN-20) would cause a nuisance off-site or allow visible emissions from extending beyond the property boundary. Under normal conditions, off-site opacity less than or equal to 5% shall not be considered a nuisance provided that there are no complaints received by the Department regarding dust from the facility. [Reg.18.501 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

25. The permittee shall water the roads as necessary to control emissions from extending beyond the property boundary. The permittee shall water the roads once per month or more frequently as determined by weekly observations. The permittee shall maintain records of all observations and any dates when water is applied. The permittee shall update these records following each observation and application. These records shall be kept onsite and be made available to the Department personnel upon request. [Reg.18.1004 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

26. Nothing in this permit shall be construed to authorize a violation of the Arkansas Water and Air Pollution Control Act or the federal National Pollutant Discharge Elimination System (NPDES). [Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN-21
Planer Mill

Source Description

Dried lumber is stored in protected areas before planing. Within the Planermill Building, dried lumber is processed through a planer, a hammer hog, a trimmer, and a ripsaw or Batton Machine. This equipment vents through a baghouse to a cyclone which collects material (primarily shavings and sawdust). The outlet of the cyclone vents to a second baghouse and then to the atmosphere (SN-21). Shavings and sawdust from the baghouse/cyclones are dropped into a woodwaste storage bin (insignificant activity) where it is then loaded onto a truck and shipped off-site.

Specific Conditions

27. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by compliance with Specific Condition #29. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
21	Planer Mill	PM_{10}	1.5	2.7

28. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this condition will be demonstrated by compliance with Specific Condition #29. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
21	Planer Mill	PM	3.7	6.7

29. The permittee shall not operate the Planer Mill (SN-21) in excess of 3600 hours per consecutive 12 months. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

30. The permittee shall maintain monthly records to demonstrate compliance with Specific Condition #29. The permittee shall update these records by the fifteenth day of the month following the month to which the records pertain. The twelve month rolling totals and each individual month's data shall be maintained on-site, made available to Department personnel upon request, and submitted in accordance with General Provision #7. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

31. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9 as found in 40 CFR Part 60 Appendix A. [Reg.18.501 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Limit	Regulatory Citation
21	5%	Reg.18.501

32. The permittee shall conduct monthly observations of the opacity from SN-21 and keep a record of these observations. The facility shall maintain personnel trained in EPA Reference Method 9. If visible emissions which appear to be in excess of the permitted opacity are detected, the permittee shall take immediate action to identify and correct the cause of the visible emissions. After corrective action has been taken, another observation of the opacity from the affected source shall be conducted in order to confirm that excess visible emissions are no longer present. The permittee shall maintain records of all corrective actions taken following the observance of visible emissions. Records of all visible emissions observations and any corrective action taken shall be kept onsite and made available to the Department personnel upon request. If the source is not operating, a note shall be made in the records stating such. [Reg.19.705 and 40 C.F.R. § 52 Subpart E]

SN-26
Emergency Fire Pump

Source Description

The facility operates a 175 bhp diesel-fired emergency fire pump.

Specific Conditions

33. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Condition #37. [Reg.19.501 *et seq.* and 40 C.F.R. § 52 Subpart E]

SN	Description	Pollutant	lb/hr	tpy
26	Emergency Fire Pump (175 bhp, diesel-fired)	PM_{10}	0.1	0.1
		SO_2	0.5	0.2
		VOC	0.6	0.2
		CO	1.0	0.3
		NO_X	1.2	0.3

34. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Condition #37. [Reg.18.801 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

SN	Description	Pollutant	lb/hr	tpy
26	Emergency Fire Pump (175 bhp, diesel-fired)	PM	0.1	0.1
		Acetaldehyde	1.13E-03	2.81E-04
		Formaldehyde	1.71E-03	4.32E-04
		Total Other HAPs	2.86E-03	7.15E-04

35. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

SN	Limit	Regulatory Citation
SN-26	20%	Reg.19.503

36. Daily observations of the opacity from SN-26 shall be conducted by a person trained but not necessarily certified in EPA Reference Method 9. The daily observations shall only be required when generator use exceeds 24-hours per event. If visible emissions in excess of the permitted levels are detected, the permittee shall immediately take action to identify the cause of the visible emissions in excess of the permit limit, implement

corrective action, and document that visible emissions did not appear to be in excess of the permitted opacity following the corrective action. The permittee shall maintain records which contain the following items in order to demonstrate compliance with this specific condition. These records shall be updated when an observation is made, kept on site, and made available to Department personnel upon request. [Reg.19.705 and 40 C.F.R. § 52 Subpart E]

a. The date and time of the observation.
b. If visible emissions which appeared to be above the permitted limit were detected.
c. If visible emissions which appeared to be above the permitted limit were detected, the cause of the exceedance of the opacity limit, the corrective action taken, and if the visible emissions appeared to be below the permitted limit after the corrective action was taken.
d. The name of the person conducting the opacity observations.

37. The permittee shall not operate the emergency generator SN-26 in excess of 500 total hours (emergency and non-emergency) per calendar year in order to demonstrate compliance with the annual emission rate limits. Emergency operation in excess of these hours may be allowable but shall be reported and will be evaluated in accordance with Reg.19.602 and other applicable regulations. [Reg.19.705, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 70.6]

38. The permittee shall maintain monthly records to demonstrate compliance with Specific Condition #37. The permittee shall update these records by the fifteenth day of the month following the month to which the records pertain. The calendar year totals and each individual month's data shall be maintained on-site, made available to Department personnel upon request, and submitted in accordance with General Provision #7. [Reg.19.705 and 40 C.F.R. § 52 Subpart E]

NSPS Subpart IIII and NESHAP ZZZZ Conditions

39. SN-26 is subject to the provisions of 40 CFR Part 60, Subpart IIII – *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines and* 40 CFR Part 63, Subpart ZZZZ – *National Emissions Standards for Stationary Reciprocating Internal Combustion Engines*. SN-26 meets the requirements of Subpart ZZZZ by meeting the requirements of Subpart IIII. [Reg.19.304, 40 C.F.R. § 60.4200, and 40 C.F.R. § 63.6590]

40. The permittee shall comply with the following emission standards: [Reg.19.304, 40 C.F.R. § 60.4205, and 40 C.F.R. § 89.112]

Source	Rated Power (bhp)	Emission Standards g/KW-hr (g/bhp-hr)	
		NMHC + NOx	PM
SN-26	175	4.0 (3.0	0.2 (0.15)

41. The permittee shall use diesel fuel that meets the requirements of 40 C.F.R. § 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted. [Reg.19.304 and 40 C.F.R. § 60.4207(b)]

42. The permittee shall install a non-resettable hour meter for SN-26 prior to startup if one is not already installed. [Reg.19.304 and 40 C.F.R. § 60.4209(a)]

43. The permittee shall comply with all of the following, except as permitted under paragraph (g) 40 C.F.R. § 60.4211(g): [Reg.19.304 and 40 C.F.R. § 60.4211(a)]

    a. Operate and maintain the stationary SN-26 and control device according to the manufacturer's emission-related written instructions;
    b. Change only those emission-related settings that are permitted by the manufacturer; and
    c. Meet the requirements of 40 C.F.R. parts 89, 94 and/or 1068, as they apply to you.

44. In order for SN-26 to be considered an emergency stationary ICE under Subpart IIII, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in the following section, is prohibited. If you do not operate the engine according to the requirements in the following section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines. [Reg.19.304 and 40 C.F.R. § 60.4211(f)]

    a. There is no time limit on the use of emergency stationary ICE in emergency situations.
    b. You may operate SN-26 for any combination of the purposes specified in the following section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by Specific Condition 44(c) counts as part of the 100 hours per calendar year allowed by Specific Condition # 44(b).

        i. SN-26 may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The permittee may petition the Department for approval of additional hours to be used for

maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of SN-26 beyond 100 hours per calendar year.

ii. SN-26 may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see 40 C.F.R. § 60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

iii. SN-26 may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

c. Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in Specific Condition #44(b). Except as provided in the following section, the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

i. The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

A. The engine is dispatched by the local balancing authority or local transmission and distribution system operator;
B. The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.
C. The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.
D. The power is provided only to the facility itself or to support the local transmission and distribution system.
E. The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

45. The permittee is not required to submit an initial notification. If SN-26 does not meet the standards applicable to non-emergency engines in the applicable model year, the permittee shall keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The permittee shall record the time of operation of the engine and the reason the engine was in operation during that time. [Reg.19.304 and 40 C.F.R. § 60.4214(b)]

SECTION V: COMPLIANCE PLAN AND SCHEDULE

Anthony Forest Products Company, LLC will continue to operate in compliance with those identified regulatory provisions. The facility will examine and analyze future regulations that may apply and determine their applicability with any necessary action taken on a timely basis.

SECTION VI: PLANTWIDE CONDITIONS

1. The permittee shall notify the Director in writing within thirty (30) days after commencing construction, completing construction, first placing the equipment and/or facility in operation, and reaching the equipment and/or facility target production rate. [Reg.19.704, 40 C.F.R. § 52 Subpart E, and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 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. [Reg.19.410(B) and 40 C.F.R. § 52 Subpart E]

3. The permittee must test any equipment scheduled for testing, unless otherwise stated in the Specific Conditions of this permit or by any federally regulated requirements, within the following time frames: (1) new equipment or newly modified equipment within sixty (60) days of achieving the maximum production rate, but no later than 180 days after initial start up of the permitted source or (2) operating equipment according to the time frames set forth by the Department or within 180 days of permit issuance if no date is specified. The permittee must notify the Department of the scheduled date of compliance testing at least fifteen (15) business days in advance of such test. The permittee shall submit the compliance test results to the Department within sixty (60) calendar days after completing the testing. [Reg.19.702 and/or Reg.18.1002 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

4. The permittee must provide:

    a. Sampling ports adequate for applicable test methods;
    b. Safe sampling platforms;
    c. Safe access to sampling platforms; and
    d. Utilities for sampling and testing equipment.

    [Reg.19.702 and/or Reg.18.1002 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

5. The permittee must operate the equipment, control apparatus and emission monitoring equipment within the design limitations. The permittee shall maintain the equipment in good condition at all times. [Reg.19.303 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

6. This permit subsumes and incorporates all previously issued air permits for this facility. [Reg. 26 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

7. The permittee shall maintain a fence that completely encloses all areas in the model that were excluded from the ambient air (see Appendix B). [§19.303 of Regulation 19 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Title VI Provisions

8. The permittee must comply with the standards for labeling of products using ozone-depleting substances. [40 C.F.R. § 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.

9. The permittee must comply with the standards for recycling and emissions reduction, except as provided for MVACs in Subpart B. [40 C.F.R. § 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.

10. 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 C.F.R. § 82 Subpart A, Production and Consumption Controls.

11. 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 C.F.R. § 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.

12. The permittee can switch from any ozone depleting substance to any alternative listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 C.F.R. § 82 Subpart G.

Permit Shield

13. Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements, as of the date of permit issuance, included in and specifically identified in the following table of this condition. The permit specifically identifies the following as applicable requirements based upon the information submitted by the permittee in an application dated August 7, 2015.

Applicable Regulations

Source No.	Regulation	Description
Facility	40 CFR Part 63, Subpart DDDD	National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products

SECTION VII: INSIGNIFICANT ACTIVITIES

The Department deems the following types of activities or emissions as insignificant on the basis of size, emission rate, production rate, or activity in accordance with Group A of the Insignificant Activities list found in Regulation 18 and Regulation 19 Appendix A. Group B insignificant activities may be listed but are not required to be listed in permits. Insignificant activity emission determinations rely upon the information submitted by the permittee in an application dated July 18, 2019. [Reg.26.304 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

Description	Category
500 gallon AST (diesel fuel)	A-3
1000 gallon AST (diesel fuel)	A-3
1000 gallon AST (diesel fuel)	A-3
1000 gallon AST (gasoline)	A-13
Bark Storage Piles	A-13
Sawdust Piles	A-13
Biochar Piles	A-13
Chip Overflow Piles	A-13
Planer Mill Woodwaste Storage Bins	A-13
Fuel Storage Silo	A-13
Chip Storage Bin	A-13
Parts Washer	A-13
Planer Mill Trim Cyclone	A-13

SECTION VIII: GENERAL PROVISIONS

1. Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 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 (Ark. Code Ann. § 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 (Ark. Code Ann. § 8-4-101 *et seq.*) as the origin of and authority for the terms or conditions are enforceable under this Arkansas statute. [40 C.F.R. § 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 C.F.R. § 70.6(a)(2) and Reg.26.701(B)]

3. The permittee must submit a complete application for permit renewal at least six (6) months before permit expiration. Permit expiration terminates the permittee's right to operate unless the permittee submitted a complete renewal application at least six (6) months before permit expiration. If the permittee submits a complete application, the existing permit will remain in effect until the Department takes final action on the renewal application. The Department will not necessarily notify the permittee when the permit renewal application is due. [Reg.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 C.F.R. § 70.6(a)(1)(ii) and Reg.26.701(A)(2)]

5. The permittee must maintain the following records of monitoring information as required by this permit.

    a. The date, place as defined in this permit, and time of sampling or measurements;
    b. The date(s) analyses performed;
    c. The company or entity performing the analyses;
    d. The analytical techniques or methods used;
    e. The results of such analyses; and
    f. The operating conditions existing at the time of sampling or measurement.

    [40 C.F.R. § 70.6(a)(3)(ii)(A) and Reg.26.701(C)(2)]

6. The permittee must retain the records of all required monitoring data and support information for at least five (5) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. [40 C.F.R. § 70.6(a)(3)(ii)(B) and Reg.26.701(C)(2)(b)]

7. The permittee must submit reports of all required monitoring every six (6) months. If the permit establishes no other reporting period, the reporting period shall end on the last day of the month six months after the issuance of the initial Title V permit and every six months thereafter. The report is due on the first day of the second month after the end of the reporting period. The first report due after issuance of the initial Title V permit shall contain six months of data and each report thereafter shall contain 12 months of data. The report shall contain data for all monitoring requirements in effect during the reporting period. If a monitoring requirement is not in effect for the entire reporting period, only those months of data in which the monitoring requirement was in effect are required to be reported. The report must clearly identify all instances of deviations from permit requirements. A responsible official as defined in Reg.26.2 must certify all required reports. The permittee will send the reports to the address below:

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

   [40 C.F.R. § 70.6(a)(3)(iii)(A) and Reg.26.701(C)(3)(a)]

8. The permittee shall report to the Department all deviations from permit requirements, including those attributable to upset conditions as defined in the permit.

   a. For all upset conditions (as defined in Reg.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 emissions during the deviation;
      vii. The probable cause of such deviations;
      viii. Any corrective actions or preventive measures taken or being taken to prevent such deviations in the future; and

ix. The name of the person submitting the report.

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

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

[Reg.19.601, Reg.19.602, Reg.26.701(C)(3)(b), and 40 C.F.R. § 70.6(a)(3)(iii)(B)]

9. If any provision of the permit or the application thereof to any person or circumstance is held invalid, such invalidity will not affect other provisions or applications hereof which can be given effect without the invalid provision or application, and to this end, provisions of this Regulation are declared to be separable and severable. [40 C.F.R. § 70.6(a)(5), Reg.26.701(E), and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

10. The permittee must comply with all conditions of this Part 70 permit. Any permit noncompliance with applicable requirements as defined in Regulation 26 constitutes a violation of the Clean Air Act, as amended, 42 U.S.C. § 7401, *et seq.* and is grounds for enforcement action; for permit termination, revocation and reissuance, for permit modification; or for denial of a permit renewal application. [40 C.F.R. § 70.6(a)(6)(i) and Reg.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 C.F.R. § 70.6(a)(6)(ii) and Reg.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 C.F.R. § 70.6(a)(6)(iii) and Reg.26.701(F)(3)]

13. This permit does not convey any property rights of any sort, or any exclusive privilege. [40 C.F.R. § 70.6(a)(6)(iv) and Reg.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 C.F.R. § 70.6(a)(6)(v) and Reg.26.701(F)(5)]

15. The permittee must pay all permit fees in accordance with the procedures established in Regulation 9. [40 C.F.R. § 70.6(a)(7) and Reg.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 C.F.R. § 70.6(a)(8) and Reg.26.701(H)]

17. If the permit allows different operating scenarios, the permittee shall, contemporaneously with making a change from one operating scenario to another, record in a log at the permitted facility a record of the operational scenario. [40 C.F.R. § 70.6(a)(9)(i) and Reg.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 C.F.R. § 70.6(b) and Reg.26.702(A) and (B)]

19. Any document (including reports) required by this permit pursuant to 40 C.F.R. § 70 must contain a certification by a responsible official as defined in Reg.26.2. [40 C.F.R. § 70.6(c)(1) and Reg.26.703(A)]

20. The permittee must allow an authorized representative of the Department, upon presentation of credentials, to perform the following: [40 C.F.R. § 70.6(c)(2) and Reg.26.703(B)]

    a. Enter upon the permittee's premises where the permitted source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
    b. Have access to and copy, at reasonable times, any records required under the conditions of this permit;
    c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
    d. As authorized by the Act, sample or monitor at reasonable times substances or parameters for assuring compliance with this permit or applicable requirements.

21. The permittee shall submit a compliance certification with the terms and conditions contained in the permit, including emission limitations, standards, or work practices. The permittee must submit the compliance certification annually. If the 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 on the first day of the second month after the end of the reporting period. 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 C.F.R. § 70.6(c)(5) and Reg.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: [Reg.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. [Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]

24. The permittee may request in writing and at least 15 days in advance of the deadline, an extension to any testing, compliance or other dates in this permit. No such extensions are authorized until the permittee receives written Department approval. The Department may grant such a request, at its discretion in the following circumstances:

    a. Such an extension does not violate a federal requirement;
    b. The permittee demonstrates the need for the extension; and
    c. The permittee documents that all reasonable measures have been taken to meet the current deadline and documents reasons it cannot be met.

[Reg.18.314(A), Reg.19.416(A), Reg.26.1013(A), Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 52 Subpart E]

25. The permittee may request in writing and at least 30 days in advance, temporary emissions and/or testing that would otherwise exceed an emission rate, throughput requirement, or other limit in this permit. No such activities are authorized until the permittee receives written Department approval. Any such emissions shall be included in the facility's total emissions and reported as such. The Department may grant such a request, at its discretion under the following conditions:

    a. Such a request does not violate a federal requirement;
    b. Such a request is temporary in nature;
    c. Such a request will not result in a condition of air pollution;
    d. The request contains such information necessary for the Department to evaluate the request, including but not limited to, quantification of such emissions and the date/time such emission will occur;
    e. Such a request will result in increased emissions less than five tons of any individual criteria pollutant, one ton of any single HAP and 2.5 tons of total HAPs; and
    f. The permittee maintains records of the dates and results of such temporary emissions/testing.

    [Reg.18.314(B), Reg.19.416(B), Reg.26.1013(B), Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 52 Subpart E]

26. The permittee may request in writing and at least 30 days in advance, an alternative to the specified monitoring in this permit. No such alternatives are authorized until the permittee receives written Department approval. The Department may grant such a request, at its discretion under the following conditions:

    a. The request does not violate a federal requirement;
    b. The request provides an equivalent or greater degree of actual monitoring to the current requirements; and
    c. Any such request, if approved, is incorporated in the next permit modification application by the permittee.

    [Reg.18.314(C), Reg.19.416(C), Reg.26.1013(C), Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 52 Subpart E]

27. Any credible evidence based on sampling, monitoring, and reporting may be used to determine violations of applicable emission limitations. [Reg.18.1001, Reg.19.701, Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311, and 40 C.F.R. § 52 Subpart E]

Appendix A

Facility Fenceline Data

Fenceline Data

Property Corner	UTM Easting (m)	UTM Northing (m)
1	551808.00	3668847.00
2	551806.50	3668825.00
3	551405.00	3668825.00
4	551405.00	3669075.00
5	551444.00	3669079.00
6	551489.00	3669101.50
7	551503.00	3669113.00
8	551503.00	3669163.00
9	551586.50	3669165.00
10	551711.00	3669204.00
11	551723.00	3669198.00
12	551753.00	3669168.00
13	551780.00	3669133.00
14	551810.40	3669157.30
15	551852.70	3669155.83
16	551862.76	3669153.71
17	551869.75	3669148.55
18	551873.32	3669141.96
19	551883.00	3669124.00
20	551911.00	3669090.00
21	551933.00	3669059.00
22	551941.23	3669040.05
23	551888.28	3668993.99
24	551912.86	3668966.60
25	551913.00	3668964.00
26	551848.00	3668903.00

Note: Map datum for UTM coordinates is NAD 83

Appendix B

40 CFR Part 63, Subpart DDDD – *National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products*

ELECTRONIC CODE OF FEDERAL REGULATIONS

e-CFR Data is current as of January 13, 2015

Title 40: Protection of Environment
PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES (CONTINUED)

Subpart DDDD—National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products

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WHAT THIS SUBPART COVERS

SOURCE: 69 FR 46011, July 30, 2004, unless otherwise noted.

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§63.2230 What is the purpose of this subpart?

This subpart establishes national compliance options, operating requirements, and work practice requirements for hazardous air pollutants (HAP) emitted from plywood and composite wood products (PCWP) manufacturing facilities. This subpart also establishes requirements to demonstrate initial and continuous compliance with the compliance options, operating requirements, and work practice requirements.

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§63.2231 Does this subpart apply to me?

This subpart applies to you if you meet the criteria in paragraphs (a) and (b) of this section.

(a) You own or operate a PCWP manufacturing facility. A PCWP manufacturing facility is a facility that manufactures plywood and/or composite wood products by bonding wood material (fibers, particles, strands, veneers, etc.) or agricultural fiber, generally with resin under heat and pressure, to

form a structural panel or engineered wood product. Plywood and composite wood products manufacturing facilities also include facilities that manufacture dry veneer and lumber kilns located at any facility. Plywood and composite wood products include, but are not limited to, plywood, veneer, particleboard, oriented strandboard, hardboard, fiberboard, medium density fiberboard, laminated strand lumber, laminated veneer lumber, wood I-joists, kiln-dried lumber, and glue-laminated beams.

(b) The PCWP manufacturing facility is located at a major source of HAP emissions. A major source of HAP emissions is any stationary source or group of stationary sources within a contiguous area and under common control that emits or has the potential to emit any single HAP at a rate of 9.07 megagrams (10 tons) or more per year or any combination of HAP at a rate of 22.68 megagrams (25 tons) or more per year.

[69 FR 46011, July 30, 2004, as amended at 72 FR 61062, Oct. 29, 2007]

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§63.2232 What parts of my plant does this subpart cover?

(a) This subpart applies to each new, reconstructed, or existing affected source at a PCWP manufacturing facility.

(b) The affected source is the collection of dryers, refiners, blenders, formers, presses, board coolers, and other process units associated with the manufacturing of plywood and composite wood products. The affected source includes, but is not limited to, green end operations, refining, drying operations (including any combustion unit exhaust stream routinely used to direct fire process unit(s)), resin preparation, blending and forming operations, pressing and board cooling operations, and miscellaneous finishing operations (such as sanding, sawing, patching, edge sealing, and other finishing operations not subject to other national emission standards for hazardous air pollutants (NESHAP)). The affected source also includes onsite storage and preparation of raw materials used in the manufacture of plywood and/or composite wood products, such as resins; onsite wastewater treatment operations specifically associated with plywood and composite wood products manufacturing; and miscellaneous coating operations (§63.2292). The affected source includes lumber kilns at PCWP manufacturing facilities and at any other kind of facility.

(c) An affected source is a new affected source if you commenced construction of the affected source after January 9, 2003, and you meet the applicability criteria at the time you commenced construction.

(d) An affected source is reconstructed if you meet the criteria as defined in §63.2.

(e) An affected source is existing if it is not new or reconstructed.

[69 FR 46011, July 30, 2004, as amended at 71 FR 8371, Feb. 16, 2006]

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§63.2233 When do I have to comply with this subpart?

(a) If you have a new or reconstructed affected source, you must comply with this subpart according to paragraph (a)(1) or (2) of this section, whichever is applicable.

(1) If the initial startup of your affected source is before September 28, 2004, then you must comply with the compliance options, operating requirements, and work practice requirements for new and reconstructed sources in this subpart no later than September 28, 2004.

(2) If the initial startup of your affected source is after September 28, 2004, then you must comply with the compliance options, operating requirements, and work practice requirements for new and reconstructed sources in this subpart upon initial startup of your affected source.

(b) If you have an existing affected source, you must comply with the compliance options, operating requirements, and work practice requirements for existing sources no later than October 1, 2007.

(c) If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, you must be in compliance with this subpart by October 1, 2007 or upon initial startup of your affected source as a major source, whichever is later.

(d) You must meet the notification requirements according to the schedule in §63.2280 and according to 40 CFR part 63, subpart A. Some of the notifications must be submitted before you are required to comply with the compliance options, operating requirements, and work practice requirements in this subpart.

[69 FR 46011, July 30, 2004, as amended at 71 FR 8372, Feb. 16, 2006; 72 FR 61062, Oct. 29, 2007]

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COMPLIANCE OPTIONS, OPERATING REQUIREMENTS, AND WORK PRACTICE REQUIREMENTS

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§63.2240 What are the compliance options and operating requirements and how must I meet them?

You must meet the compliance options and operating requirements described in Tables 1A, 1B, and 2 to this subpart and in paragraph (c) of this section by using one or more of the compliance options listed in paragraphs (a), (b), and (c) of this section. The process units subject to the compliance options are listed in Tables 1A and 1B to this subpart and are defined in §63.2292. You need only to meet one of the compliance options outlined in paragraphs (a) through (c) of this section for each process unit. You cannot combine compliance options in paragraph (a), (b), or (c) for a single process unit. (For example, you cannot use a production-based compliance option in paragraph (a) for one vent of a veneer dryer and an add-on control system compliance option in paragraph (b) for another vent on the same veneer dryer. You must use either the production-based compliance option or an add-on control system compliance option for the entire dryer.)

(a) *Production-based compliance options.* You must meet the production-based total HAP compliance options in Table 1A to this subpart and the applicable operating requirements in Table 2 to this subpart. You may not use an add-on control system or wet control device to meet the production-based compliance options.

(b) *Compliance options for add-on control systems.* You must use an emissions control system and demonstrate that the resulting emissions meet the compliance options and operating requirements in Tables 1B and 2 to this subpart. If you own or operate a reconstituted wood product press at a new or existing affected source or a reconstituted wood product board cooler at a new affected source, and you choose to comply with one of the concentration-based compliance options for a control system outlet (presented as option numbers 2, 4, and 6 in Table 1B to this subpart), you must have a capture device that either meets the definition of wood products enclosure in §63.2292 or achieves a capture efficiency of greater than or equal to 95 percent.

(c) *Emissions averaging compliance option (for existing sources only).* Using the procedures in paragraphs (c)(1) through (3) of this section, you must demonstrate that emissions included in the emissions average meet the compliance options and operating requirements. New sources may not use emissions averaging to comply with this subpart.

(1) *Calculation of required and actual mass removal.* Limit emissions of total HAP, as defined in §63.2292, to include acetaldehyde, acrolein, formaldehyde, methanol, phenol, and propionaldehyde from your affected source to the standard specified by Equations 1, 2, and 3 of this section.

$$RMR = 0.90 \times \left(\sum_{i=1}^{n} UCEP_i \times OH_i \right) \quad (Eq.\ 1)$$

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$$AMR = \left(\sum_{i=1}^{n} CD_i \times OCEP_i \times OH_i \right) \quad (Eq.\ 2)$$

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$$AMR \geq RMR \quad (Eq.\ 3)$$

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Where:

RMR = required mass removal of total HAP from all process units generating debits (*i.e.,* all process units that are subject to the compliance options in Tables 1A and 1B to this subpart and that are either uncontrolled or under-controlled), pounds per semiannual period;

AMR = actual mass removal of total HAP from all process units generating credits (*i.e.,* all process units that are controlled as part of the Emissions Averaging Plan including credits from debit-generating process units that are under-controlled), pounds per semiannual period;

$UCEP_i$ = mass of total HAP from an uncontrolled or under-controlled process unit (i) that generates debits, pounds per hour;

OH_i = number of hours a process unit (i) is operated during the semiannual period, hours per 6-month period;

CD_i = control system efficiency for the emission point (i) for total HAP, expressed as a fraction, and not to exceed 90 percent, unitless (Note: To calculate the control system efficiency of biological treatment units that do not meet the definition of biofilter in §63.2292, you must use 40 CFR part 63, appendix C, Determination of the Fraction Biodegraded (F_{bio}) in a Biological Treatment Unit.);

$OCEP_i$ = mass of total HAP from a process unit (i) that generates credits (including credits from debit-generating process units that are under-controlled), pounds per hour;

0.90 = required control system efficiency of 90 percent multiplied, unitless.

(2) *Requirements for debits and credits.* You must calculate debits and credits as specified in paragraphs (c)(2)(i) through (vi) of this section.

(i) You must limit process units in the emissions average to those process units located at the existing affected source as defined in §63.2292.

(ii) You cannot use nonoperating process units to generate emissions averaging credits. You cannot use process units that are shut down to generate emissions averaging debits or credits.

(iii) You may not include in your emissions average process units controlled to comply with a State, Tribal, or Federal rule other than this subpart.

(iv) You must use actual measurements of total HAP emissions from process units to calculate your required mass removal (RMR) and actual mass removal (AMR). The total HAP measurements must be obtained according to §63.2262(b) through (d), (g), and (h), using the methods specified in Table 4 to this subpart.

(v) Your initial demonstration that the credit-generating process units will be capable of generating enough credits to offset the debits from the debit-generating process units must be made under

representative operating conditions. After the compliance date, you must use actual operating data for all debit and credit calculations.

(vi) Do not include emissions from the following time periods in your emissions averaging calculations:

(A) Emissions during periods of startup, shutdown, and malfunction as described in the startup, shutdown, and malfunction plan (SSMP).

(B) Emissions during periods of monitoring malfunctions, associated repairs, and required quality assurance or control activities or during periods of control device maintenance covered in your routine control device maintenance exemption. No credits may be assigned to credit-generating process units, and maximum debits must be assigned to debit-generating process units during these periods.

(3) *Operating requirements.* You must meet the operating requirements in Table 2 to this subpart for each process unit or control device used in calculation of emissions averaging credits.

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§63.2241 What are the work practice requirements and how must I meet them?

(a) You must meet each work practice requirement in Table 3 to this subpart that applies to you.

(b) As provided in §63.6(g), we, the EPA, may choose to grant you permission to use an alternative to the work practice requirements in this section.

(c) If you have a dry rotary dryer, you may choose to designate your dry rotary dryer as a green rotary dryer and meet the more stringent compliance options and operating requirements in §63.2240 for green rotary dryers instead of the work practices for dry rotary dryers. If you have a hardwood veneer dryer or veneer redryer, you may choose to designate your hardwood veneer dryer or veneer redryer as a softwood veneer dryer and meet the more stringent compliance options and operating requirements in §63.2240 for softwood veneer dryer heated zones instead of the work practices for hardwood veneer dryers or veneer redryers.

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GENERAL COMPLIANCE REQUIREMENTS

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§63.2250 What are the general requirements?

(a) You must be in compliance with the compliance options, operating requirements, and the work practice requirements in this subpart at all times, except during periods of process unit or control device startup, shutdown, and malfunction; prior to process unit initial startup; and during the routine control device maintenance exemption specified in §63.2251. The compliance options, operating requirements, and work practice requirements do not apply during times when the process unit(s) subject to the compliance options, operating requirements, and work practice requirements are not operating, or during periods of startup, shutdown, and malfunction. Startup and shutdown periods must not exceed the minimum amount of time necessary for these events.

(b) You must always operate and maintain your affected source, including air pollution control and monitoring equipment, according to the provisions in §63.6(e)(1)(i).

(c) You must develop a written SSMP according to the provisions in §63.6(e)(3).

(d) Shutoff of direct-fired burners resulting from partial and full production stoppages of direct-fired softwood veneer dryers or over-temperature events shall be deemed shutdowns and not malfunctions.

Lighting or re-lighting any one or all gas burners in direct-fired softwood veneer dryers shall be deemed startups and not malfunctions.

[69 FR 46011, July 30, 2004, as amended at 71 FR 8372, Feb. 16, 2006; 71 FR 20463, Apr. 20, 2006]

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§63.2251 What are the requirements for the routine control device maintenance exemption?

(a) You may request a routine control device maintenance exemption from the EPA Administrator for routine maintenance events such as control device bakeouts, washouts, media replacement, and replacement of corroded parts. Your request must justify the need for the routine maintenance on the control device and the time required to accomplish the maintenance activities, describe the maintenance activities and the frequency of the maintenance activities, explain why the maintenance cannot be accomplished during process shutdowns, describe how you plan to make reasonable efforts to minimize emissions during the maintenance, and provide any other documentation required by the EPA Administrator.

(b) The routine control device maintenance exemption must not exceed the percentages of process unit operating uptime in paragraphs (b)(1) and (2) of this section.

(1) If the control device is used to control a green rotary dryer, tube dryer, rotary strand dryer, or pressurized refiner, then the routine control device maintenance exemption must not exceed 3 percent of annual operating uptime for each process unit controlled.

(2) If the control device is used to control a softwood veneer dryer, reconstituted wood product press, reconstituted wood product board cooler, hardboard oven, press predryer, conveyor strand dryer, or fiberboard mat dryer, then the routine control device maintenance exemption must not exceed 0.5 percent of annual operating uptime for each process unit controlled.

(3) If the control device is used to control a combination of equipment listed in both paragraphs (b)(1) and (2) of this section, such as a tube dryer and a reconstituted wood product press, then the routine control device maintenance exemption must not exceed 3 percent of annual operating uptime for each process unit controlled.

(c) The request for the routine control device maintenance exemption, if approved by the EPA Administrator, must be IBR in and attached to the affected source's title V permit.

(d) The compliance options and operating requirements do not apply during times when control device maintenance covered under your approved routine control device maintenance exemption is performed. You must minimize emissions to the greatest extent possible during these routine control device maintenance periods.

(e) To the extent practical, startup and shutdown of emission control systems must be scheduled during times when process equipment is also shut down.

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§63.2252 What are the requirements for process units that have no control or work practice requirements?

For process units not subject to the compliance options or work practice requirements specified in §63.2240 (including, but not limited to, lumber kilns), you are not required to comply with the compliance options, work practice requirements, performance testing, monitoring, SSM plans, and recordkeeping or reporting requirements of this subpart, or any other requirements in subpart A of this part, except for the initial notification requirements in §63.9(b).

[71 FR 8372, Feb. 16, 2006]

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INITIAL COMPLIANCE REQUIREMENTS

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§63.2260 How do I demonstrate initial compliance with the compliance options, operating requirements, and work practice requirements?

(a) To demonstrate initial compliance with the compliance options and operating requirements, you must conduct performance tests and establish each site-specific operating requirement in Table 2 to this subpart according to the requirements in §63.2262 and Table 4 to this subpart. Combustion units that accept process exhausts into the flame zone are exempt from the initial performance testing and operating requirements for thermal oxidizers.

(b) You must demonstrate initial compliance with each compliance option, operating requirement, and work practice requirement that applies to you according to Tables 5 and 6 to this subpart and according to §§63.2260 through 63.2269 of this subpart.

(c) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.2280(d).

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§63.2261 By what date must I conduct performance tests or other initial compliance demonstrations?

(a) You must conduct performance tests upon initial startup or no later than 180 calendar days after the compliance date that is specified for your source in §63.2233 and according to §63.7(a)(2), whichever is later.

(b) You must conduct initial compliance demonstrations that do not require performance tests upon initial startup or no later than 30 calendar days after the compliance date that is specified for your source in §63.2233, whichever is later.

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§63.2262 How do I conduct performance tests and establish operating requirements?

(a) You must conduct each performance test according to the requirements in §63.7(e)(1), the requirements in paragraphs (b) through (o) of this section, and according to the methods specified in Table 4 to this subpart.

(b) *Periods when performance tests must be conducted.* (1) You must not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in §63.7(e)(1).

(2) You must test under representative operating conditions as defined in §63.2292. You must describe representative operating conditions in your performance test report for the process and control systems and explain why they are representative.

(c) *Number of test runs.* You must conduct three separate test runs for each performance test required in this section as specified in §63.7(e)(3). Each test run must last at least 1 hour except for: testing of a temporary total enclosure (TTE) conducted using Methods 204A through 204F of 40 CFR part 51, appendix M, which require three separate test runs of at least 3 hours each; and testing of an enclosure conducted using the alternative tracer gas method in appendix A to this subpart, which requires a minimum of three separate runs of at least 20 minutes each.

(d) *Location of sampling sites.* (1) Sampling sites must be located at the inlet (if emission reduction testing or documentation of inlet methanol or formaldehyde concentration is required) and outlet of the control device (defined in §63.2292) and prior to any releases to the atmosphere. For control sequences with wet control devices (defined in §63.2292) followed by control devices (defined

in §63.2292), sampling sites may be located at the inlet and outlet of the control sequence and prior to any releases to the atmosphere.

(2) Sampling sites for process units meeting compliance options without a control device must be located prior to any releases to the atmosphere. Facilities demonstrating compliance with a production-based compliance option for a process unit equipped with a wet control device must locate sampling sites prior to the wet control device.

(e) *Collection of monitoring data.* You must collect operating parameter monitoring system or continuous emissions monitoring system (CEMS) data at least every 15 minutes during the entire performance test and determine the parameter or concentration value for the operating requirement during the performance test using the methods specified in paragraphs (k) through (o) of this section.

(f) *Collection of production data.* To comply with any of the production-based compliance options, you must measure and record the process unit throughput during each performance test.

(g) *Nondetect data.* (1) Except as specified in paragraph (g)(2) of this section, all nondetect data (§63.2292) must be treated as one-half of the method detection limit when determining total HAP, formaldehyde, methanol, or total hydrocarbon (THC) emission rates.

(2) When showing compliance with the production-based compliance options in Table 1A to this subpart, you may treat emissions of an individual HAP as zero if all three of the performance test runs result in a nondetect measurement, and the method detection limit is less than or equal to 1 parts per million by volume, dry basis (ppmvd). Otherwise, nondetect data for individual HAP must be treated as one-half of the method detection limit.

(h) *Calculation of percent reduction across a control system.* When determining the control system efficiency for any control system included in your emissions averaging plan (not to exceed 90 percent) and when complying with any of the compliance options based on percent reduction across a control system in Table 1B to this subpart, as part of the performance test, you must calculate the percent reduction using Equation 1 of this section:

$$PR = CE \times \frac{ER_{in} - ER_{out}}{ER_{in}}(100) \qquad (Eq.\ 1)$$

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Where:

PR = percent reduction, percent;

CE = capture efficiency, percent (determined for reconstituted wood product presses and board coolers as required in Table 4 to this subpart);

ER_{in} = emission rate of total HAP (calculated as the sum of the emission rates of acetaldehyde, acrolein, formaldehyde, methanol, phenol, and propionaldehyde), THC, formaldehyde, or methanol in the inlet vent stream of the control device, pounds per hour;

ER_{out} = emission rate of total HAP (calculated as the sum of the emission rates of acetaldehyde, acrolein, formaldehyde, methanol, phenol, and propionaldehyde), THC, formaldehyde, or methanol in the outlet vent stream of the control device, pounds per hour.

(i) *Calculation of mass per unit production.* To comply with any of the production-based compliance options in Table 1A to this subpart, you must calculate your mass per unit production emissions for each performance test run using Equation 2 of this section:

$$MP = \frac{ER_{HAP}}{P \times CE} \qquad (Eq.\ 2)$$

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Where:

MP = mass per unit production, pounds per oven dried ton OR pounds per thousand square feet on a specified thickness basis (see paragraph (j) of this section if you need to convert from one thickness basis to another);

ER_{HAP} = emission rate of total HAP (calculated as the sum of the emission rates of acetaldehyde, acrolein, formaldehyde, methanol, phenol, and propionaldehyde) in the stack, pounds per hour;

P = process unit production rate (throughput), oven dried tons per hour OR thousand square feet per hour on a specified thickness basis;

CE = capture efficiency, percent (determined for reconstituted wood product presses and board coolers as required in Table 4 to this subpart).

(j) *Thickness basis conversion.* Use Equation 3 of this section to convert from one thickness basis to another:

$$MSF_B = MSF_A \times \frac{A}{B} \qquad (Eq.\ 3)$$

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Where:

MSF_A = thousand square feet on an A-inch basis;

MSF_B = thousand square feet on a B-inch basis;

A = old thickness you are converting from, inches;

B = new thickness you are converting to, inches.

(k) *Establishing thermal oxidizer operating requirements.* If you operate a thermal oxidizer, you must establish your thermal oxidizer operating parameters according to paragraphs (k)(1) through (3) of this section.

(1) During the performance test, you must continuously monitor the firebox temperature during each of the required 1-hour test runs. For regenerative thermal oxidizers, you may measure the temperature in multiple locations (*e.g.*, one location per burner) in the combustion chamber and calculate the average of the temperature measurements prior to reducing the temperature data to 15-minute averages for purposes of establishing your minimum firebox temperature. The minimum firebox temperature must then be established as the average of the three minimum 15-minute firebox temperatures monitored during the three test runs. Multiple three-run performance tests may be conducted to establish a range of parameter values under different operating conditions.

(2) You may establish a different minimum firebox temperature for your thermal oxidizer by submitting the notification specified in §63.2280(g) and conducting a repeat performance test as specified in paragraph (k)(1) of this section that demonstrates compliance with the applicable compliance options of this subpart.

(3) If your thermal oxidizer is a combustion unit that accepts process exhaust into the flame zone, then you are exempt from the performance testing and monitoring requirements specified in paragraphs (k)(1) and (2) of this section. To demonstrate initial compliance, you must submit documentation with your Notification of Compliance Status showing that process exhausts controlled by the combustion unit enter into the flame zone.

(l) *Establishing catalytic oxidizer operating requirements.* If you operate a catalytic oxidizer, you must establish your catalytic oxidizer operating parameters according to paragraphs (l)(1) and (2) of this section.

(1) During the performance test, you must continuously monitor during the required 1-hour test runs either the temperature at the inlet to each catalyst bed or the temperature in the combustion chamber. For regenerative catalytic oxidizers, you must calculate the average of the temperature measurements from each catalyst bed inlet or within the combustion chamber prior to reducing the temperature data to 15-minute averages for purposes of establishing your minimum catalytic oxidizer temperature. The minimum catalytic oxidizer temperature must then be established as the average of the three minimum 15-minute temperatures monitored during the three test runs. Multiple three-run performance tests may be conducted to establish a range of parameter values under different operating conditions.

(2) You may establish a different minimum catalytic oxidizer temperature by submitting the notification specified in §63.2280(g) and conducting a repeat performance test as specified in paragraphs (l)(1) and (2) of this section that demonstrates compliance with the applicable compliance options of this subpart.

(m) *Establishing biofilter operating requirements.* If you operate a biofilter, you must establish your biofilter operating requirements according to paragraphs (m)(1) through (3) of this section.

(1) During the performance test, you must continuously monitor the biofilter bed temperature during each of the required 1-hour test runs. To monitor biofilter bed temperature, you may use multiple thermocouples in representative locations throughout the biofilter bed and calculate the average biofilter bed temperature across these thermocouples prior to reducing the temperature data to 15-minute averages for purposes of establishing biofilter bed temperature limits. The biofilter bed temperature range must be established as the minimum and maximum 15-minute biofilter bed temperatures monitored during the three test runs. You may base your biofilter bed temperature range on values recorded during previous performance tests provided that the data used to establish the temperature ranges have been obtained using the test methods required in this subpart. If you use data from previous performance tests, you must certify that the biofilter and associated process unit(s) have not been modified subsequent to the date of the performance tests. Replacement of the biofilter media with the same type of material is not considered a modification of the biofilter for purposes of this section.

(2) For a new biofilter installation, you will be allowed up to 180 days following the compliance date or 180 days following initial startup of the biofilter to complete the requirements in paragraph (m)(1) of this section.

(3) You may expand your biofilter bed temperature operating range by submitting the notification specified in §63.2280(g) and conducting a repeat performance test as specified in paragraph (m)(1) of this section that demonstrates compliance with the applicable compliance options of this subpart.

(n) *Establishing operating requirements for process units meeting compliance options without a control device.* If you operate a process unit that meets a compliance option in Table 1A to this subpart, or is a process unit that generates debits in an emissions average without the use of a control device, you must establish your process unit operating parameters according to paragraphs (n)(1) through (2) of this section.

(1) During the performance test, you must identify and document the process unit controlling parameter(s) that affect total HAP emissions during the three-run performance test. The controlling parameters you identify must coincide with the representative operating conditions you describe according to §63.2262(b)(2). For each parameter, you must specify appropriate monitoring methods, monitoring frequencies, and for continuously monitored parameters, averaging times not to exceed 24 hours. The operating limit for each controlling parameter must then be established as the minimum, maximum, range, or average (as appropriate depending on the parameter) recorded during the performance test. Multiple three-run performance tests may be conducted to establish a range of parameter values under different operating conditions.

(2) You may establish different controlling parameter limits for your process unit by submitting the notification specified in §63.2280(g) and conducting a repeat performance test as specified in paragraph (n)(1) of this section that demonstrates compliance with the compliance options in Table 1A to this subpart or is used to establish emission averaging debits for an uncontrolled process unit.

(o) *Establishing operating requirements using THC CEMS.* If you choose to meet the operating requirements by monitoring THC concentration instead of monitoring control device or process operating parameters, you must establish your THC concentration operating requirement according to paragraphs (o)(1) through (2) of this section.

(1) During the performance test, you must continuously monitor THC concentration using your CEMS during each of the required 1-hour test runs. The maximum THC concentration must then be established as the average of the three maximum 15-minute THC concentrations monitored during the three test runs. Multiple three-run performance tests may be conducted to establish a range of THC concentration values under different operating conditions.

(2) You may establish a different maximum THC concentration by submitting the notification specified in §63.2280(g) and conducting a repeat performance test as specified in paragraph (o)(1) of this section that demonstrates compliance with the compliance options in Tables 1A and 1B to this subpart.

[69 FR 46011, July 30, 2004, as amended at 71 FR 8372, Feb. 16, 2006]

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§63.2263 Initial compliance demonstration for a dry rotary dryer.

If you operate a dry rotary dryer, you must demonstrate that your dryer processes furnish with an inlet moisture content of less than or equal to 30 percent (by weight, dry basis) and operates with a dryer inlet temperature of less than or equal to 600 °F. You must designate and clearly identify each dry rotary dryer. You must record the inlet furnish moisture content (dry basis) and inlet dryer operating temperature according to §63.2269(a), (b), and (c) and §63.2270 for a minimum of 30 calendar days. You must submit the highest recorded 24-hour average inlet furnish moisture content and the highest recorded 24-hour average dryer inlet temperature with your Notification of Compliance Status. In addition, you must submit with the Notification of Compliance Status a signed statement by a responsible official that certifies with truth, accuracy, and completeness that the dry rotary dryer will dry furnish with a maximum inlet moisture content less than or equal to 30 percent (by weight, dry basis) and will operate with a maximum inlet temperature of less than or equal to 600 °F in the future.

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§63.2264 Initial compliance demonstration for a hardwood veneer dryer.

If you operate a hardwood veneer dryer, you must record the annual volume percentage of softwood veneer species processed in the dryer as follows:

(a) Use Equation 1 of this section to calculate the annual volume percentage of softwood species dried:

$$SW_{\%} = \frac{SW}{T}\ (100) \qquad (Eq.\ 1)$$

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Where:

SW% = annual volume percent softwood species dried;

SW = softwood veneer dried during the previous 12 months, thousand square feet ($^{3}/_{8}$ -inch basis);

T = total softwood and hardwood veneer dried during the previous 12 months, thousand square feet ($\frac{3}{8}$ -inch basis).

(b) You must designate and clearly identify each hardwood veneer dryer. Submit with the Notification of Compliance Status the annual volume percentage of softwood species dried in the dryer based on your dryer production for the 12 months prior to the compliance date specified for your source in §63.2233. If you did not dry any softwood species in the dryer during the 12 months prior to the compliance date, then you need only to submit a statement indicating that no softwood species were dried. In addition, submit with the Notification of Compliance Status a signed statement by a responsible official that certifies with truth, accuracy, and completeness that the veneer dryer will be used to process less than 30 volume percent softwood species in the future.

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§63.2265 Initial compliance demonstration for a softwood veneer dryer.

If you operate a softwood veneer dryer, you must develop a plan for review and approval for minimizing fugitive emissions from the veneer dryer heated zones, and you must submit the plan with your Notification of Compliance Status.

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§63.2266 Initial compliance demonstration for a veneer redryer.

If you operate a veneer redryer, you must record the inlet moisture content of the veneer processed in the redryer according to §63.2269(a) and (c) and §63.2270 for a minimum of 30 calendar days. You must designate and clearly identify each veneer redryer. You must submit the highest recorded 24-hour average inlet veneer moisture content with your Notification of Compliance Status to show that your veneer redryer processes veneer with an inlet moisture content of less than or equal to 25 percent (by weight, dry basis). In addition, submit with the Notification of Compliance Status a signed statement by a responsible official that certifies with truth, accuracy, and completeness that the veneer redryer will dry veneer with a moisture content less than 25 percent (by weight, dry basis) in the future.

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§63.2267 Initial compliance demonstration for a reconstituted wood product press or board cooler.

If you operate a reconstituted wood product press at a new or existing affected source or a reconstituted wood product board cooler at a new affected source, then you must either use a wood products enclosure as defined in §63.2292 or measure the capture efficiency of the capture device for the press or board cooler using Methods 204 and 204A through 204F of 40 CFR part 51, appendix M (as appropriate), or using the alternative tracer gas method contained in appendix A to this subpart. You must submit documentation that the wood products enclosure meets the press enclosure design criteria in §63.2292 or the results of the capture efficiency verification with your Notification of Compliance Status.

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§63.2268 Initial compliance demonstration for a wet control device.

If you use a wet control device as the sole means of reducing HAP emissions, you must develop and implement a plan for review and approval to address how organic HAP captured in the wastewater from the wet control device is contained or destroyed to minimize re-release to the atmosphere such that the desired emissions reductions are obtained. You must submit the plan with your Notification of Compliance Status.

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§63.2269 What are my monitoring installation, operation, and maintenance requirements?

(a) *General continuous parameter monitoring requirements.* You must install, operate, and maintain each continuous parameter monitoring system (CPMS) according to paragraphs (a)(1) through (3) of this section.

(1) The CPMS must be capable of completing a minimum of one cycle of operation (sampling, analyzing, and recording) for each successive 15-minute period.

(2) At all times, you must maintain the monitoring equipment including, but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

(3) Record the results of each inspection, calibration, and validation check.

(b) *Temperature monitoring.* For each temperature monitoring device, you must meet the requirements in paragraphs (a) and (b)(1) through (6) of this section.

(1) Locate the temperature sensor in a position that provides a representative temperature.

(2) Use a temperature sensor with a minimum accuracy of 4 °F or 0.75 percent of the temperature value, whichever is larger.

(3) If a chart recorder is used, it must have a sensitivity with minor divisions not more than 20 °F.

(4) Perform an electronic calibration at least semiannually according to the procedures in the manufacturer's owners manual. Following the electronic calibration, you must conduct a temperature sensor validation check in which a second or redundant temperature sensor placed nearby the process temperature sensor must yield a reading within 30 °F of the process temperature sensor's reading.

(5) Conduct calibration and validation checks any time the sensor exceeds the manufacturer's specified maximum operating temperature range or install a new temperature sensor.

(6) At least quarterly, inspect all components for integrity and all electrical connections for continuity, oxidation, and galvanic corrosion.

(c) Wood moisture monitoring. For each furnish or veneer moisture meter, you must meet the requirements in paragraphs (a)(1) through (3) and paragraphs (c)(1) through (5) of this section.

(1) For dry rotary dryers, use a continuous moisture monitor with a minimum accuracy of 1 percent (dry basis) moisture or better in the 25 to 35 percent (dry basis) moisture content range. For veneer redryers, use a continuous moisture monitor with a minimum accuracy of 3 percent (dry basis) moisture or better in the 15 to 25 percent (dry basis) moisture content range. Alternatively, you may use a continuous moisture monitor with a minimum accuracy of 5 percent (dry basis) moisture or better for dry rotary dryers used to dry furnish with less than 25 percent (dry basis) moisture or for veneer redryers used to redry veneer with less than 20 percent (dry basis) moisture.

(2) Locate the moisture monitor in a position that provides a representative measure of furnish or veneer moisture.

(3) Calibrate the moisture monitor based on the procedures specified by the moisture monitor manufacturer at least once per semiannual compliance period (or more frequently if recommended by the moisture monitor manufacturer).

(4) At least quarterly, inspect all components of the moisture monitor for integrity and all electrical connections for continuity.

(5) Use Equation 1 of this section to convert percent moisture measurements wet basis to a dry basis:

$$MC_{dry} = \frac{MC_{wet}/100}{1-(MC_{wet}/100)}(100) \qquad (Eq.\ 1)$$

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Where:

MC_{dry} = percent moisture content of wood material (weight percent, dry basis);

MC_{wet} = percent moisture content of wood material (weight percent, wet basis).

(d) *Continuous emission monitoring system(s).* Each CEMS must be installed, operated, and maintained according to paragraphs (d)(1) through (4) of this section.

(1) Each CEMS for monitoring THC concentration must be installed, operated, and maintained according to Performance Specification 8 of 40 CFR part 60, appendix B. You must also comply with Procedure 1 of 40 CFR part 60, appendix F.

(2) You must conduct a performance evaluation of each CEMS according to the requirements in §63.8 and according to Performance Specification 8 of 40 CFR part 60, appendix B.

(3) As specified in §63.8(c)(4)(ii), each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

(4) The CEMS data must be reduced as specified in §63.8(g)(2) and §63.2270(d) and (e).

[69 FR 46011, July 30, 2004, as amended at 71 FR 8372, Feb. 16, 2006]

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CONTINUOUS COMPLIANCE REQUIREMENTS

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§63.2270 How do I monitor and collect data to demonstrate continuous compliance?

(a) You must monitor and collect data according to this section.

(b) Except for, as appropriate, monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), you must conduct all monitoring in continuous operation at all times that the process unit is operating. For purposes of calculating data averages, you must not use data recorded during monitoring malfunctions, associated repairs, out-of-control periods, or required quality assurance or control activities. You must use all the data collected during all other periods in assessing compliance. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. Any period for which the monitoring system is out-of-control and data are not available for required calculations constitutes a deviation from the monitoring requirements.

(c) You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities; data recorded during periods of startup, shutdown, and malfunction; or data recorded during periods of control device downtime covered in any approved routine control device maintenance exemption in data averages and calculations used to report emission or operating levels, nor may such data be used in fulfilling a minimum data availability requirement, if applicable. You must use all the data collected during all other periods in assessing the operation of the control system.

(d) Except as provided in paragraph (e) of this section, determine the 3-hour block average of all recorded readings, calculated after every 3 hours of operation as the average of the evenly spaced recorded readings in the previous 3 operating hours (excluding periods described in paragraphs (b) and (c) of this section).

(e) For dry rotary dryer and veneer redryer wood moisture monitoring, dry rotary dryer temperature monitoring, biofilter bed temperature monitoring, and biofilter outlet THC monitoring, determine the 24-hour block average of all recorded readings, calculated after every 24 hours of operation as the average of the evenly spaced recorded readings in the previous 24 operating hours (excluding periods described in paragraphs (b) and (c) of this section).

(f) To calculate the data averages for each 3-hour or 24-hour averaging period, you must have at least 75 percent of the required recorded readings for that period using only recorded readings that are based on valid data (*i.e.*, not from periods described in paragraphs (b) and (c) of this section).

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§63.2271 How do I demonstrate continuous compliance with the compliance options, operating requirements, and work practice requirements?

(a) You must demonstrate continuous compliance with the compliance options, operating requirements, and work practice requirements in §§63.2240 and 63.2241 that apply to you according to the methods specified in Tables 7 and 8 to this subpart.

(b) You must report each instance in which you did not meet each compliance option, operating requirement, and work practice requirement in Tables 7 and 8 to this subpart that applies to you. This includes periods of startup, shutdown, and malfunction and periods of control device maintenance specified in paragraphs (b)(1) through (3) of this section. These instances are deviations from the compliance options, operating requirements, and work practice requirements in this subpart. These deviations must be reported according to the requirements in §63.2281.

(1) [Reserved]

(2) Consistent with §§63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if you demonstrate to the EPA Administrator's satisfaction that you were operating in accordance with §63.6(e)(1). The EPA Administrator will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in §63.6(e).

(3) Deviations that occur during periods of control device maintenance covered by any approved routine control device maintenance exemption are not violations if you demonstrate to the EPA Administrator's satisfaction that you were operating in accordance with the approved routine control device maintenance exemption.

[69 FR 46011, July 30, 2004, as amended at 71 FR 20463, Apr. 20, 2006]

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NOTIFICATIONS, REPORTS, AND RECORDS

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§63.2280 What notifications must I submit and when?

(a) You must submit all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9 (b) through (e), and (g) and (h) by the dates specified.

(b) You must submit an Initial Notification no later than 120 calendar days after September 28, 2004, or after initial startup, whichever is later, as specified in §63.9(b)(2).

(c) If you are required to conduct a performance test, you must submit a written notification of intent to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin as specified in §63.7(b)(1).

(d) If you are required to conduct a performance test, design evaluation, or other initial compliance demonstration as specified in Tables 4, 5, and 6 to this subpart, you must submit a Notification of Compliance Status as specified in §63.9(h)(2)(ii).

(1) For each initial compliance demonstration required in Table 5 or 6 to this subpart that does not include a performance test, you must submit the Notification of Compliance Status before the close of business on the 30th calendar day following the completion of the initial compliance demonstration.

(2) For each initial compliance demonstration required in Tables 5 and 6 to this subpart that includes a performance test conducted according to the requirements in Table 4 to this subpart, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th calendar day following the completion of the performance test according to §63.10(d)(2).

(e) If you request a routine control device maintenance exemption according to §63.2251, you must submit your request for the exemption no later than 30 days before the compliance date.

(f) If you use the emissions averaging compliance option in §63.2240(c), you must submit an Emissions Averaging Plan to the EPA Administrator for approval no later than 1 year before the compliance date or no later than 1 year before the date you would begin using an emissions average, whichever is later. The Emissions Averaging Plan must include the information in paragraphs (f)(1) through (6) of this section.

(1) Identification of all the process units to be included in the emissions average indicating which process units will be used to generate credits, and which process units that are subject to compliance options in Tables 1A and 1B to this subpart will be uncontrolled (used to generate debits) or under-controlled (used to generate debits and credits).

(2) Description of the control system used to generate emission credits for each process unit used to generate credits.

(3) Determination of the total HAP control efficiency for the control system used to generate emission credits for each credit-generating process unit.

(4) Calculation of the RMR and AMR, as calculated using Equations 1 through 3 of §63.2240(c)(1).

(5) Documentation of total HAP measurements made according to §63.2240(c)(2)(iv) and other relevant documentation to support calculation of the RMR and AMR.

(6) A summary of the operating parameters you will monitor and monitoring methods for each debit-generating and credit-generating process unit.

(g) You must notify the EPA Administrator within 30 days before you take any of the actions specified in paragraphs (g)(1) through (3) of this section.

(1) You modify or replace the control system for any process unit subject to the compliance options and operating requirements in this subpart.

(2) You shut down any process unit included in your Emissions Averaging Plan.

(3) You change a continuous monitoring parameter or the value or range of values of a continuous monitoring parameter for any process unit or control device.

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§63.2281 What reports must I submit and when?

(a) You must submit each report in Table 9 to this subpart that applies to you.

(b) Unless the EPA Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report by the date in Table 9 to this subpart and as specified in paragraphs (b)(1) through (5) of this section.

(1) The first compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.2233 ending on June 30 or December 31, and lasting at least 6 months, but less than 12 months. For example, if your compliance date is March 1, then the first semiannual reporting period would begin on March 1 and end on December 31.

(2) The first compliance report must be postmarked or delivered no later than July 31 or January 31 for compliance periods ending on June 30 and December 31, respectively.

(3) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) Each subsequent compliance report must be postmarked or delivered no later than July 31 or January 31 for the semiannual reporting period ending on June 30 and December 31, respectively.

(5) For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 40 CFR part 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to §70.6(a)(3)(iii)(A) or §71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (4) of this section.

(c) The compliance report must contain the information in paragraphs (c)(1) through (8) of this section.

(1) Company name and address.

(2) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) If you had a startup, shutdown, or malfunction during the reporting period and you took actions consistent with your SSMP, the compliance report must include the information specified in §63.10(d)(5)(i).

(5) A description of control device maintenance performed while the control device was offline and one or more of the process units controlled by the control device was operating, including the information specified in paragraphs (c)(5)(i) through (iii) of this section.

(i) The date and time when the control device was shut down and restarted.

(ii) Identification of the process units that were operating and the number of hours that each process unit operated while the control device was offline.

(iii) A statement of whether or not the control device maintenance was included in your approved routine control device maintenance exemption developed pursuant to §63.2251. If the control device maintenance was included in your approved routine control device maintenance exemption, then you must report the information in paragraphs (c)(5)(iii)(A) through (C) of this section.

(A) The total amount of time that each process unit controlled by the control device operated during the semiannual compliance period and during the previous semiannual compliance period.

(B) The amount of time that each process unit controlled by the control device operated while the control device was down for maintenance covered under the routine control device maintenance exemption during the semiannual compliance period and during the previous semiannual compliance period.

(C) Based on the information recorded under paragraphs (c)(5)(iii)(A) and (B) of this section for each process unit, compute the annual percent of process unit operating uptime during which the control device was offline for routine maintenance using Equation 1 of this section.

$$RM = \frac{DT_p + DT_c}{PU_p + PU_c} \qquad (Eq.\ 1)$$

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Where:

RM = Annual percentage of process unit uptime during which control device is down for routine control device maintenance;

PU_p = Process unit uptime for the previous semiannual compliance period;

PU_c = Process unit uptime for the current semiannual compliance period;

DT_p = Control device downtime claimed under the routine control device maintenance exemption for the previous semiannual compliance period;

DT_c = Control device downtime claimed under the routine control device maintenance exemption for the current semiannual compliance period.

(6) The results of any performance tests conducted during the semiannual reporting period.

(7) If there are no deviations from any applicable compliance option or operating requirement, and there are no deviations from the requirements for work practice requirements in Table 8 to this subpart, a statement that there were no deviations from the compliance options, operating requirements, or work practice requirements during the reporting period.

(8) If there were no periods during which the continuous monitoring system (CMS), including CEMS and CPMS, was out-of-control as specified in §63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period.

(d) For each deviation from a compliance option or operating requirement and for each deviation from the work practice requirements in Table 8 to this subpart that occurs at an affected source where you are not using a CMS to comply with the compliance options, operating requirements, or work practice requirements in this subpart, the compliance report must contain the information in paragraphs (c)(1) through (6) of this section and in paragraphs (d)(1) and (2) of this section. This includes periods of startup, shutdown, and malfunction and routine control device maintenance.

(1) The total operating time of each affected source during the reporting period.

(2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(e) For each deviation from a compliance option or operating requirement occurring at an affected source where you are using a CMS to comply with the compliance options and operating requirements in this subpart, you must include the information in paragraphs (c)(1) through (6) and paragraphs (e)(1) through (11) of this section. This includes periods of startup, shutdown, and malfunction and routine control device maintenance.

(1) The date and time that each malfunction started and stopped.

(2) The date and time that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out-of-control, including the information in §63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction; during a period of control device maintenance covered in your approved routine control device maintenance exemption; or during another period.

(5) A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to startup, shutdown, control system problems, control device maintenance, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMS downtime during the reporting period and the total duration of CMS downtime as a percent of the total source operating time during that reporting period.

(8) A brief description of the process units.

(9) A brief description of the CMS.

(10) The date of the latest CMS certification or audit.

(11) A description of any changes in CMS, processes, or controls since the last reporting period.

(f) If you comply with the emissions averaging compliance option in §63.2240(c), you must include in your semiannual compliance report calculations based on operating data from the semiannual reporting period that demonstrate that actual mass removal equals or exceeds the required mass removal.

(g) Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 40 CFR part 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by §70.6(a)(3)(iii)(A) or §71.6(a)(3)(iii)(A). If an affected source submits a compliance report pursuant to Table 9 to this subpart along with, or as part of, the semiannual monitoring report required by §70.6(a)(3)(iii)(A) or §71.6(a)(3)(iii)(A), and the compliance report includes all required information concerning deviations from any compliance option, operating requirement, or work practice requirement in this subpart, submission of the compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permitting authority.

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§63.2282 What records must I keep?

(a) You must keep the records listed in paragraphs (a)(1) through (4) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirements in §63.10(b)(2)(xiv).

(2) The records in §63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

(3) Documentation of your approved routine control device maintenance exemption, if you request such an exemption under §63.2251.

(4) Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii).

(b) You must keep the records required in Tables 7 and 8 to this subpart to show continuous compliance with each compliance option, operating requirement, and work practice requirement that applies to you.

(c) For each CEMS, you must keep the following records.

(1) Records described in §63.10(b)(2)(vi) through (xi).

(2) Previous (i.e., superseded) versions of the performance evaluation plan as required in §63.8 (d)(3).

(3) Request for alternatives to relative accuracy testing for CEMS as required in §63.8(f)(6)(i).

(4) Records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(d) If you comply with the emissions averaging compliance option in §63.2240(c), you must keep records of all information required to calculate emission debits and credits.

(e) If you operate a catalytic oxidizer, you must keep records of annual catalyst activity checks and subsequent corrective actions.

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§63.2283 In what form and how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious review as specified in §63.10(b)(1).

(b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record according to §63.10(b)(1). You can keep the records offsite for the remaining 3 years.

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OTHER REQUIREMENTS AND INFORMATION

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§63.2290 What parts of the General Provisions apply to me?

Table 10 to this subpart shows which parts of the General Provisions in §§63.1 through 63.13 apply to you.

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§63.2291 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by the U.S. EPA or a delegated authority such as your State, local, or tribal agency. If the EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency has the authority to implement and enforce this subpart. You should contact your EPA Regional Office to find out if this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the EPA Administrator and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are listed in paragraphs (c)(1) through (4) of this section.

(1) Approval of alternatives to the compliance options, operating requirements, and work practice requirements in §§63.2240 and 63.2241 as specified in §63.6(g). For the purposes of delegation authority under 40 CFR part 63, subpart E, “compliance options” represent “emission limits”; “operating requirements” represent “operating limits”; and “work practice requirements” represent “work practice standards.”

(2) Approval of major alternatives to test methods as specified in §63.7(e)(2)(ii) and (f) and as defined in §63.90.

(3) Approval of major alternatives to monitoring as specified in §63.8(f) and as defined in §63.90.

(4) Approval of major alternatives to recordkeeping and reporting as specified in §63.10(f) and as defined in §63.90.

[69 FR 46011, July 30, 2004, as amended at 72 FR 61063, Oct. 29, 2007]

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§63.2292 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act (CAA), in 40 CFR 63.2, the General Provisions, and in this section as follows:

Affected source means the collection of dryers, refiners, blenders, formers, presses, board coolers, and other process units associated with the manufacturing of plywood and composite wood products. The affected source includes, but is not limited to, green end operations, refining, drying operations (including any combustion unit exhaust stream routinely used to direct fire process unit(s)), resin preparation, blending and forming operations, pressing and board cooling operations, and miscellaneous finishing operations (such as sanding, sawing, patching, edge sealing, and other finishing operations not subject to other NESHAP). The affected source also includes onsite storage of raw materials used in the manufacture of plywood and/or composite wood products, such as resins; onsite wastewater treatment operations specifically associated with plywood and composite wood products manufacturing; and miscellaneous coating operations (defined elsewhere in this section). The affected source includes lumber kilns at PCWP manufacturing facilities and at any other kind of facility.

Agricultural fiber means the fiber of an annual agricultural crop. Examples of agricultural fibers include, but are not limited to, wheat straw, rice straw, and bagasse.

Biofilter means an enclosed control system such as a tank or series of tanks with a fixed roof that contact emissions with a solid media (such as bark) and use microbiological activity to transform organic pollutants in a process exhaust stream to innocuous compounds such as carbon dioxide, water, and inorganic salts. Wastewater treatment systems such as aeration lagoons or activated sludge systems are not considered to be biofilters.

Capture device means a hood, enclosure, or other means of collecting emissions into a duct so that the emissions can be measured.

Capture efficiency means the fraction (expressed as a percentage) of the pollutants from an emission source that are collected by a capture device.

Catalytic oxidizer means a control system that combusts or oxidizes, in the presence of a catalyst, exhaust gas from a process unit. Catalytic oxidizers include regenerative catalytic oxidizers and thermal catalytic oxidizers.

Combustion unit means a dryer burner, process heater, or boiler. Combustion units may be used for combustion of organic HAP emissions.

Control device means any equipment that reduces the quantity of HAP emitted to the air. The device may destroy the HAP or secure the HAP for subsequent recovery. Control devices include, but are not limited to, thermal or catalytic oxidizers, combustion units that incinerate process exhausts, biofilters, and condensers.

Control system or add-on control system means the combination of capture and control devices used to reduce HAP emissions to the atmosphere.

Conveyor strand dryer means a conveyor dryer used to reduce the moisture of wood strands used in the manufacture of oriented strandboard, laminated strand lumber, or other wood strand-based products. A *conveyor strand dryer* is a process unit.

Conveyor strand dryer zone means each portion of a conveyor strand dryer with a separate heat exchange system and exhaust vent(s). Conveyor strand dryers contain multiple zones (e.g., three zones), which may be divided into multiple sections.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart including, but not limited to, any compliance option, operating requirement, or work practice requirement;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart, and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any compliance option, operating requirement, or work practice requirement in this subpart during startup, shutdown, or malfunction, regardless of whether or not such failure is permitted by this subpart. A deviation is not always a violation. The determination of whether a deviation constitutes a violation of the standard is up to the discretion of the entity responsible for enforcement of the standards.

Direct-fired process unit means a process unit that is heated by the passing of combustion exhaust through the process unit such that the process material is contacted by the combustion exhaust.

Dryer heated zones means the zones of a softwood veneer dryer or fiberboard mat dryer that are equipped with heating and hot air circulation units. The cooling zone(s) of the dryer through which ambient air is blown are not part of the dryer heated zones.

Dry forming means the process of making a mat of resinated fiber to be compressed into a reconstituted wood product such as particleboard, oriented strandboard, medium density fiberboard, or hardboard.

Dry rotary dryer means a rotary dryer that dries wood particles or fibers with a maximum inlet moisture content of less than or equal to 30 percent (by weight, dry basis) and operates with a maximum inlet temperature of less than or equal to 600 °F. A dry rotary dryer is a process unit.

Engineered wood product means a product made with lumber, veneers, strands of wood, or from other small wood elements that are bound together with resin. Engineered wood products include, but are not limited to, laminated strand lumber, laminated veneer lumber, parallel strand lumber, wood I-joists, and glue-laminated beams.

Fiber means the discrete elements of wood or similar cellulosic material, which are separated by mechanical means, as in refining, that can be formed into boards.

Fiberboard means a composite panel composed of cellulosic fibers (usually wood or agricultural material) made by wet forming and compacting a mat of fibers. Fiberboard density generally is less than 0.50 grams per cubic centimeter (31.5 pounds per cubic foot).

Fiberboard mat dryer means a dryer used to reduce the moisture of wet-formed wood fiber mats by applying heat. A *fiberboard mat dryer* is a process unit.

Flame zone means the portion of the combustion chamber in a combustion unit that is occupied by the flame envelope.

Furnish means the fibers, particles, or strands used for making boards.

Glue-laminated beam means a structural wood beam made by bonding lumber together along its faces with resin.

Green rotary dryer means a rotary dryer that dries wood particles or fibers with an inlet moisture content of greater than 30 percent (by weight, dry basis) at any dryer inlet temperature or operates with an inlet temperature of greater than 600 °F with any inlet moisture content. A *green rotary dryer* is a process unit.

Group 1 miscellaneous coating operations means application of edge seals, nail lines, logo (or other information) paint, shelving edge fillers, trademark/gradestamp inks, and wood putty patches to plywood and composite wood products (except kiln-dried lumber) on the same site where the plywood and composite wood products are manufactured. Group 1 miscellaneous coating operations also include application of synthetic patches to plywood at new affected sources.

Hardboard means a composite panel composed of inter-felted cellulosic fibers made by dry or wet forming and pressing of a resinated fiber mat. Hardboard generally has a density of 0.50 grams per cubic centimeter (31.5 pounds per cubic foot) or greater.

Hardboard oven means an oven used to heat treat or temper hardboard after hot pressing. Humidification chambers are not considered as part of hardboard ovens. A *hardboard oven* is a process unit.

Hardwood means the wood of a broad-leafed tree, either deciduous or evergreen. Examples of hardwoods include, but are not limited to, aspen, birch, poplar, and oak.

Hardwood veneer dryer means a dryer that removes excess moisture from veneer by conveying the veneer through a heated medium on rollers, belts, cables, or wire mesh. Hardwood veneer dryers are used to dry veneer with less than 30 percent softwood species on an annual volume basis. Veneer kilns that operate as batch units, veneer dryers heated by radio frequency or microwaves that are used to redry veneer, and veneer redryers (defined elsewhere in this section) that are heated by conventional means are not considered to be hardwood veneer dryers. A *hardwood veneer dryer* is a process unit.

Kiln-dried lumber means solid wood lumber that has been dried in a lumber kiln.

Laminated strand lumber (LSL) means a composite product formed into a billet made of thin wood strands cut from whole logs, resinated, and pressed together with the grain of each strand oriented parallel to the length of the finished product.

Laminated veneer lumber (LVL) means a composite product formed into a billet made from layers of resinated wood veneer sheets or pieces pressed together with the grain of each veneer aligned primarily along the length of the finished product. *Laminated veneer lumber* is also known as parallel strand lumber (PSL).

Lumber means boards or planks sawed or split from logs or timber, including logs or timber processed for use as utility poles or other wood components. Lumber can be either green (non-dried) or dried. Lumber is typically either air-dried or kiln-dried.

Lumber kiln means an enclosed dryer operated by applying heat to reduce the moisture content of lumber.

Medium density fiberboard (MDF) means a composite panel composed of cellulosic fibers (usually wood or agricultural fiber) made by dry forming and pressing of a resinated fiber mat.

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.

Miscellaneous coating operations means application of any of the following to plywood or composite wood products: edge seals, moisture sealants, anti-skid coatings, company logos, trademark or grade stamps, nail lines, synthetic patches, wood patches, wood putty, concrete forming oils, glues for veneer composing, and shelving edge fillers. Miscellaneous coating operations also include the application of primer to oriented strandboard siding that occurs at the same site as oriented strandboard manufacture and application of asphalt, clay slurry, or titanium dioxide coatings to fiberboard at the same site of fiberboard manufacture.

Molded particleboard means a shaped composite product (other than a composite panel) composed primarily of cellulosic materials (usually wood or agricultural fiber) generally in the form of discrete pieces or particles, as distinguished from fibers, which are pressed together with resin.

MSF means thousand square feet (92.9 square meters). Square footage of panels is usually measured on a thickness basis, such as $\frac{3}{8}$ -inch, to define the total volume of panels. Equation 6 of §63.2262(j) shows how to convert from one thickness basis to another.

Nondetect data means, for the purposes of this subpart, any value that is below the method detection limit.

Non-HAP coating means a coating with HAP contents below 0.1 percent by mass for Occupational Safety and Health Administration-defined carcinogens as specified in 29 CFR 1910.1200 (d)(4), and below 1.0 percent by mass for other HAP compounds.

1-hour period means a 60-minute period.

Oriented strandboard (OSB) means a composite panel produced from thin wood strands cut from whole logs, formed into resinated layers (with the grain of strands in one layer oriented perpendicular to the strands in adjacent layers), and pressed.

Oven-dried ton(s) (ODT) means tons of wood dried until all of the moisture in the wood is removed. One oven-dried ton equals 907 oven-dried kilograms.

Parallel strand lumber (PSL) means a composite product formed into a billet made from layers of resinated wood veneer sheets or pieces pressed together with the grain of each veneer aligned primarily along the length of the finished product. *Parallel strand lumber* is also known as laminated veneer lumber (LVL).

Partial wood products enclosure means an enclosure that does not meet the design criteria for a wood products enclosure as defined in this subpart.

Particle means a discrete, small piece of cellulosic material (usually wood or agricultural fiber) produced mechanically and used as the aggregate for a particleboard.

Particleboard means a composite panel composed primarily of cellulosic materials (usually wood or agricultural fiber) generally in the form of discrete pieces or particles, as distinguished from fibers, which are pressed together with resin.

Plywood means a panel product consisting of layers of wood veneers hot pressed together with resin. Plywood includes panel products made by hot pressing (with resin) veneers to a substrate such as particleboard, medium density fiberboard, or lumber. Plywood products may be flat or curved.

Plywood and composite wood products (PCWP) manufacturing facility means a facility that manufactures plywood and/or composite wood products by bonding wood material (fibers, particles, strands, veneers, etc.) or agricultural fiber, generally with resin under heat and pressure, to form a panel, engineered wood product, or other product defined in §63.2292. Plywood and composite wood products manufacturing facilities also include facilities that manufacture dry veneer and lumber kilns located at any facility. Plywood and composite wood products include, but are not limited to, plywood, veneer, particleboard, molded particleboard, oriented strandboard, hardboard, fiberboard, medium density fiberboard, laminated strand lumber, laminated veneer lumber, wood I-joists, kiln-dried lumber, and glue-laminated beams.

Press predryer means a dryer used to reduce the moisture and elevate the temperature by applying heat to a wet-formed fiber mat before the mat enters a hot press. A *press predryer* is a process unit.

Pressurized refiner means a piece of equipment operated under pressure for preheating (usually by steaming) wood material and refining (rubbing or grinding) the wood material into fibers. Pressurized refiners are operated with continuous infeed and outfeed of wood material and maintain elevated internal pressures (*i.e.*, there is no pressure release) throughout the preheating and refining process. A *pressurized refiner* is a process unit.

Primary tube dryer means a single-stage tube dryer or the first stage of a multi-stage tube dryer. Tube dryer stages are separated by vents for removal of moist gases between stages (*e.g.*, a product cyclone at the end of a single-stage dryer or between the first and second stages of a multi-stage tube dryer). The first stage of a multi-stage tube dryer is used to remove the majority of the moisture from the wood furnish (compared to the moisture reduction in subsequent stages of the tube dryer). Blow-lines used to apply resin are considered part of the primary tube dryer. A *primary tube dryer* is a process unit.

Process unit means equipment classified according to its function such as a blender, dryer, press, former, or board cooler.

Reconstituted wood product board cooler means a piece of equipment designed to reduce the temperature of a board by means of forced air or convection within a controlled time period after the board exits the reconstituted wood product press unloader. Board coolers include wicket and star type coolers commonly found at medium density fiberboard and particleboard plants. Board coolers do not include cooling sections of dryers (*e.g.*, veneer dryers or fiberboard mat dryers) or coolers integrated into or following hardboard bake ovens or humidifiers. A *reconstituted wood product board cooler* is a process unit.

Reconstituted wood product press means a press, including (if applicable) the press unloader, that presses a resinated mat of wood fibers, particles, or strands between hot platens or hot rollers to compact and set the mat into a panel by simultaneous application of heat and pressure. Reconstituted wood product presses are used in the manufacture of hardboard, medium density fiberboard, particleboard, and oriented strandboard. Extruders are not considered to be reconstituted wood product presses. A *reconstituted wood product press* is a process unit.

Representative operating conditions means operation of a process unit during performance testing under the conditions that the process unit will typically be operating in the future, including use of a representative range of materials (*e.g.*, wood material of a typical species mix and moisture content or typical resin formulation) and representative operating temperature range.

Resin means the synthetic adhesive (including glue) or natural binder, including additives, used to bond wood or other cellulosic materials together to produce plywood and composite wood products.

Responsible official means responsible official as defined in 40 CFR 70.2 and 40 CFR 71.2.

Rotary strand dryer means a rotary dryer operated by applying heat and used to reduce the moisture of wood strands used in the manufacture of oriented strandboard, laminated strand lumber, or other wood strand-based products. A *rotary strand dryer* is a process unit.

Secondary tube dryer means the second stage and subsequent stages following the primary stage of a multi-stage tube dryer. Secondary tube dryers, also referred to as relay dryers, operate at lower temperatures than the primary tube dryer they follow. Secondary tube dryers are used to remove only a small amount of the furnish moisture compared to the furnish moisture reduction across the primary tube dryer. A *secondary tube dryer* is a process unit.

Softwood means the wood of a coniferous tree. Examples of softwoods include, but are not limited to, Southern yellow pine, Douglas fir, and White spruce.

Softwood veneer dryer means a dryer that removes excess moisture from veneer by conveying the veneer through a heated medium, generally on rollers, belts, cables, or wire mesh. Softwood veneer dryers are used to dry veneer with greater than or equal to 30 percent softwood species on an annual volume basis. Veneer kilns that operate as batch units, veneer dryers heated by radio frequency or microwaves that are used to redry veneer, and veneer redryers (defined elsewhere in this section) that are heated by conventional means are not considered to be softwood veneer dryers. A *softwood veneer dryer* is a process unit.

Startup means bringing equipment online and starting the production process.

Startup, initial means the first time equipment is put into operation. Initial startup does not include operation solely for testing equipment. Initial startup does not include subsequent startups (as defined in this section) following malfunction or shutdowns or following changes in product or between batch operations. Initial startup does not include startup of equipment that occurred when the source was an area source.

Startup, shutdown, and malfunction plan (SSMP) means a plan developed according to the provisions of §63.6(e)(3).

Strand means a long (with respect to thickness and width), flat wood piece specially cut from a log for use in oriented strandboard, laminated strand lumber, or other wood strand-based product.

Temporary total enclosure (TTE) means an enclosure constructed for the purpose of measuring the capture efficiency of pollutants emitted from a given source, as defined in Method 204 of 40 CFR part 51, appendix M.

Thermal oxidizer means a control system that combusts or oxidizes exhaust gas from a process unit. Thermal oxidizers include regenerative thermal oxidizers and combustion units.

Total hazardous air pollutant emissions means, for purposes of this subpart, the sum of the emissions of the following six compounds: acetaldehyde, acrolein, formaldehyde, methanol, phenol, and propionaldehyde.

Tube dryer means a single-stage or multi-stage dryer operated by applying heat to reduce the moisture of wood fibers or particles as they are conveyed (usually pneumatically) through the dryer. Resin may or may not be applied to the wood material before it enters the tube dryer. Tube dryers do not include pneumatic fiber transport systems that use temperature and humidity conditioned pneumatic system supply air in order to prevent cooling of the wood fiber as it is moved through the process. A *tube dryer* is a process unit.

Veneer means thin sheets of wood peeled or sliced from logs for use in the manufacture of wood products such as plywood, laminated veneer lumber, or other products.

Veneer redryer means a dryer heated by conventional means, such as direct wood-fired, direct-gas-fired, or steam heated, that is used to redry veneer that has been previously dried. Because the veneer dried in a veneer redryer has been previously dried, the inlet moisture content of the veneer

entering the redryer is less than 25 percent (by weight, dry basis). Batch units used to redry veneer (such as redry cookers) are not considered to be veneer redryers. A *veneer redryer* is a process unit.

Wet control device means any equipment that uses water as a means of collecting an air pollutant. Wet control devices include scrubbers, wet electrostatic precipitators, and electrified filter beds. Wet control devices do not include biofilters or other equipment that destroys or degrades HAP.

Wet forming means the process of making a slurry of water, fiber, and additives into a mat of fibers to be compressed into a fiberboard or hardboard product.

Wood I-joists means a structural wood beam with an I-shaped cross section formed by bonding (with resin) wood or laminated veneer lumber flanges onto a web cut from a panel such as plywood or oriented strandboard.

Wood products enclosure means a permanently installed containment that was designed to meet the following physical design criteria:

(1) Any natural draft opening shall be at least four equivalent opening diameters from each HAP-emitting point, except for where board enters and exits the enclosure, unless otherwise specified by the EPA Administrator.

(2) The total area of all natural draft openings shall not exceed 5 percent of the surface area of the enclosure's four walls, floor, and ceiling.

(3) The average facial velocity of air through all natural draft openings shall be at least 3,600 meters per hour (200 feet per minute). The direction of airflow through all natural draft openings shall be into the enclosure.

(4) All access doors and windows whose areas are not included in item 2 of this definition and are not included in the calculation of facial velocity in item 3 of this definition shall be closed during routine operation of the process.

(5) The enclosure is designed and maintained to capture all emissions for discharge through a control device.

Work practice requirement means any design, equipment, work practice, or operational standard, or combination thereof, that is promulgated pursuant to section 112(h) of the CAA.

[69 FR 46011, July 30, 2004, as amended at 71 FR 8372, Feb. 16, 2006]

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Table 1A to Subpart DDDD of Part 63—Production-Based Compliance Options

For the following process units . . .	You must meet the following production-based compliance option (total HAP[a] basis) . . .
(1) Fiberboard mat dryer heated zones (at new affected sources only)	0.022 lb/MSF 1/2″.
(2) Green rotary dryers	0.058 lb/ODT.
(3) Hardboard ovens	0.022 lb/MSF 1/8″.
(4) Press predryers (at new affected sources only)	0.037 lb/MSF 1/2″.
(5) Pressurized refiners	0.039 lb/ODT.
(6) Primary tube dryers	0.26 lb/ODT.
(7) Reconstituted wood product board coolers (at new affected sources only)	0.014 lb/MSF 3/4″.
(8) Reconstituted wood product presses	0.30 lb/MSF 3/4″.
(9) Softwood veneer dryer heated zones	0.022 lb/MSF 3/8″.

(10) Rotary strand dryers	0.18 lb/ODT.
(11) Secondary tube dryers	0.010 lb/ODT.

[a]Total HAP, as defined in §63.2292, includes acetaldehyde, acrolein, formaldehyde, methanol, phenol, and propionaldehyde. lb/ODT = pounds per oven-dried ton; lb/MSF = pounds per thousand square feet with a specified thickness basis (inches). Section 63.2262(j) shows how to convert from one thickness basis to another.

Note: There is no production-based compliance option for conveyor strand dryers.

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Table 1B to Subpart DDDD of Part 63—Add-on Control Systems Compliance Options

For each of the following process units . . .	You must comply with one of the following six compliance options by using an emissions control system . . .
Fiberboard mat dryer heated zones (at new affected sources only); green rotary dryers; hardboard ovens; press predryers (at new affected sources only); pressurized refiners; primary tube dryers; secondary tube dryers; reconstituted wood product board coolers (at new affected sources only); reconstituted wood product presses; softwood veneer dryer heated zones; rotary strand dryers; conveyor strand dryer zone one (at existing affected sources); and conveyor strand dryer zones one and two (at new affected sources)	(1) Reduce emissions of total HAP, measured as THC (as carbon)[a], by 90 percent; or (2) Limit emissions of total HAP, measured as THC (as carbon)[a], to 20 ppmvd; or (3) Reduce methanol emissions by 90 percent; or (4) Limit methanol emissions to less than or equal to 1 ppmvd if uncontrolled methanol emissions entering the control device are greater than or equal to 10 ppmvd; or (5) Reduce formaldehyde emissions by 90 percent; or (6) Limit formaldehyde emissions to less than or equal to 1 ppmvd if uncontrolled formaldehyde emissions entering the control device are greater than or equal to 10 ppmvd.

[a]You may choose to subtract methane from THC as carbon measurements.

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Table 2 to Subpart DDDD of Part 63—Operating Requirements

If you operate a(n) . . .	You must . . .	Or you must . . .
(1) Thermal oxidizer	Maintain the 3-hour block average firebox temperature above the minimum temperature established during the performance test	Maintain the 3-hour block average THC concentration[a] in the thermal oxidizer exhaust below the maximum concentration established during the performance test.
(2) Catalytic oxidizer		

	Maintain the 3-hour block average catalytic oxidizer temperature above the minimum temperature established during the performance test; AND check the activity level of a representative sample of the catalyst at least every 12 months	Maintain the 3-hour block average THC concentration[a] in the catalytic oxidizer exhaust below the maximum concentration established during the performance test.
(3) Biofilter	Maintain the 24-hour block biofilter bed temperature within the range established according to §63.2262(m)	Maintain the 24-hour block average THC concentration[a] in the biofilter exhaust below the maximum concentration established during the performance test.
(4) Control device other than a thermal oxidizer, catalytic oxidizer, or biofilter	Petition the EPA Administrator for site-specific operating parameter(s) to be established during the performance test and maintain the average operating parameter(s) within the range(s) established during the performance test	Maintain the 3-hour block average THC concentration[a] in the control device exhaust below the maximum concentration established during the performance test.
(5) Process unit that meets a compliance option in Table 1A of this subpart, or a process unit that generates debits in an emissions average without the use of a control device	Maintain on a daily basis the process unit controlling operating parameter(s) within the ranges established during the performance test according to §63.2262(n)	Maintain the 3-hour block average THC concentration[a] in the process unit exhaust below the maximum concentration established during the performance test.

[a]You may choose to subtract methane from THC measurements.

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Table 3 to Subpart DDDD of Part 63—Work Practice Requirements

For the following process units at existing or new affected sources . . .	You must . . .
(1) Dry rotary dryers	Process furnish with a 24-hour block average inlet moisture content of less than or equal to 30 percent (by weight, dry basis); AND operate with a 24-hour block average inlet dryer temperature of less than or equal to 600 °F.
(2) Hardwood veneer dryers	Process less than 30 volume percent softwood species on an annual basis.
(3) Softwood veneer dryers	Minimize fugitive emissions from the dryer doors through (proper maintenance procedures) and the green end of the dryers (through proper balancing of the heated zone exhausts).
(4) Veneer redryers	Process veneer that has been previously dried, such that the 24-hour block average inlet moisture content of the veneer is less than or equal to 25 percent (by weight, dry basis).
(5) Group 1 miscellaneous coating operations	Use non-HAP coatings as defined in §63.2292.

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Table 4 to Subpart DDDD of Part 63—Requirements for Performance Tests

For . . .	You must . . .	Using . . .
(1) each process unit subject to a compliance option in table 1A or 1B to this subpart or used in calculation of an emissions average under §63.2240(c)	select sampling port's location and the number of traverse ports	Method 1 or 1A of 40 CFR part 60, appendix A (as appropriate).
(2) each process unit subject to a compliance option in table 1A or 1B to this subpart or used in calculation of an emissions average under §63.2240(c)	determine velocity and volumetric flow rate	Method 2 in addition to Method 2A, 2C, 2D, 2F, or 2G in appendix A to 40 CFR part 60 (as appropriate).
(3) each process unit subject to a compliance option in table 1A or 1B to this subpart or used in calculation of an emissions average under §63.2240(c)	conduct gas molecular weight analysis	Method 3, 3A, or 3B in appendix A to 40 CFR part 60 (as appropriate).
(4) each process unit subject to a compliance option in table 1A or 1B to this subpart or used in calculation of an emissions average under §63.2240(c)	measure moisture content of the stack gas	Method 4 in appendix A to 40 CFR part 60; OR Method 320 in appendix A to 40 CFR part 63; OR ASTM D6348-03 (IBR, see §63.14(b)).
(5) each process unit subject to a compliance option in table 1B to this subpart for which you choose to demonstrate compliance using a total HAP as THC compliance option	measure emissions of total HAP as THC	Method 25A in appendix A to 40 CFR part 60. You may measure emissions of methane using EPA Method 18 in appendix A to 40 CFR part 60 and subtract the methane emissions from the emissions of total HAP as THC.
(6) each process unit subject to a compliance option in table 1A to this subpart; OR for each process unit used in calculation of an emissions average under §63.2240(c)	measure emissions of total HAP (as defined in §63.2292)	Method 320 in appendix A to 40 CFR part 63; OR the NCASI Method IM/CAN/WP-99.02 (IBR, see §63.14 (f)); OR the NCASI Method ISS/FP-A105.01 (IBR, see §63.14(f)); OR ASTM D6348-03 (IBR, see §63.14(b)) provided that percent R as determined in Annex A5 of ASTM D6348-03 is equal or greater than 70 percent and less than or equal to 130 percent.
(7) each process unit subject to a compliance option in table 1B to this subpart for which you choose to demonstrate compliance using a methanol compliance option	measure emissions of methanol	Method 308 in appendix A to 40 CFR part 63; OR Method 320 in appendix A to 40 CFR part 63; OR the NCASI Method CI/WP-98.01 (IBR, see §63.14(f)); OR the NCASI Method IM/CAN/WP-99.02 (IBR, see §63.14(f)); OR the NCASI Method ISS/FP-A105.01 (IBR, see §63.14(f)).
(8) each process unit subject to a compliance option in table 1B to this	measure emissions of formaldehyde	Method 316 in appendix A to 40 CFR part 63; OR Method 320 in appendix A to 40 CFR part 63; OR Method 0011 in “Test Methods for Evaluating Solid

subpart for which you choose to demonstrate compliance using a formaldehyde compliance option		Waste, Physical/Chemical Methods" (EPA Publication No. SW-846) for formaldehyde; OR the NCASI Method CI/WP-98.01 (IBR, see §63.14(f)); OR the NCASI Method IM/CAN/WP-99.02 (IBR, see §63.14 (f)); OR the NCASI Method ISS/FP-A105.01 (IBR, see §63.14(f)).
(9) each reconstituted wood product press at a new or existing affected source or reconstituted wood product board cooler at a new affected source subject to a compliance option in table 1B to this subpart or used in calculation of an emissions average under §63.2240(c)	meet the design specifications included in the definition of wood products enclosure in §63.2292; or determine the percent capture efficiency of the enclosure directing emissions to an add-on control device	Methods 204 and 204A through 204F of 40 CFR part 51, appendix M, to determine capture efficiency (except for wood products enclosures as defined in §63.2292). Enclosures that meet the definition of wood products enclosure or that meet Method 204 requirements for a permanent total enclosure (PTE) are assumed to have a capture efficiency of 100 percent. Enclosures that do not meet either the PTE requirements or design criteria for a wood products enclosure must determine the capture efficiency by constructing a TTE according to the requirements of Method 204 and applying Methods 204A through 204F (as appropriate). As an alternative to Methods 204 and 204A through 204F, you may use the tracer gas method contained in appendix A to this subpart.
(10) each reconstituted wood product press at a new or existing affected source or reconstituted wood product board cooler at a new affected source subject to a compliance option in table 1A to this subpart	determine the percent capture efficiency	a TTE and Methods 204 and 204A through 204F (as appropriate) of 40 CFR part 51, appendix M. As an alternative to installing a TTE and using Methods 204 and 204A through 204F, you may use the tracer gas method contained in appendix A to this subpart. Enclosures that meet the design criteria (1) through (4) in the definition of wood products enclosure, or that meet Method 204 requirements for a PTE (except for the criteria specified in section 6.2 of Method 204) are assumed to have a capture efficiency of 100 percent. Measured emissions divided by the capture efficiency provides the emission rate.
(11) each process unit subject to a compliance option in tables 1A and 1B to this subpart or used in calculation of an emissions average under §63.2240(c)	establish the site-specific operating requirements (including the parameter limits or THC concentration limits) in table 2 to this subpart	data from the parameter monitoring system or THC CEMS and the applicable performance test method(s).

[71 FR 8373, Feb. 16, 2006]

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Table 5 to Subpart DDDD of Part 63—Performance Testing and Initial Compliance Demonstrations for the Compliance Options and Operating Requirements

For each . . .	For the following compliance options and operating requirements . . .	You have demonstrated initial compliance if . . .
(1) Process unit listed in Table 1A to this subpart	Meet the production-based compliance options listed in Table 1A to this subpart	The average total HAP emissions measured using the methods in Table 4 to this subpart over the 3-hour performance test are no greater than the compliance option in Table 1A to this subpart; AND

		you have a record of the operating requirement(s) listed in Table 2 to this subpart for the process unit over the performance test during which emissions did not exceed the compliance option value.
(2) Process unit listed in Table 1B to this subpart	Reduce emissions of total HAP, measured as THC, by 90 percent	Total HAP emissions, measured using the methods in Table 4 to this subpart over the 3-hour performance test, are reduced by at least 90 percent, as calculated using the procedures in §63.2262; AND you have a record of the operating requirement(s) listed in Table 2 to this subpart for the process unit over the performance test during which emissions were reduced by at least 90 percent.
(3) Process unit listed in Table 1B to this subpart	Limit emissions of total HAP, measured as THC, to 20 ppmvd	The average total HAP emissions, measured using the methods in Table 4 to this subpart over the 3-hour performance test, do not exceed 20 ppmvd; AND you have a record of the operating requirement(s) listed in Table 2 to this subpart for the process unit over the performance test during which emissions did not exceed 20 ppmvd.
(4) Process unit listed in Table 1B to this subpart	Reduce methanol or formaldehyde emissions by 90 percent	The methanol or formaldehyde emissions measured using the methods in Table 4 to this subpart over the 3-hour performance test, are reduced by at least 90 percent, as calculated using the procedures in §63.2262; AND you have a record of the operating requirement(s) listed in Table 2 to this subpart for the process unit over the performance test during which emissions were reduced by at least 90 percent.
(5) Process unit listed in Table 1B to this subpart	Limit methanol or formaldehyde emissions to less than or equal to 1 ppmvd (if uncontrolled emissions are greater than or equal to 10 ppmvd)	The average methanol or formaldehyde emissions, measured using the methods in Table 4 to this subpart over the 3-hour performance test, do not exceed 1 ppmvd; AND you have a record of the operating requirement(s) listed in Table 2 to this subpart for the process unit over the performance test during which emissions did not exceed 1 ppmvd. If the process unit is a reconstituted wood product press or a reconstituted wood product board cooler, your capture device either meets the EPA Method 204 criteria for a PTE or achieves a capture efficiency of greater than or equal to 95 percent.
(6) Reconstituted wood product press at a new or existing affected source, or reconstituted wood product board cooler at a new affected source	Compliance options in Tables 1A and 1B to this subpart or the emissions averaging compliance option in §63.2240(c)	You submit the results of capture efficiency verification using the methods in Table 4 to this subpart with your Notification of Compliance Status.
(7) Process unit listed in Table 1B to this subpart controlled by routing exhaust to a combustion unit	Compliance options in Table 1B to this subpart or the emissions averaging compliance option in §63.2240(c)	You submit with your Notification of Compliance Status documentation showing that the process exhausts controlled enter into the flame zone of your combustion unit.

(8) Process unit listed in Table 1B to this subpart using a wet control device as the sole means of reducing HAP emissions	Compliance options in Table 1B to this subpart or the emissions averaging compliance option in §63.2240(c)	You submit with your Notification of Compliance Status your plan to address how organic HAP captured in the wastewater from the wet control device is contained or destroyed to minimize re-release to the atmosphere.

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Table 6 to Subpart DDDD of Part 63—Initial Compliance Demonstrations for Work Practice Requirements

For each . . .	For the following work practice requirements . . .	You have demonstrated initial compliance if . . .
(1) Dry rotary dryer	Process furnish with an inlet moisture content less than or equal to 30 percent (by weight, dry basis) AND operate with an inlet dryer temperature of less than or equal to 600 °F	You meet the work practice requirement AND you submit a signed statement with the Notification of Compliance Status that the dryer meets the criteria of a “dry rotary dryer” AND you have a record of the inlet moisture content and inlet dryer temperature (as required in §63.2263).
(2) Hardwood veneer dryer	Process less than 30 volume percent softwood species	You meet the work practice requirement AND you submit a signed statement with the Notification of Compliance Status that the dryer meets the criteria of a “hardwood veneer dryer” AND you have a record of the percentage of softwoods processed in the dryer (as required in §63.2264).
(3) Softwood veneer dryer	Minimize fugitive emissions from the dryer doors and the green end	You meet the work practice requirement AND you submit with the Notification of Compliance Status a copy of your plan for minimizing fugitive emissions from the veneer dryer heated zones (as required in §63.2265).
(4) Veneer redryers	Process veneer with an inlet moisture content of less than or equal to 25 percent (by weight, dry basis)	You meet the work practice requirement AND you submit a signed statement with the Notification of Compliance Status that the dryer operates only as a redryer AND you have a record of the veneer inlet moisture content of the veneer processed in the redryer (as required in §63.2266).
(5) Group 1 miscellaneous coating operations	Use non-HAP coatings as defined in §63.2292	You meet the work practice requirement AND you submit a signed statement with the Notification of Compliance Status that you are using non-HAP coatings AND you have a record showing that you are using non-HAP coatings.

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Table 7 to Subpart DDDD of Part 63—Continuous Compliance With the Compliance Options and Operating Requirements

For . . .	For the following compliance options and operating requirements . . .	You must demonstrate continuous compliance by . . .

(1) Each process unit listed in Table 1B to this subpart or used in calculation of an emissions average under §63.2240(c)	Compliance options in Table 1B to this subpart or the emissions averaging compliance option in §63.2240(c) and the operating requirements in Table 2 to this subpart based on monitoring of operating parameters	Collecting and recording the operating parameter monitoring system data listed in Table 2 to this subpart for the process unit according to §63.2269(a) through (b) and §63.2270; AND reducing the operating parameter monitoring system data to the specified averages in units of the applicable requirement according to calculations in §63.2270; AND maintaining the average operating parameter at or above the minimum, at or below the maximum, or within the range (whichever applies) established according to §63.2262.
(2) Each process unit listed in Tables 1A and 1B to this subpart or used in calculation of an emissions average under §63.2240(c)	Compliance options in Tables 1A and 1B to this subpart or the emissions averaging compliance option in §63.2240(c) and the operating requirements in Table 2 of this subpart based on THC CEMS data	Collecting and recording the THC monitoring data listed in Table 2 to this subpart for the process unit according to §63.2269(d); AND reducing the CEMS data to 3-hour block averages according to calculations in §63.2269(d); AND maintaining the 3-hour block average THC concentration in the exhaust gases less than or equal to the THC concentration established according to §63.2262.
(3) Each process unit using a biofilter	Compliance options in Tables 1B to this subpart or the emissions averaging compliance option in §63.2240(c)	Conducting a repeat performance test using the applicable method(s) specified in Table 4 to this subpart within 2 years following the previous performance test and within 180 days after each replacement of any portion of the biofilter bed media with a different type of media or each replacement of more than 50 percent (by volume) of the biofilter bed media with the same type of media.
(4) Each process unit using a catalytic oxidizer	Compliance options in Table 1B to this subpart or the emissions averaging compliance option in §63.2240(c)	Checking the activity level of a representative sample of the catalyst at least every 12 months and taking any necessary corrective action to ensure that the catalyst is performing within its design range.
(5) Each process unit listed in Table 1A to this subpart, or each process unit without a control device used in calculation of an emissions averaging debit under §63.2240(c)	Compliance options in Table 1A to this subpart or the emissions averaging compliance option in §63.2240(c) and the operating requirements in Table 2 to this subpart based on monitoring of process unit controlling operating parameters	Collecting and recording on a daily basis process unit controlling operating parameter data; AND maintaining the operating parameter at or above the minimum, at or below the maximum, or within the range (whichever applies) established according to §63.2262.
(6) Each Process unit listed in Table 1B to this subpart using a wet control device as the sole means of reducing HAP emissions	Compliance options in Table 1B to this subpart or the emissions averaging compliance option in §63.2240(c)	Implementing your plan to address how organic HAP captured in the wastewater from the wet control device is contained or destroyed to minimize re-release to the atmosphere.

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Table 8 to Subpart DDDD of Part 63—Continuous Compliance With the Work Practice Requirements

For . . .	For the following work practice requirements . . .	You must demonstrate continuous compliance by . . .
(1) Dry rotary dryer	Process furnish with an inlet moisture content less than or equal to 30 percent (by weight, dry basis) AND operate with an inlet dryer temperature of less than or equal to 600 °F	Maintaining the 24-hour block average inlet furnish moisture content at less than or equal to 30 percent (by weight, dry basis) AND maintaining the 24-hour block average inlet dryer temperature at less than or equal to 600 °F; AND keeping records of the inlet temperature of furnish moisture content and inlet dryer temperature.
(2) Hardwood veneer dryer	Process less than 30 volume percent softwood species	Maintaining the volume percent softwood species processed below 30 percent AND keeping records of the volume percent softwood species processed.
(3) Softwood veneer dryer	Minimize fugitive emissions from the dryer doors and the green end	Following (and documenting that you are following) your plan for minimizing fugitive emissions.
(4) Veneer redryers	Process veneer with an inlet moisture content of less than or equal to 25 percent (by weight, dry basis)	Maintaining the 24-hour block average inlet moisture content of the veneer processed at or below of less than or 25 percent AND keeping records of the inlet moisture content of the veneer processed.
(5) Group 1 miscellaneous coating operations	Use non-HAP coatings as defined in §63.2292	Continuing to use non-HAP coatings AND keeping records showing that you are using non-HAP coatings.

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Table 9 to Subpart DDDD of Part 63—Requirements for Reports

You must submit a(n) . . .	The report must contain . . .	You must submit the report . . .
(1) Compliance report	The information in §63.2281(c) through (g)	Semiannually according to the requirements in §63.2281(b).
(2) immediate startup, shutdown, and malfunction report if you had a startup, shutdown, or malfunction during the reporting period that is not consistent with your SSMP	(i) Actions taken for the event	By fax or telephone within 2 working days after starting actions inconsistent with the plan.
	(ii) The information in §63.10(d)(5)(ii)	By letter within 7 working days after the end of the event unless you have made alternative arrangements with the permitting authority.

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Table 10 to Subpart DDDD of Part 63—Applicability of General Provisions to Subpart DDDD

Citation	Subject	Brief description	Applies to subpart DDDD

§63.1	Applicability	Initial applicability determination; applicability after standard established; permit requirements; extensions, notifications	Yes.
§63.2	Definitions	Definitions for part 63 standards	Yes.
§63.3	Units and Abbreviations	Units and abbreviations for part 63 standards	Yes.
§63.4	Prohibited Activities	Prohibited activities; compliance date; circumvention, fragmentation	Yes.
§63.5	Construction/Reconstruction	Applicability; applications; approvals	Yes.
§63.6(a)	Applicability	GP apply unless compliance extension; GP apply to area sources that become major	Yes.
§63.6(b)(1)-(4)	Compliance Dates for New and Reconstructed Sources	Standards apply at effective date; 3 years after effective date; upon startup; 10 years after construction or reconstruction commences for section 112(f)	Yes.
§63.6(b)(5)	Notification	Must notify if commenced construction or reconstruction after proposal	Yes.
§63.6(b)(6)	[Reserved]		
§63.6(b)(7)	Compliance Dates for New and Reconstructed Area Sources that Become Major	Area sources that become major must comply with major source standards immediately upon becoming major, regardless of whether required to comply when they were an area source	Yes.
§63.6(c)(1)-(2)	Compliance Dates for Existing Sources	Comply according to date in subpart, which must be no later than 3 years after effective date; for section 112(f) standards, comply within 90 days of effective date unless compliance extension	Yes.
§63.6(c)(3)-(4)	[Reserved]		
§63.6(c)(5)	Compliance Dates for Existing Area Sources that Become Major	Area sources that become major must comply with major source standards by date indicated in subpart or by equivalent time period (*e.g.,* 3 years)	Yes.
§63.6(d)	[Reserved]		
§63.6(e)(1)-(2)	Operation & Maintenance	Operate to minimize emissions at all times; correct malfunctions as soon as practicable; operation and maintenance requirements independently enforceable; information Administrator will use to determine if operation and maintenance requirements were met	Yes.
§63.6(e)(3)	Startup, Shutdown, and Malfunction Plan (SSMP)	Requirement for SSM and SSMP; content of SSMP	Yes.
§63.6(f)(1)	Compliance Except During SSM	You must comply with emission standards at all times except during SSM	Yes.
§63.6(f)(2)-(3)	Methods for Determining Compliance	Compliance based on performance test, operation and maintenance plans, records, inspection	Yes.
§63.6(g)(1)-(3)	Alternative Standard	Procedures for getting an alternative standard	Yes.
§63.6(h)(1)-(9)	Opacity/Visible Emission (VE) Standards	Requirements for opacity and visible emission standards	NA.
§63.6(i)(1)-(14)	Compliance Extension	Procedures and criteria for Administrator to grant compliance extension	Yes.
	[Reserved]		

§63.6(i)(15)			
§63.6(i)(16)	Compliance Extension	Compliance extension and Administrator's authority	Yes.
§63.6(j)	Presidential Compliance Exemption	President may exempt source category from requirement to comply with rule	Yes.
§63.7(a)(1)-(2)	Performance Test Dates	Dates for conducting initial performance testing and other compliance demonstrations; must conduct 180 days after first subject to rule	Yes.
§63.7(a)(3)	Section 114 Authority	Administrator may require a performance test under CAA section 114 at any time	Yes.
§63.7(b)(1)	Notification of Performance Test	Must notify Administrator 60 days before the test	Yes.
§63.7(b)(2)	Notification of Rescheduling	If have to reschedule performance test, must notify Administrator as soon as practicable	Yes.
§63.7(c)	Quality Assurance/Test Plan	Requirement to submit site-specific test plan 60 days before the test or on date Administrator agrees with; test plan approval procedures; performance audit requirements; internal and external QA procedures for testing	Yes.
§63.7(d)	Testing Facilities	Requirements for testing facilities	Yes.
§63.7(e)(1)	Conditions for Conducting Performance Tests	Performance tests must be conducted under representative conditions; cannot conduct performance tests during SSM; not a violation to exceed standard during SSM	Yes.
§63.7(e)(2)	Conditions for Conducting Performance Tests	Must conduct according to rule and EPA test methods unless Administrator approves alternative	Yes.
§63.7(e)(3)	Test Run Duration	Must have three test runs for at least the time specified in the relevant standard; compliance is based on arithmetic mean of three runs; specifies conditions when data from an additional test run can be used	Yes.
§63.7(f)	Alternative Test Method	Procedures by which Administrator can grant approval to use an alternative test method	Yes.
§63.7(g)	Performance Test Data Analysis	Must include raw data in performance test report; must submit performance test data 60 days after end of test with the notification of compliance status; keep data for 5 years	Yes.
§63.7(h)	Waiver of Tests	Procedures for Administrator to waive performance test	Yes.
§63.8(a)(1)	Applicability of Monitoring Requirements	Subject to all monitoring requirements in standard	Yes.
§63.8(a)(2)	Performance Specifications	Performance specifications in appendix B of part 60 apply	Yes.
§63.8(a)(3)	[Reserved]		
§63.8(a)(4)	Monitoring with Flares	Requirements for flares in §63.11 apply	NA.
§63.8(b)(1)	Monitoring	Must conduct monitoring according to standard unless Administrator approves alternative	Yes.
§63.8(b)(2)-(3)	Multiple Effluents and Multiple Monitoring Systems	Specific requirements for installing monitoring systems; must install on each effluent before it is combined and before it is released to the	Yes.

		atmosphere unless Administrator approves otherwise; if more than one monitoring system on an emission point, must report all monitoring system results, unless one monitoring system is a backup	
§63.8(c)(1)	Monitoring System Operation and Maintenance	Maintain monitoring system in a manner consistent with and good air pollution control practices	Yes.
§63.8(c)(1)(i)	Operation and Maintenance of CMS	Must maintain and operate CMS in accordance with §63.6(e)(1)	Yes.
§63.8(c)(1)(ii)	Spare Parts for CMS	Must maintain spare parts for routine CMS repairs	Yes.
§63.8(c)(1)(iii)	SSMP for CMS	Must develop and implement SSMP for CMS	Yes.
§63.8(c)(2)-(3)	Monitoring System Installation	Must install to get representative emission of parameter measurements; must verify operational status before or at performance test	Yes.
§63.8(c)(4)	Continuous Monitoring System (CMS) Requirements	CMS must be operating except during breakdown, out-of-control, repair, maintenance, and high-level calibration drifts; COMS must have a minimum of one cycle of sampling and analysis for each successive 10-second period and one cycle of data recording for each successive 6-minute period; CEMS must have a minimum of one cycle of operation for each successive 15-minute period	Yes.
§63.8(c)(5)	Continuous Opacity Monitoring System (COMS) Minimum Procedures	COMS minimum procedures	NA.
§63.8(c)(6)-(8)	CMS Requirements	Zero and high-level calibration check requirements; out-of-control periods	Yes.
§63.8(d)	CMS Quality Control	Requirements for CMS quality control, including calibration, etc.; must keep quality control plan on record for 5 years. Keep old versions for 5 years after revisions	Yes.
§63.8(e)	CMS Performance Evaluation	Notification, performance evaluation test plan, reports	Yes.
§63.8(f)(1)-(5)	Alternative Monitoring Method	Procedures for Administrator to approve alternative monitoring	Yes.
§63.8(f)(6)	Alternative to Relative Accuracy Test	Procedures for Administrator to approve alternative relative accuracy tests for CEMS	Yes.
§63.8(g)	Data Reduction	COMS 6-minute averages calculated over at least 36 evenly spaced data points; CEMS 1 hour averages computed over at least 4 equally spaced data points; data that can't be used in average; rounding of data	Yes.
§63.9(a)	Notification Requirements	Applicability and State delegation	Yes.
§63.9(b)(1)-(2)	Initial Notifications	Submit notification 120 days after effective date; contents of notification	Yes.
§63.9(b)(3)	[Reserved]		
§63.9(b)(4)-(5)	Initial Notifications	Submit notification 120 days after effective date; notification of intent to construct/reconstruct; notification of commencement of	Yes.

		construct/reconstruct; notification of startup; contents of each	
§63.9(c)	Request for Compliance Extension	Can request if cannot comply by date or if installed best available control technology/lowest achievable emission rate	Yes.
§63.9(d)	Notification of Special Compliance Requirements for New Source	For sources that commence construction between proposal and promulgation and want to comply 3 years after effective date	Yes.
§63.9(e)	Notification of Performance Test	Notify EPA Administrator 60 days prior	Yes.
§63.9(f)	Notification of Visible Emissions/Opacity Test	Notify EPA Administrator 30 days prior	No.
§63.9(g)	Additional Notifications When Using CMS	Notification of performance evaluation; notification using COMS data; notification that exceeded criterion for relative accuracy	Yes.
§63.9(h)(1)-(6)	Notification of Compliance Status	Contents; due 60 days after end of performance test or other compliance demonstration, except for opacity/VE, which are due 30 days after; when to submit to Federal vs. State authority	Yes.
§63.9(i)	Adjustment of Submittal Deadlines	Procedures for Administrator to approve change in when notifications must be submitted	Yes.
§63.9(j)	Change in Previous Information	Must submit within 15 days after the change	Yes.
§63.10(a)	Recordkeeping/Reporting	Applies to all, unless compliance extension; when to submit to Federal vs. State authority; procedures for owners of more than one source	Yes.
§63.10(b)(1)	Recordkeeping/Reporting	General Requirements; keep all records readily available; keep for 5 years	Yes.
§63.10(b)(2)(i)-(iv)	Records Related to Startup, Shutdown, and Malfunction	Occurrence of each of operation (process equipment); occurrence of each malfunction of air pollution equipment; maintenance on air pollution control equipment; actions during startup, shutdown, and malfunction	Yes.
§63.10(b)(2)(vi) and (x)-(xi)	CMS Records	Malfunctions, inoperative, out-of-control	Yes.
§63.10(b)(2)(vii)-(ix)	Records	Measurements to demonstrate compliance with compliance options and operating requirements; performance test, performance evaluation, and visible emission observation results; measurements to determine conditions of performance tests and performance evaluations	Yes.
§63.10(b)(2)(xii)	Records	Records when under waiver	Yes.
§63.10(b)(2)(xiii)	Records	Records when using alternative to relative accuracy test	Yes.
§63.10(b)(2)(xiv)	Records	All documentation supporting initial notification and notification of compliance status	Yes.
§63.10(b)(3)	Records	Applicability determinations	Yes.
§63.10(c)(1)-(6), (9)-(15)	Records	Additional records for CMS	Yes.
	Records		No.

§63.10(c)(7)-(8)		Records of excess emissions and parameter monitoring exceedances for CMS	
§63.10(d)(1)	General Reporting Requirements	Requirement to report	Yes.
§63.10(d)(2)	Report of Performance Test Results	When to submit to Federal or State authority	Yes.
§63.10(d)(3)	Reporting Opacity or VE Observations	What to report and when	NA.
§63.10(d)(4)	Progress Reports	Must submit progress reports on schedule if under compliance extension	Yes.
§63.10(d)(5)	Startup, Shutdown, and Malfunction Reports	Contents and submission	Yes.
§63.10(e)(1)-(2)	Additional CMS Reports	Must report results for each CEM on a unit; written copy of performance evaluation; 3 copies of COMS performance evaluation	Yes.
§63.10(e)(3)	Reports	Excess emission reports	No.
§63.10(e)(4)	Reporting COMS data	Must submit COMS data with performance test data	NA.
§63.10(f)	Waiver for Recordkeeping/Reporting	Procedures for EPA Administrator to waive	Yes.
§63.11	Flares	Requirements for flares	NA.
§63.12	Delegation	State authority to enforce standards	Yes.
§63.13	Addresses	Addresses where reports, notifications, and requests are send	Yes.
§63.14	Incorporation by Reference	Test methods incorporated by reference	Yes.
§63.15	Availability of Information	Public and confidential information	Yes.

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Appendix A to Subpart DDDD of Part 63—Alternative Procedure To Determine Capture Efficiency From Enclosures Around Hot Presses in the Plywood and Composite Wood Products Industry Using Sulfur Hexafluoride Tracer Gas

1.0 Scope and Application

This procedure has been developed specifically for the rule for the plywood and composite wood products (PCWP) industry and is used to determine the capture efficiency of a partial hot press enclosure in that industry. This procedure is applicable for the determination of capture efficiency for enclosures around hot presses and is an alternative to the construction of temporary total enclosures (TTE). Sulfur hexafluoride (SF_6) is used as a tracer gas (other tracer gases may be used if approved by the EPA Administrator). This gas is not indigenous to the ambient atmosphere and is nonreactive.

This procedure uses infrared spectrometry (IR) as the analytical technique. When the infrared spectrometer used is a Fourier-Transform Infrared spectrometer (FTIR), an alternate instrument calibration procedure may be used; the alternate calibration procedure is the calibration transfer standard (CTS) procedure of EPA Method 320 (appendix A to 40 CFR part 63). Other analytical techniques which are capable of equivalent Method Performance (Section 13.0) also may be used. Specifically, gas chromatography with electron capture detection (GC/ECD) is an applicable technique for analysis of SF_6.

2.0 Summary of Method

A constant mass flow rate of SF_6 tracer gas is released through manifolds at multiple locations within the enclosure to mimic the release of hazardous air pollutants during the press process. This

test method requires a minimum of three SF_6 injection points (two at the press unloader and one at the press) and provides details about considerations for locating the injection points. A GC/ECD is used to measure the concentration of SF_6 at the inlet duct to the control device (outlet duct from enclosure). Simultaneously, EPA Method 2 (appendix A to 40 CFR part 60) is used to measure the flow rate at the inlet duct to the control device. The concentration and flow rate measurements are used to calculate the mass emission rate of SF_6 at the control device inlet. Through calculation of the mass of SF_6 released through the manifolds and the mass of SF_6 measured at the inlet to the control device, the capture efficiency of the enclosure is calculated.

In addition, optional samples of the ambient air may be taken at locations around the perimeter of the enclosure to quantify the ambient concentration of SF_6 and to identify those areas of the enclosure that may be performing less efficiently; these samples would be taken using disposable syringes and would be analyzed using a GC/ECD.

Finally, in addition to the requirements specified in this procedure, the data quality objectives (DQO) or lower confidence limit (LCL) criteria specified in appendix A to 40 CFR part 63, subpart KK, Data Quality Objective and Lower Confidence Limit Approaches for Alternative Capture Efficiency Protocols and Test Methods, must also be satisfied. A minimum of three test runs are required for this procedure; however, additional test runs may be required based on the results of the DQO or LCL analysis.

3.0 DEFINITIONS

3.1 Capture efficiency (CE). The weight per unit time of SF_6 entering the control device divided by the weight per unit time of SF_6 released through manifolds at multiple locations within the enclosure.

3.2 Control device (CD). The equipment used to reduce, by destruction or removal, press exhaust air pollutants prior to discharge to the ambient air.

3.3 Control/destruction efficiency (DE). The volatile organic compound or HAP removal efficiency of the control device.

3.4 Data Quality Objective (DQO) Approach. A statistical procedure to determine the precision of the data from a test series and to qualify the data in the determination of capture efficiency for compliance purposes. If the results of the DQO analysis of the initial three test runs do not satisfy the DQO criterion, the LCL approach can be used or additional test runs must be conducted. If additional test runs are conducted, then the DQO or LCL analysis is conducted using the data from both the initial test runs and all additional test runs.

3.5 Lower Confidence Limit (LCL) Approach. An alternative statistical procedure that can be used to qualify data in the determination of capture efficiency for compliance purposes. If the results of the LCL approach produce a CE that is too low for demonstrating compliance, then additional test runs must be conducted until the LCL or DQO is met. As with the DQO, data from all valid test runs must be used in the calculation.

3.6 Minimum Measurement Level (MML). The minimum tracer gas concentration expected to be measured during the test series. This value is selected by the tester based on the capabilities of the IR spectrometer (or GC/ECD) and the other known or measured parameters of the hot press enclosure to be tested. The selected MML must be above the low-level calibration standard and preferably below the mid-level calibration standard.

3.7 Method 204. The U.S. EPA Method 204, “Criteria For and Verification of a Permanent or Temporary Total Enclosure” (40 CFR part 51, appendix M).

3.8 Method 205. The U.S. EPA Method 205, “Verification of Gas Dilution Systems for Field Instrument Calibrations” (40 CFR part 51, appendix M).

3.9 Method 320. The U.S. EPA Method 320, “Measurement of Vapor Phase Organic and Inorganic Emissions by Extractive Fourier Transform Infrared (FTIR) Spectroscopy” (40 CFR part 63, appendix A).

3.10 Overall capture and control efficiency (CCE). The collection and control/destruction efficiency of both the PPE and CD combined. The CCE is calculated as the product of the CE and DE.

3.11 Partial press enclosure (PPE). The physical barrier that “partially” encloses the press equipment, captures a significant amount of the associated emissions, and transports those emissions to the CD.

3.12 Test series. A minimum of three test runs or, when more than three runs are conducted, all of the test runs conducted.

4.0 INTERFERENCES

There are no known interferences.

5.0 SAFETY

Sulfur hexafluoride is a colorless, odorless, nonflammable liquefied gas. It is stable and nonreactive and, because it is noncorrosive, most structural materials are compatible with it. The Occupational Safety and Health Administration Permissible Emission Limit-Time Weighted Average (PEL-TWA) and Threshold Limit Value-Time Weighted Average (TLV-TWA) concentrations are 1,000 parts per million. Sulfur hexafluoride is an asphyxiant. Exposure to an oxygen-deficient atmosphere (less than 19.5 percent oxygen) may cause dizziness, drowsiness, nausea, vomiting, excess salivation, diminished mental alertness, loss of consciousness, and death. Exposure to atmospheres containing less than 12 percent oxygen will bring about unconsciousness without warning and so quickly that the individuals cannot help themselves. Contact with liquid or cold vapor may cause frostbite. Avoid breathing sulfur hexafluoride gas. Self-contained breathing apparatus may be required by rescue workers. Sulfur hexafluoride is not listed as a carcinogen or a potential carcinogen.

6.0 EQUIPMENT AND SUPPLIES

This method requires equipment and supplies for: (a) the injection of tracer gas into the enclosure, (b) the measurement of the tracer gas concentration in the exhaust gas entering the control device, and (c) the measurement of the volumetric flow rate of the exhaust gas entering the control device. In addition, the requisite equipment needed for EPA Methods 1-4 in appendix A to 40 CFR part 60 will be required. Equipment and supplies for optional ambient air sampling are discussed in Section 8.6.

6.1 Tracer Gas Injection.

6.1.1 Manifolds. This method requires the use of tracer gas supply cylinder(s) along with the appropriate flow control elements. Figure 1 shows a schematic drawing of the injection system showing potential locations for the tracer gas manifolds. Figure 2 shows a schematic drawing of the recommended configuration of the injection manifold. Three tracer gas discharge manifolds are required at a minimum.

6.1.2 Flow Control Meter. Flow control and measurement meter for measuring the quantity of tracer gas injected. A mass flow, volumetric flow, or critical orifice control meter can be used for this method. The meter must be accurate to within ±5 percent at the flow rate used. This means that the flow meter must be calibrated against a primary standard for flow measurement at the appropriate flow rate.

6.2 Measurement of Tracer Gas Concentration.

6.2.1 Sampling Probes. Use Pyrex or stainless steel sampling probes of sufficient length to reach the traverse points calculated according to EPA Method 1 (appendix A to 40 CFR part 60).

6.2.2 Sampling Line. Use a heated Teflon sampling line to transport the sample to the analytical instrument.

6.2.3 Sampling Pump. Use a sampling pump capable of extracting sufficient sample from the duct and transporting to the analytical instrument.

6.2.4 Sample Conditioning System. Use a particulate filter sufficient to protect the sampling pump and analytical instrument. At the discretion of the tester and depending on the equipment used and the moisture content of the exhaust gas, it may be necessary to further condition the sample by removing moisture using a condenser.

6.2.5 Analytical Instrument. Use one of the following analytical instruments.

6.2.5.1 Spectrometer. Use an infrared spectrometer designed to measuring SF_6 tracer gas and capable of meeting or exceeding the specifications of this procedure. An FTIR meeting the specifications of Method 320 in appendix A to 40 CFR part 63 may be used.

6.2.5.2 GC/ECD. Use a GC/ECD designed to measure SF_6 tracer gas and capable of meeting or exceeding the specifications of this procedure.

6.2.6 Recorder. At a minimum, use a recorder with linear strip chart. An automated data acquisition system (DAS) is recommended.

6.3 Exhaust Gas Flow Rate Measurement. Use equipment specified for EPA Methods 2, 3, and 4 in appendix A to 40 CFR part 60 for measuring flow rate of exhaust gas at the inlet to the control device.

7.0 Reagents and Standards

7.1 Tracer Gas. Use SF_6 as the tracer gas. The manufacturer of the SF_6 tracer gas should provide a recommended shelf life for the tracer gas cylinder over which the concentration does not change more than ±2 percent from the certified value. A gas mixture of SF_6 diluted with nitrogen should be used; based on experience and calculations, pure SF_6 gas is not necessary to conduct tracer gas testing. Select a concentration and flow rate that is appropriate for the analytical instrument's detection limit, the MML, and the exhaust gas flow rate from the enclosure (see section 8.1.1). You may use a tracer gas other than SF_6 with the prior approval of the EPA Administrator. If you use an approved tracer gas other than SF_6, all references to SF_6 in this protocol instead refer to the approved tracer gas.

7.2 Calibration Gases. The SF_6 calibration gases required will be dependent on the selected MML and the appropriate span selected for the test. Commercial cylinder gases certified by the manufacturer to be accurate to within 1 percent of the certified label value are preferable, although cylinder gases certified by the manufacturer to 2 percent accuracy are allowed. Additionally, the manufacturer of the SF_6 calibration gases should provide a recommended shelf life for each calibration gas cylinder over which the concentration does not change more than ±2 percent from the certified value. Another option allowed by this method is for the tester to obtain high concentration certified cylinder gases and then use a dilution system meeting the requirements of EPA Method 205, 40 CFR part 51, appendix M, to make multi-level calibration gas standards. Low-level, mid-level, and high-level calibration gases will be required. The MML must be above the low-level standard, the high-level standard must be no more than four times the low-level standard, and the mid-level standard must be approximately halfway between the high- and low-level standards. See section 12.1 for an example calculation of this procedure.

Note: If using an FTIR as the analytical instrument, the tester has the option of following the CTS procedures of Method 320 in appendix A to 40 CFR part 63; the calibration standards (and procedures) specified in Method 320 may be used in lieu of the calibration standards and procedures in this protocol.

7.2.1 Zero Gas. High purity nitrogen.

7.2.2 Low-Level Calibration Gas. An SF_6 calibration gas in nitrogen with a concentration equivalent to 20 to 30 percent of the applicable span value.

7.2.3 Mid-Level Calibration Gas. An SF_6 calibration gas in nitrogen with a concentration equivalent to 45 to 55 percent of the applicable span value.

7.2.4 High-Level Calibration Gas. An SF_6 calibration gas in nitrogen with a concentration equivalent to 80 to 90 percent of the applicable span value.

8.0 Sample Collection, Preservation, Storage, and Transport

8.1 Test Design.

8.1.1 Determination of Minimum Tracer Gas Flow Rate.

8.1.1.1 Determine (via design calculations or measurements) the approximate flow rate of the exhaust gas through the enclosure, actual cubic feet per minute (acfm).

8.1.1.2 Calculate the minimum tracer gas injection rate necessary to assure a detectable SF_6 concentration at the exhaust gas measurement point (see section 12.1 for calculation).

8.1.1.3 Select a flow meter for the injection system with an operating range appropriate for the injection rate selected.

8.1.2 Determination of the Approximate Time to Reach Equilibrium.

8.1.2.1 Determine the volume of the enclosure.

8.1.2.2 Calculate the air changes per minute of the enclosure by dividing the approximate exhaust flow rate (8.1.1.1 above) by the enclosed volume (8.1.2.1 above).

8.1.2.3 Calculate the time at which the tracer concentration in the enclosure will achieve approximate equilibrium. Divide 3 by the air changes per minute (8.1.2.2 above) to establish this time. This is the approximate length of time for the system to come to equilibrium. Concentration equilibrium occurs when the tracer concentration in the enclosure stops changing as a function of time for a constant tracer release rate. Because the press is continuously cycling, equilibrium may be exhibited by a repeating, but stable, cyclic pattern rather than a single constant concentration value. Assure sufficient tracer gas is available to allow the system to come to equilibrium, and to sample for a minimum of 20 minutes and repeat the procedure for a minimum of three test runs. Additional test runs may be required based on the results of the DQO and LCL analyses described in 40 CFR part 63, subpart KK, appendix A.

8.1.3 Location of Injection Points. This method requires a minimum of three tracer gas injection points. The injection points should be located within leak prone, volatile organic compound/hazardous air pollutant (VOC/HAP) producing areas around the press, or horizontally within 12 inches of the defined equipment. One potential configuration of the injection points is depicted in Figure 1. The effect of wind, exfiltration through the building envelope, and air flowing through open building doors should be considered when locating tracer gas injection points within the enclosure. The injection points should also be located at a vertical elevation equal to the VOC/HAP generating zones. The injection points should not be located beneath obstructions that would prevent a natural dispersion of the gas. Document the selected injection points in a drawing(s).

8.1.4 Location of Flow Measurement and Tracer Sampling. Accurate CD inlet gas flow rate measurements are critical to the success of this procedure. Select a measurement location meeting the criteria of EPA Method 1 (40 CFR part 60, appendix A), Sampling and Velocity Traverses for Stationary Sources. Also, when selecting the measurement location, consider whether stratification of the tracer gas is likely at the location (*e.g.*, do not select a location immediately after a point of air in-leakage to the duct).

8.2 Tracer Gas Release. Release the tracer gas at a calculated flow rate (see section 12.1 for calculation) through a minimum of three injection manifolds located as described above in 8.1.3. The tracer gas delivery lines must be routed into the enclosure and attached to the manifolds without violating the integrity of the enclosure.

8.3 Pretest Measurements.

8.3.1 Location of Sampling Point(s). If stratification is not suspected at the measurement location, select a single sample point located at the centroid of the CD inlet duct or at a point no closer to the CD inlet duct walls than 1 meter. If stratification is suspected, establish a “measurement line” that passes through the centroidal area and in the direction of any expected stratification. Locate three traverse points at 16.7, 50.0 and 83.3 percent of the measurement line and sample from each of these three points during each run, or follow the procedure in section 8.3.2 to verify whether stratification does or does not exist.

8.3.2 Stratification Verification. The presence or absence of stratification can be verified by using the following procedure. While the facility is operating normally, initiate tracer gas release into the enclosure. For rectangular ducts, locate at least nine sample points in the cross section such that the sample points are the centroids of similarly-shaped, equal area divisions of the cross section. Measure the tracer gas concentration at each point. Calculate the mean value for all sample points. For circular ducts, conduct a 12-point traverse (*i.e.*, six points on each of the two perpendicular diameters) locating the sample points as described in 40 CFR part 60, appendix A, Method 1. Perform the measurements and calculations as described above. Determine if the mean pollutant concentration is more than 10 percent different from any single point. If so, the cross section is considered to be stratified, and the tester may not use a single sample point location, but must use the three traverse points at 16.7, 50.0, and 83.3 percent of the entire measurement line. Other traverse points may be selected, provided that they can be shown to the satisfaction of the Administrator to provide a representative sample over the stack or duct cross section.

8.4 CD Inlet Gas Flow Rate Measurements. The procedures of EPA Methods 1-4 (40 CFR part 60, appendix A) are used to determine the CD inlet gas flow rate. Molecular weight (Method 3) and moisture (Method 4) determinations are only required once for each test series. However, if the test series is not completed within 24 hours, then the molecular weight and moisture measurements should be repeated daily. As a minimum, velocity measurements are conducted according to the procedures of Methods 1 and 2 before and after each test run, as close to the start and end of the run as practicable. A velocity measurement between two runs satisfies both the criterion of “after” the run just completed and “before” the run to be initiated. Accurate exhaust gas flow rate measurements are critical to the success of this procedure. If significant temporal variations of flow rate are anticipated during the test run under normal process operating conditions, take appropriate steps to accurately measure the flow rate during the test. Examples of steps that might be taken include: (1) conducting additional velocity traverses during the test run; or (2) continuously monitoring a single point of average velocity during the run and using these data, in conjunction with the pre- and post-test traverses, to calculate an average velocity for the test run.

8.5 Tracer Gas Measurement Procedure.

8.5.1 Calibration Error Test. Immediately prior to the emission test (within 2 hours of the start of the test), introduce zero gas and high-level calibration gas at the calibration valve assembly. Zero and calibrate the analyzer according to the manufacturer's procedures using, respectively, nitrogen and the calibration gases. Calculate the predicted response for the low-level and mid-level gases based on a linear response line between the zero and high-level response. Then introduce the low-level and mid-level calibration gases successively to the measurement system. Record the analyzer responses for the low-level and mid-level calibration gases and determine the differences between the measurement system responses and the predicted responses using the equation in section 12.3. These differences must be less than 5 percent of the respective calibration gas value. If not, the measurement system must be replaced or repaired prior to testing. No adjustments to the measurement system shall be conducted after the calibration and before the drift determination (section 8.5.4). If adjustments are necessary before the completion of the test series, perform the drift checks prior to the required

adjustments and repeat the calibration following the adjustments. If multiple electronic ranges are to be used, each additional range must be checked with a mid-level calibration gas to verify the multiplication factor.

NOTE: If using an FTIR for the analytical instrument, you may choose to follow the pretest preparation, evaluation, and calibration procedures of Method 320 (section 8.0) (40 CFR part 63, appendix A) in lieu of the above procedure.

8.5.2 Response Time Test. Conduct this test once prior to each test series. Introduce zero gas into the measurement system at the calibration valve assembly. When the system output has stabilized, switch quickly to the high-level calibration gas. Record the time from the concentration change to the measurement system response equivalent to 95 percent of the step change. Repeat the test three times and average the results.

8.5.3 SF_6 Measurement. Sampling of the enclosure exhaust gas at the inlet to the CD should begin at the onset of tracer gas release. If necessary, adjust the tracer gas injection rate such that the measured tracer gas concentration at the CD inlet is within the spectrometer's calibration range (*i.e.*, between the MML and the span value). Once the tracer gas concentration reaches equilibrium, the SF_6 concentration should be measured using the infrared spectrometer continuously for at least 20 minutes per run. Continuously record (*i.e.*, record at least once per minute) the concentration. Conduct at least three test runs. On the recording chart, in the data acquisition system, or in a log book, make a note of periods of process interruption or cyclic operation such as the cycles of the hot press operation. Table 1 to this appendix summarizes the physical measurements required for the enclosure testing.

NOTE: If a GC/ECD is used as the analytical instrument, a continuous record (at least once per minute) likely will not be possible; make a minimum of five injections during each test run. Also, the minimum test run duration criterion of 20 minutes applies.

8.5.4 Drift Determination. Immediately following the completion of the test run, reintroduce the zero and mid-level calibration gases, one at a time, to the measurement system at the calibration valve assembly. (Make no adjustments to the measurement system until both the zero and calibration drift checks are made.) Record the analyzer responses for the zero and mid-level calibration gases and determine the difference between the instrument responses for each gas prior to and after the emission test run using the equation in section 12.4. If the drift values exceed the specified limits (section 13), invalidate the test results preceding the check and repeat the test following corrections to the measurement system. Alternatively, recalibrate the test measurement system as in section 8.5.1 and report the results using both sets of calibration data (*i.e.*, data determined prior to the test period and data determined following the test period). Note: If using an FTIR for the analytical instrument, you may choose to follow the post-test calibration procedures of Method 320 in appendix A to 40 CFR part 63 (section 8.11.2) in lieu of the above procedures.

8.6 Ambient Air Sampling (Optional). Sampling the ambient air surrounding the enclosure is optional. However, taking these samples during the capture efficiency testing will identify those areas of the enclosure that may be performing less efficiently.

8.6.1 Location of Ambient Samples Outside the Enclosure (Optional). In selecting the sampling locations for collecting samples of the ambient air surrounding the enclosure, consider potential leak points, the direction of the release, and laminar flow characteristics in the area surrounding the enclosure. Samples should be collected from all sides of the enclosure, downstream in the prevailing room air flow, and in the operating personnel occupancy areas.

8.6.2 Collection of Ambient Samples (Optional). During the tracer gas release, collect ambient samples from the area surrounding the enclosure perimeter at predetermined location using disposable syringes or some other type of containers that are non-absorbent, inert, and that have low permeability (*i.e.*, polyvinyl fluoride film or polyester film sample bags or polyethylene, polypropylene, nylon or glass bottles). The use of disposable syringes allows samples to be injected directly into a gas chromatograph. Concentration measurements taken around the perimeter of the enclosure

provide evidence of capture performance and will assist in the identification of those areas of the enclosure that are performing less efficiently.

8.6.3 Analysis and Storage of Ambient Samples (Optional). Analyze the ambient samples using an analytical instrument calibrated and operated according to the procedures in this appendix or ASTM E 260 and ASTM E 697. Samples may be analyzed immediately after a sample is taken, or they may be stored for future analysis. Experience has shown no degradation of concentration in polypropylene syringes when stored for several months as long as the needle or syringe is plugged. Polypropylene syringes should be discarded after one use to eliminate the possibility of cross contamination of samples.

9.0 Quality Control

9.1 Sampling, System Leak Check. A sampling system leak check should be conducted prior to and after each test run to ensure the integrity of the sampling system.

9.2 Zero and Calibration Drift Tests.

Section	Quality control measure	Effect
8.5.4	Zero and calibration drift tests	Ensures that bias introduced by drift in the measurement system output during the run is no greater than 3 percent of span.

10.0 Calibration and Standardization

10.1 Control Device Inlet Air Flow Rate Measurement Equipment. Follow the equipment calibration requirements specified in Methods 2, 3, and 4 (appendix A to 40 CFR part 60) for measuring the velocity, molecular weight, and moisture of the control device inlet air.

10.2 Tracer Gas Injection Rate. A dry gas volume flow meter, mass flow meter, or orifice can be used to measure the tracer gas injection flow rate. The selected flow measurement device must have an accuracy of greater than ±5 percent at the field operating range. Prior to the test, verify the calibration of the selected flow measurement device using either a wet test meter, spirometer, or liquid displacement meter as the calibration device. Select a minimum of two flow rates to bracket the expected field operating range of the flow meter. Conduct three calibration runs at each of the two selected flow rates. For each run, note the exact quantity of gas as determined by the calibration standard and the gas volume indicated by the flow meter. For each flow rate, calculate the average percent difference of the indicated flow compared to the calibration standard.

10.3 Spectrometer. Follow the calibration requirements specified by the equipment manufacturer for infrared spectrometer measurements and conduct the pretest calibration error test specified in section 8.5.1. Note: if using an FTIR analytical instrument see Method 320, section 10 (appendix A to 40 CFR part 63).

10.4 Gas Chromatograph. Follow the pre-test calibration requirements specified in section 8.5.1.

10.5 Gas Chromatograph for Ambient Sampling (Optional). For the optional ambient sampling, follow the calibration requirements specified in section 8.5.1 or ASTM E 260 and E 697 and by the equipment manufacturer for gas chromatograph measurements.

11.0 Analytical Procedures

The sample collection and analysis are concurrent for this method (see section 8.0).

12.0 Calculations and Data Analysis

12.1 Estimate MML and Span. The MML is the minimum measurement level. The selection of this level is at the discretion of the tester. However, the MML must be higher than the low-level calibration standard, and the tester must be able to measure at this level with a precision of ≤10

percent. As an example, select the MML as 10 times the instrument's published detection limit. The detection limit of one instrument is 0.01 parts per million by volume (ppmv). Therefore, the MML would be 0.10 ppmv. Select the low-level calibration standard as 0.08 ppmv. The high-level standard would be four times the low-level standard or 0.32 ppmv. A reasonable mid-level standard would then be 0.20 ppmv (halfway between the low-level standard and the high-level standard). Finally, the span value would be approximately 0.40 ppmv (the high-level value is 80 percent of the span). In this example, the following MML, calibration standards, and span values would apply:

MML = 0.10 ppmv

Low-level standard = 0.08 ppmv

Mid-level standard = 0.20 ppmv

High-level standard = 0.32 ppmv

Span value = 0.40 ppmv

12.2 Estimate Tracer Gas Injection Rate for the Given Span. To estimate the minimum and maximum tracer gas injection rate, assume a worst case capture efficiency of 80 percent, and calculate the tracer gas flow rate based on known or measured parameters. To estimate the minimum tracer gas injection rate, assume that the MML concentration (10 times the IR detection limit in this example) is desired at the measurement location. The following equation can be used to estimate the minimum tracer gas injection rate:

$((Q_{T\text{-}MIN} \times 0.8)/Q_E) \times (C_T \div 100) \times 10^6 = MML$

$Q_{T\text{-}MIN} = 1.25 \times MML \times (Q_E/C_T) \times 10^{-4}$

Where:

$Q_{T\text{-}MIN}$ = minimum volumetric flow rate of tracer gas injected, standard cubic feet per minute (scfm);

Q_E = volumetric flow rate of exhaust gas, scfm;

C_T = Tracer gas (SF_6) concentration in gas blend, percent by volume;

MML = minimum measured level, ppmv = 10 × IR_{DL} (for this example);

IR_{DL} = IR detection limit, ppmv.

Standard conditions: 20 °C, 760 millimeters of mercury (mm Hg).

To estimate the maximum tracer gas injection rate, assume that the span value is desired at the measurement location. The following equation can be used to estimate the maximum tracer gas injection rate:

$((Q_{T\text{-}MAX} \times 0.8)/Q_E) \times (C_T \div 100) \times 10^6 = \text{span value}$

$Q_{T\text{-}MAX} = 1.25 \times \text{span value} \times (Q_E/C_T) \times 10^{-4}$

Where:

$Q_{T\text{-}MAX}$ = maximum volumetric flow rate of tracer gas injected, scfm;

Span value = instrument span value, ppmv.

The following example illustrates this calculation procedure:

Find the range of volumetric flow rate of tracer gas to be injected when the following parameters are known:

Q_E = 60,000 scfm (typical exhaust gas flow rate from an enclosure);

C_T = 2 percent SF_6 in nitrogen;

IR_{DL} = 0.01 ppmv (per manufacturer's specifications);

MML = 10 × IR_{DL} = 0.10 ppmv;

Span value = 0.40 ppmv;

Q_T = ?

Minimum tracer gas volumetric flow rate:

$Q_{T\text{-}MIN} = 1.25 \times MML \times (Q_E/C_T) \times 10^{-4}$

$Q_{T\text{-}MIN} = 1.25 \times 0.10 \times (60{,}000/2) \times 10^{-4} = 0.375$ scfm

Maximum tracer gas volumetric flow rate:

$Q_{T\text{-}MAX} = 1.25 \times$ span value $\times (Q_E/C_T) \times 10^{-4}$

$Q_{T\text{-}MAX} = 1.25 \times 0.40 \times (60{,}000/2) \times 10^{-4} = 1.5$ scfm

In this example, the estimated total volumetric flow rate of the two percent SF_6 tracer gas injected through the manifolds in the enclosure lies between 0.375 and 1.5 scfm.

12.3 Calibration Error. Calculate the calibration error for the low-level and mid-level calibration gases using the following equation:

Err = |C_{std}−C_{meas}verbar; ÷ C_{std} × 100

Where:

Err = calibration error, percent;

C_{std} = low-level or mid-level calibration gas value, ppmv;

C_{meas} = measured response to low-level or mid-level concentration gas, ppmv.

12.4 Calibration Drift. Calculate the calibration drift for the zero and low-level calibration gases using the following equation:

D = |verbar;$C_{initial}$ − C_{final} |verbar; ÷ C_{span} × 100

Where:

D = calibration drift, percent;

$C_{initial}$ = low-level or mid-level calibration gas value measured before test run, ppmv;

C_{final} = low-level or mid-level calibration gas value measured after test run, ppmv;

C_{span} = span value, ppmv.

12.5 Calculate Capture Efficiency. The equation to calculate enclosure capture efficiency is provided below:

CE = ($SF_{6\text{-}CD}$ ÷ $SF_{6\text{-}INJ}$) × 100

Where:

CE = capture efficiency;

$SF_{6\text{-}CD}$ = mass of SF_6 measured at the inlet to the CD;

$SF_{6\text{-}INJ}$ = mass of SF_6 injected from the tracer source into the enclosure.

Calculate the CE for each of the initial three test runs. Then follow the procedures outlined in section 12.6 to calculate the overall capture efficiency.

12.6 Calculate Overall Capture Efficiency. After calculating the capture efficiency for each of the initial three test runs, follow the procedures in 40 CFR part 63, subpart KK, appendix A, to determine if the results of the testing can be used in determining compliance with the requirements of the rule. There are two methods that can be used: the DQO and LCL methods. The DQO method is described in section 3 of 40 CFR part 63, subpart KK, appendix A, and provides a measure of the precision of the capture efficiency testing conducted. Section 3 of 40 CFR part 63, subpart KK, appendix A, provides an example calculation using results from a facility. If the DQO criteria are met using the first set of three test runs, then the facility can use the average capture efficiency of these test results to determine the capture efficiency of the enclosure. If the DQO criteria are not met, then the facility can conduct another set of three runs and run the DQO analysis again using the results from the six runs *OR* the facility can elect to use the LCL approach.

The LCL method is described in section 4 of 40 CFR part 63, subpart KK, appendix A, and provides sources that may be performing much better than their regulatory requirement, a screening option by which they can demonstrate compliance. The LCL approach compares the 80 percent lower confidence limit for the mean measured CE value to the applicable regulatory requirement. If the LCL capture efficiency is higher than the applicable limit, then the facility is in initial compliance and would use the LCL capture efficiency as the capture efficiency to determine compliance. If the LCL capture efficiency is lower than the applicable limit, then the facility must perform additional test runs and re-run the DQO or LCL analysis.

13.0 Method Performance

13.1 Measurement System Performance Specifications.

13.1.1 Zero Drift. Less than ±3 percent of the span value.

13.1.2 Calibration Drift. Less than ±3 percent of the span value.

13.1.3 Calibration Error. Less than ±5 percent of the calibration gas value.

13.2 Flow Measurement Specifications. The mass flow, volumetric flow, or critical orifice control meter used should have an accuracy of greater than ±5 percent at the flow rate used.

13.3 Calibration and Tracer Gas Specifications. The manufacturer of the calibration and tracer gases should provide a recommended shelf life for each calibration gas cylinder over which the concentration does not change more than ±2 percent from the certified value.

14.0 Pollution Prevention [Reserved]

15.0 Waste Management [Reserved]

16.0 References

1. 40 CFR part 60, appendix A, EPA Method 1—Sample and velocity traverses for stationary sources.

2. 40 CFR part 60, appendix A, EPA Method 2—Determination of stack gas velocity and volumetric flow rate.

3. 40 CFR part 60, appendix A, EPA Method 3—Gas analysis for the determination of dry molecular weight.

4. 40 CFR part 60, appendix A, EPA Method 4—Determination of moisture content in stack gases.

5. SEMI F15-93 Test Method for Enclosures Using Sulfur Hexafluoride Tracer Gas and Gas Chromotography.

6. Memorandum from John S. Seitz, Director, Office of Air Quality Planning and Standards, to EPA Regional Directors, Revised Capture Efficiency Guidance for Control of Volatile Organic Compound Emissions, February 7, 1995. (That memorandum contains an attached technical document from Candace Sorrell, Emission Monitoring and Analysis Division, "Guidelines for Determining Capture Efficiency," January 9, 1994).

7. Technical Systems Audit of Testing at Plant "C," EPA-454/R-00-26, May 2000.

8. Material Safety Data Sheet for SF_6 Air Products and Chemicals, Inc. Website: *www3.airproducts.com.* October 2001.

17.0 Tables, Diagrams, Flowcharts, and Validation Data

Table 1 to Appendix A—Summary of Critical Physical Measurements for Enclosure Testing

Measurement	Measurement instrumentation	Measurement frequency	Measurement site
Tracer gas injection rate	Mass flow meter, volumetric flow meter or critical orifice	Continuous	Injection manifolds (cylinder gas).
Tracer gas concentration at control device inlet	Infrared Spectrometer or GC/ECD	Continuous (at least one reading per minute) for a minimum of 20 minutes	Inlet duct to the control device (outlet duct of enclosure).
Volumetric air flow rate	EPA Methods 1, 2, 3, 4 (40 CFR part 60, appendix A) • Velocity sensor (Manometer/Pitot tube) • Thermocouple	Each test run for velocity (minimum); Daily for moisture and molecular weight	Inlet duct to the control device (outlet duct of enclosure).
	• Midget Impinger sampler		
	• Orsat or Fyrite		

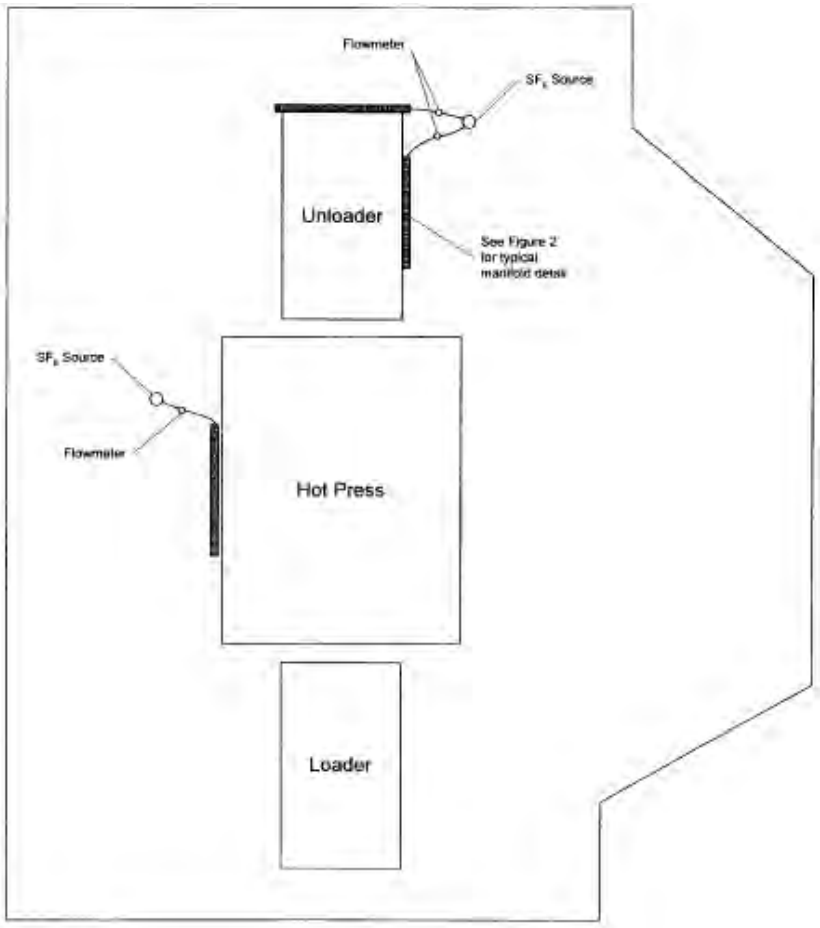

Figure 1. Plan view schematic of hot press and enclosure showing SF_6 manifold locations.

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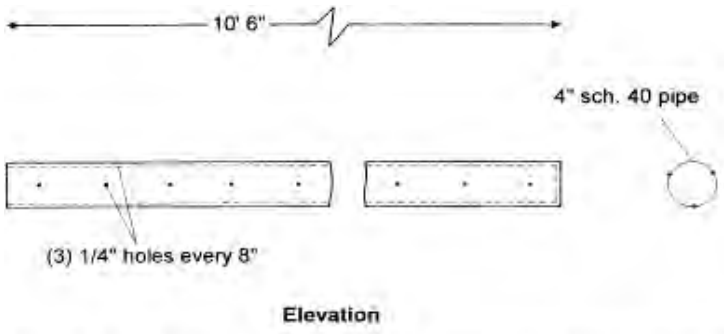

Figure 2. Schematic detail for manifold system for SF_6 injection.

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[69 FR 46011, July 30, 2004, as amended at 71 FR 8375, Feb. 16, 2006]

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