

**OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION**

MEMORANDUM

July 23, 2019

TO: Phillip Fielder, P.E., Chief Engineer

THROUGH: Phil Martin, P.E., Manager, Existing Source Permits Section

THROUGH: Ryan Buntyn, P.E., Existing Source Permits Section

FROM: David Schutz, P.E., New Source Permits Section

SUBJECT: Evaluation of Permit Application No. **2015-1163-C (M-1)(PSD)**
Weyerhaeuser NR Company - Idabel
Idabel Softwood Lumber Sawmill
Relaxation of Previous Kiln 4 Limits
Idabel, McCurtain County, Oklahoma
Section 27 – T7S – R23E
On US-70, Two Miles West of Idabel
Latitude: 33.93145°N, Longitude 94.86801°W
FAC ID 2291

SECTION I. INTRODUCTION

Weyerhaeuser NR Company – Idabel (Weyerhaeuser) has requested a modified construction permit for their softwood lumber sawmill (SIC 2421) in southeast Oklahoma. The current active permit is No. 2015-1163-TVR3 issued February 9, 2016. This construction permit re-opens Permit No. 2010-272-C (M-5).

The facility is requesting to relax permit limits for Kiln 4 and increase the allowable facility production limits from 240.62 million board feet per year to 270 million board feet per year. The facility proposes to revise emission factors for the entire facility and to re-open BACT for Kiln 4. The revised emissions estimates will involve the following items:

- Existing kilns' VOC emissions factors will be determined by an EPA protocol issued in 2007; this protocol is referred to as "WPP1 VOC" (Wood Products Protocol 1 VOC). Emission factors for all lumber kilns will be 3.88 lb/MBF (3-hour average).

- Lumber kiln PM₁₀ emissions are being revised based on more recent information to 0.1538 lb/MBF (pounds per thousand board feet) from an hourly rate of 1.004 lb/MBF and an annual rate of 0.734 lb/MBF (note: the properties of the wood being processed vary seasonally). The new factors are based on stack testing at other Weyerhaeuser facilities.
- Material handling cyclone PM₁₀ / PM_{2.5} emissions are being revised from a percentage of throughput (99.99%) to calculations based on 0.02 gr/DSCF (cyclone manufacturer guarantees) and maximum anticipated flows.
- Emissions of VOC from “green” (not yet kilned) residual materials are being revised from 0.095 lb/ton to 0.31 lb/ton (dry-basis).
- Emissions of VOC from dry residual materials cyclones are being revised from 0.14 lb/ton to 0.12 lb/ton (dry-basis).
- Road dust fugitive emissions are being revised.
- The “old tub grinder” is being removed.
- Emissions from two engines (tub grinder and fire pump) are being revised based on different operating hours.
- Facility log input is being revised from 1,011,000 TPY to 980,100 TPY.

Based on the revised VOC emissions factors, the facility was a PSD-major source prior to construction of Kiln 4. Construction of Kiln 4 added VOC emissions above PSD levels of significance. Full PSD review consists of:

- A.** determination of best available control technology (BACT)
- B.** evaluation of existing air quality and determination of monitoring requirements
- C.** evaluation of PSD increment consumption
- D.** analysis of compliance with National Ambient Air Quality Standards (NAAQS)
- E.** ambient air monitoring
- F.** evaluation of source-related impacts on growth, soils, vegetation, visibility
- G.** evaluation of Class I area impacts.

SECTION II. DESCRIPTION OF MAJOR FACILITY PROCESSES

The sawmill produces pine lumber, shavings, bark, and wood chips. The design capacity of the sawmill is 60,000 board feet per hour, up to 270,000,000 board feet per year, while the lumber kilns are allowed to dry up to 270,000,000 board feet per year. The finishing (planing) unit has a capacity of 96,000 board feet per hour. The amount of logs needed to produce 270,000,000 board feet per year is 980,100 tons per year. Any difference between amounts of wood sawed and kiln capacity may be sold as "green" wood or shipped to other locations. Also, kiln-dried wood may be shipped to the Idabel mill from other lumber mills for planing ("finishing").

Tree-length pine logs ("stems") arrive at the plant by rail and truck. The logs are debarked and then sawn and chipped in an automated, multiple-step process that ensures the highest possible yield of high-grade dimensional lumber. Sawmill output (as percent of the incoming stems) is approximately 56% green lumber, 13% sawdust, 26% chips, and 6% bark.

The green lumber is sorted and stored on log decks until ready for drying. All sawdust is conveyed pneumatically by three cyclones into three sawdust storage silos (one silo feeds Kilns 1 and 2, one silo feeds Kiln 3, and one silo feeds Kiln 4). Sawdust conveyance occurs continuously. Only one of the three sawdust cyclones can operate at any given time. All chips and bark are mechanically conveyed with belts and/or a front-end loader to storage piles or directly to railcars.

Green lumber is dried in four kilns from 50 percent moisture to 15% moisture normally (11% minimum). The kilns combust sawdust as well as small amounts of diesel/oil during startup. The kilns are "hot" and drying lumber or are on warm idle at all times except for 12 days per year for cleaning purposes. Dried lumber may be stored temporarily or directed immediately to the planer mill.

In the planer mill, lumber is planed/trimmed to standard sizes and then bundled for storage/shipment. Planing removes approximately 13% of the dried lumber, which amounts to approximately 5% of the incoming stems (considering the difference in moisture content). The planer shavings/trimmings are picked up by a cyclone, enter an airlock, and then are transferred via a second cyclone to a storage bin.

Based on these estimates, a lumber production yield of 3.63 ton of stems per MBF, and a maximum lumber production rate of 270 MMBF/yr, the facility generates 127,413 tons/yr of green sawdust, 58,806 tons/yr of green bark, 254,826 tons/yr of green chips, and 48,965 tons/yr of dry planer shavings.

The facility also includes a diesel-fired fire water pump engine, a gasoline storage tank, and a diesel storage tank. Additionally, diesel-fired tub grinder is brought on site periodically (approximately once every two months) on a contract basis.

The facility is equipped with two organic material storage vessels. The tanks hold 550 gallons of gasoline and 8,000 gallons of diesel.

Kilns 1, 2, and 3 operate on a batch basis. All other processes, including the fourth kiln, operate continuously up to 8,760 hours per year.

SECTION III. CONSTRUCTION PERMITTING HISTORY

Since the permit application requests relaxation of existing permit conditions, a review of the facility permitting history is appropriate:

- Permit No. 94-296-C issued March 9, 1995: the facility was originally constructed by Georgia-Pacific. The first construction permit provided for two batch kilns, 239.68 TPY VOC and 80.56 TPY PM. A third kiln would be constructed but the initial limits would be retained (117.7 million board feet per year through the kilns).
- Permit No. 97-405-C (M-1) issued April 4, 2003. This construction permit was issued to the second owner of the facility, Bibler Brothers Lumber. Construction of a fourth kiln was authorized. Emissions limits now exceeded PSD major source levels: 392.57 TPY VOC, 141.36 TPY PM and 116.19 TPY CO. Kiln No. 4 would not be constructed until issuance of Permit No. 2010-272-C (M-2). Kiln throughput was limited to 200 million board feet per year.
- Permit No. 2010-272-C (M-2) was issued to Weyerhaeuser NR Company on March 1, 2012. The application amended the limits of the facility. The permit treated installation of Kiln 4 as a modification to an existing PSD-minor facility. The latest-available emissions factors were used in this permit. Added VOC was 91 TPY and existing VOC (i.e., everything other than Kiln No. 4) was below 250 TPY. Weyerhaeuser also added VOC from the cyclones; those emissions had not been stated by either of the previous owners. Kiln throughput was up to 225 million board feet per year.
- Permit No. 2010-272-C (M-5) was issued to Weyerhaeuser on April 22, 2015. It relaxed the limits on the No. 4 Kiln such that the kiln was subject to state-only BACT. Kiln throughput was up to 240.62 million board feet per year.

SECTION IV. EQUIPMENT

Emissions Unit Group No. 1 was designated as the facility as a whole.

EUG 2 Cyclones

EU ID#	Point	Equipment/Make	Model #	Const. Date
EU-001	P-001	Green Sawdust Cyclone #1 Fisher-Klostermann	XQ-340-19	1996
EU-003	P-003	Green Sawdust Cyclone #3 Fisher-Klostermann	XQ-240-19	1997
EU-004	P-004	Planer Mill Cyclone Fisher-Klostermann	XQ-340-19	1996
EU-005	P-005	Truck Bin Relay Cyclone Fisher-Klostermann	XQ-340-14	1996
EU-016	P-016	Green Sawdust Cyclone #4 Windsor	XQ-240-19	2012

Cyclone P-002 is currently inoperable, and has been removed from the permit.

EUG 3 Lumber Kilns

EU ID#	Point	Equipment/Fuel	MMBTUH	Const. Date
EU-006	P-006-7	Lumber Dry Kiln #1 Wood Waste Fueled	33.8	1996
EU-007	P-010-11	Lumber Dry Kiln #2 Wood Waste Fueled	33.8	1996
EU-008	P-012-13	Lumber Dry Kiln #3 Wood Waste Fueled	23.9	1997
EU-013	P-014 P-015	Lumber Dry Kiln #4 Wood Waste Fueled	35	2012

EUG 4 Fugitives

EU ID#	Source	Const. Date
EU-009	Unpaved Roads	1996

EUG 5 Insignificant Activities

Emission Unit Description	EU Name/Model	Construction Date
Bark Removal	CSMI 30” MK-30 Debarker	1996
Log Chipping	Two 66” MT-479-96A Forano Chippers One 75” MT-80-96A Forano Chipper	1996
Diesel Tank	8,000-gallon Tank	1996
Gasoline Tank	550-gallon Tank	1996
Bark Conveyor	Mill Services Conveyor	1996
Bark Pile Loading	Kolman Model 101-R Conveyor	1996
Bark Loading (truck and rail)	Front-end Loaders	1996
Shavings Conveyors	West Coast Sheet Metal Conveyor	1996
Shavings Bin	West Coast Sheet Metal Conveyor	1996
Shavings Loading (truck and rail)	West Coast Sheet Metal Conveyor	1996
Chip Pile	Kolman Conveyors	1996
Chip Conveyor	Mill Services Conveyor	1996
Chip Loading (truck and rail)	Mill Services Conveyor	1996
Sawblade Lubricants	Sawmill	1996
Kiln Burner Bypass Stacks	Lumber Kilns 1, 2, and 3	1996-97

EUG 7 Tub Grinder

EU ID#	Source	Const. Date
EU-014	850-hp Diesel-powered Tub Grinder	2012

The trailer-mounted tub grinder engine is a “mobile nonroad engine” as defined in 40 CFR 1068.30, therefore, not subject to stationary engine standards (New Source Performance Standards (NSPS) Subpart IIII and National Emission Standards for Hazardous Air Pollutants (NESHAP) Subpart ZZZZ). By meeting the definition of “nonroad engine” in 40 CFR Part 1068.30, the tub grinder is excluded from the definition of “stationary engine.”

EUG 8 Fire Pump Engine

EU ID#	Source	Const. Date
EU-015	208-hp Diesel-powered Fire Pump	1995

SECTION V. INSIGNIFICANT ACTIVITIES

The insignificant activities identified and justified in the application and listed in OAC 252:100-8, Appendix I, are listed below. Recordkeeping for activities indicated with “*” is listed in the Specific Conditions.

- * Storage tanks with less than or equal to 10,000 gallons capacity that store volatile organic liquids with a true vapor pressure less than or equal to 1.0 psia at maximum storage temperature. The facility diesel tank is in this category.
- * Bulk gasoline or other fuel distribution with a daily average throughput less than 2,175 gallons per day, including dispensing, averaged over a 30-day period. The facility includes a 550 gallon gasoline tank for fueling vehicles.
- * Activities having the potential to emit no more than 5 TPY (actual) of any criteria pollutant. This category includes the following operations:
 - Bark removal
 - Log chipping
 - Bark conveyor
 - Bark pile loading
 - Bark loading (trucks and rail)
 - Shavings conveyors
 - Shavings bin
 - Shavings loading (truck and rail)
 - Chip pile
 - Chip conveyor
 - Chip loading (truck and rail)
 - Sawblade lubricants usage
 - Kiln burner bypass stacks

SECTION VI. EMISSIONS

Emissions were calculated based on the following factors and references:

- Lumber kiln emissions (NO_x, CO, and PM₁₀ / PM_{2.5}) were estimated from stack testing conducted in 1996 and 2005 at this facility. SO₂ emissions were derived from AP-42 (9/03), Section 1.6 (0.025 lb/MMBTU for wood-waste fired heaters and kiln burner ratings (total 126.5 MMBTUH). VOC emissions are based on stack testing at this facility in 11/96, revised to WPP-1 protocol, for both new and existing kilns. That factor (3.8 lb/MBF) matches what is currently used in the state of Arkansas.

Pollutant	Hourly Emission Factor, lb/MBF	Annual Emission Factor, lb/MBF
PM ₁₀	0.1538	0.1538
PM _{2.5}	0.1125	0.1125
NO _x	0.382	0.272
CO	1.800	1.052
SO ₂	0.025 lb/MMBTU	0.025 lb/MMBTU
VOC*	3.88	3.88

*wood cut in the summer months has high amounts of sap, which include terpenes (VOC); wood cut in winter months when the trees are dormant have somewhat lower VOC emissions.

- PM₁₀ / PM_{2.5} emissions from each cyclone were based on vendor guarantees: 0.02 gr/dscf.
- Storage tank emissions were calculated using the EPA program, "TANKS4.0".
- Emissions from wood particle conveying operations (bark, sawdust, etc.) were estimated using AP-42 (11/06), Section 13.2.4 batch drop equations with a mean wind speed of 12 mph and moisture content of 6%. PM₁₀ and PM_{2.5} emissions used the particle size multipliers in that section: 0.35 for PM₁₀ and 0.053 for PM_{2.5}.
- Emission factors from the diesel engine powering the tub grinder were taken from AP-42 (10/96), Section 3.4. PM emissions from bark grinding were shown as 0.16 lb/ton, as derived from stack testing on an identical unit operated in Arkansas. All combustion PM is assumed to be PM_{2.5}, and 10% of PM from wood grinding was assumed to be PM_{2.5}.
- Emissions from the 208-hp fire pump diesel were calculated using manufacturer data: 4.58 g/hp-hr NO_x, 2.60 g/hp-hr CO, 0.62 g/hp-hr SO₂, 0.25 g/hp-hr PM₁₀, and 1.13 g/hp-hr VOC.
- Emissions from the kiln bypass stacks were calculated using the previous lumber kiln factors, using 20% of normal operations, 410 cycles per year and 30 minutes per each idle cycle.
- Emissions from unpaved roads were based on AP-42 (12/03), Section 13.2.2. A 6.5% silt content, average vehicle weight of approximately 26 tons, and watering/rain control of 80% of the days each year were entered. PM₁₀ and PM_{2.5} emissions used the particle size multipliers in that section.

$$E \text{ (lb/VMT)} = k * (s/12)^a * (W/3)^b$$

- k = particle size multiplier, 1.5 for PM₁₀ and 0.15 for PM_{2.5}
- s = silt content, 6.5%
- W = vehicle average weight (26 tons)
- a = 0.9
- b = 0.45

Production of 270,000,000 bd-ft per year of lumber requires that 980,100 tons per year of pine logs be input to the process. Approximately 6% of that total is removed as bark (58,806 tons per year). The remaining 921,294 tons proceed to processing.

At primary breakdown, 254,826 tons are removed as green chips and 127,413 tons as green sawdust. This leaves a balance of 539,055 tons green lumber. The kilns dry this to approximately 317,091 tons.

Planing / trimming removes approximately 13% of the dry lumber, or approximately 48,965 tons. The annual lumber production will be approximately 268,086 tons. (Due to rounding of the % yield values, the application used slightly larger assumptions for lumber production in tons, both green and dry.)

Two sets of calculations follow, using the revised facility operations and emissions factors. The first shows Potential-to-Emit (PTE) at the requested maximum allowable facility annual production of 270 million board feet, while the second shows Baseline Actual Emissions (BAE) based on the years 2010-2011, which had an average lumber production of 146,640 MBF. The differences between the two sets of calculations determines the extent of PSD review needed.

- **POTENTIAL-TO-EMIT: POST PROJECT**

EUG 2 – Cyclones

A. PM₁₀ / PM_{2.5}

Emission Point	Process Description	Process Rates	Emission Factors, gr/ACF	PM ₁₀ EMISSIONS		PM _{2.5} EMISSIONS	
		Hourly ACFM		lb/hr	TPY	lb/hr	TPY
P-001	Green Sawdust Cyclones	3,500	0.02	0.60	1.11	0.60	1.11
P-003							
P-016							
P-004	Planing Trimming	4,100	0.02	0.70	1.30	0.70	1/30
P-005	Planing Trimming	3,500	0.02	0.60	1.11	0.60	1.11
TOTALS				1.90	3.52	1.90	3.52

--	--	--	--	--	--	--

Only one cyclone of P-001, P-003, and P-016 can operate (and emit) at a time. Auxiliary units operate 3,703 hours per year.

PM emissions are filterable plus condensable.

B. VOC

Emission Point	Process Description	Process Rates		Emission Factors, lb/ton	VOC EMISSIONS	
		Hourly TPH	Annual TPY		lb/hr	TPY
P-001 P-003 P-16	Sawdust	68.2	127,413	0.31 (dry-basis) 0.155 (wet basis)	10.57	9.87
P-004	Planing Trimming	18.6	49,005	0.12	1.90	2.50
P-005	Planing Trimming	18.6	49,005	0.12	1.90	2.50
TOTALS					14.37	14.87

EUG 3: Lumber Kilns

Emission Unit	Process Rates		Pollutant	Emission Factors		Emissions	
	Hourly	Annual		lb/MBF hourly	lb/MBF annual	lb/hr	TPY
Kiln 1	8.22 MBF/hr, 33.8 MMBTUH	50,059 MBF	PM ₁₀	0.1538	0.1538	1.31	3.85
			PM _{2.5}	0.1125	0.1125	0.96	2.82
			NO _x	0.382	0.272	3.25	6.81
			CO	1.800	1.052	15.32	26.33
			SO ₂	0.025 lb/MMBTU	0.025 lb/MMBTU	0.85	3.70
			VOC	3.88	3.88	33.02	97.11
Kiln 2	8.22 MBF/hr, 33.8 MMBTUH	50,059 MBF	PM ₁₀	0.1538	0.1538	1.31	3.85
			PM _{2.5}	0.1125	0.1125	0.96	2.82
			NO _x	0.382	0.272	3.25	6.81
			CO	1.800	1.052	15.32	26.33
			SO ₂	0.025 lb/MMBTU	0.025 lb/MMBTU	0.85	3.70
			VOC	3.88	3.88	33.02	97.11
Kiln 3	10.48 MBF/hr, 23.9 MMBTUH	61,531 MBF	PM ₁₀	0.1538	0.1538	1.61	4.73
			PM _{2.5}	0.1125	0.1125	1.18	3.46
			NO _x	0.382	0.272	4.00	8.37
			CO	1.800	1.052	18.86	32.37
			SO ₂	0.025 lb/MMBTU	0.025 lb/MMBTU	0.60	2.62

			VOC	3.88	3.88	40.66	119.37
--	--	--	-----	------	------	-------	--------

Emission Unit	Process Rates		Pollutant	Emission Factors		Emissions	
	Hourly	Annual		lb/MBF hourly	lb/MBF annual	lb/hr	TPY
Kiln 4	13.1 MBF/hr, 35 MMBTUH	108,351 MBF	PM ₁₀	0.1538	0.1538	2.01	8.33
			PM _{2.5}	0.1125	0.1125	1.47	6.09
			NO _x	0.382	0.272	5.00	14.74
			CO	1.800	1.052	23.58	56.99
			SO ₂	0.025 lb/MMBTU	0.025 lb/MMBTU	0.88	3.83
			VOC	3.88	3.88	50.83	210.20

EUG 4: Fugitives

Operation	TPY	Weight in, lbs	Weight out, lbs	Tons per load	Trips	Trip Miles	Miles	Avg Wt Tons	PM ₁₀ lb/VMT	PM _{2.5} lb/VMT	PM ₁₀ TPY	PM _{2.5} TPY
Logs in	980100	80000	24000	28.0	35004	0.50	17502	26.0	0.338	0.034	2.96	0.296
Shavings	48965	73820	37000	18.4	2662	0.15	399	27.7	0.348	0.035	0.07	0.007
Bark	58,806	71909	32000	20.0	2947	0.70	2063	26.0	0.338	0.034	0.35	0.035
Chips	254826	79916	26500	26.7	9541	0.85	8110	26.6	0.341	0.034	1.38	0.138
Lumber out	268086	80000	30500	24.8	10832	0.40	4333	27.6	0.347	0.035	0.75	0.075
Waste out	5670	77501	32000	22.8	249	0.70	174	27.4	0.346	0.035	0.03	0.003
TOTALS											5.54	0.55

Note: Since sawdust is used as kiln fuel, it is not in the above table of operations.

EUG 5 Insignificant Activities

Activity	Process Rates		PM ₁₀ Emission Factor	PM ₁₀		PM _{2.5}		VOC	
	Hourly TPH	Annual TPY		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Bark Removal Conveyor	15.9	58,806	0.00075 lb/ton	0.01	0.02	0.01	0.01	--	--
Log Chipping Conveyor	68.8	254,826	0.00075 lb/ton	0.05	0.10	0.03	0.01	--	--
Gasoline Tank	--	9,600 Gallons	TANKS 4.09	--	--	--	--	--	0.25
Diesel Tank	--	100,000 Gallons	TANKS 4.09	--	--	--	--	--	0.01
Bark Conveyor	15.9	58,806	0.00075 lb/ton	0.01	0.02	0.01	0.01	--	--
Bark Pile Loading	15.9	58,806	0.00075 lb/ton	0.01	0.02	0.01	0.01	--	--

Activity	Process Rates		PM ₁₀ Emission Factor	PM ₁₀		PM _{2.5}		VOC	
	Hourly TPH	Annual TPY		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Bark Loading (truck and rail)	15.9	58,806	0.00075 lb/ton	0.01	0.02	0.01	0.01	--	--
Shavings Conveyors	13.2	49,006	0.00075 lb/ton	0.01	0.02	0.01	0.01	--	--
Shavings Bin	13.2	49,005	0.00075 lb/ton	0.01	0.02	0.01	0.01	--	--
Shavings Loading (truck and rail)	13.2	49,005	0.00075 lb/ton	0.01	0.02	0.01	0.01	--	--
Chip Pile	0.23 acre	0.23 acre	1.7 lb/acre/ day	0.02	0.07	0.01	0.01	--	--
Chip Conveyor	68.8	254,826	0.00075 lb/ton	0.05	0.10	0.01	0.02	--	--
Chip Loading (truck and rail)	68.8	254,826	0.00075 lb/ton	0.05	0.10	0.01	0.02	--	--
Kiln Bypass Stacks	--	--	--	0.41	1.60	0.11	0.44	0.51	2.19
TOTALS				0.66	2.10	0.24	0.51	0.58	2.45

EUG 7 Tub Grinder

Emission Unit	Process Rates		Emission Factors	Emissions	
	Hourly	Annual		lb/hr	TPY
Tub Grinder	50 TPH, 850-hp	450 hours	PM: 0.16 lb/ton and 0.0007 lb/hp-hr	8.60	1.93
			PM _{2.5} : 0.016 lb/ton and 0.0007 lb/hp-hr	1.40	0.31
			SO ₂ : 0.00566 lb/hp-hr	4.81	1.08
			NO _x : 0.024 lb/hp-hr	20.40	4.59
			VOC: 0.000705 lb/hp-hr	0.60	0.14
			CO: 0.0055 lb/hp-hr	4.68	1.05

EUG 8 Fire Pump Engine

Emission Unit	Process Rates		Emission Factors	Emissions	
	Hourly	Annual		lb/hr	TPY
Fire Pump	208-hp	450 hours	PM _{2.5} : 0.25 g/hp-hr	0.11	0.03
			SO ₂ : 0.62 g/hp-hr	0.28	0.06
			NO _x : 4.58 g/hp-hr	2.10	0.47
			VOC: 1.13 g/hp-hr	0.52	0.12
			CO: 2.60 g/hp-hr	1.19	0.27

- BASELINE ACTUAL EMISSIONS: 2010 - 2011

EUG 2 – Cyclones

A. PM₁₀ / PM_{2.5}

Emission Point	Process Description	Process Rates		Emission Factors, gr/ACF	PM ₁₀ EMISSIONS		PM _{2.5} EMISSIONS	
		Hourly ACFM			lb/hr	TPY	lb/hr	TPY
P-001	Green Sawdust Cyclones	3,500	0.02	0.60	0.99	0.60	0.99	
P-003								
P-016								
P-004	Planing Trimming	4,100	0.02	0.71	1.16	0.71	1.16	
P-005	Planing Trimming	3,500	0.02	0.60	0.99	0.60	0.99	
TOTALS				1.90	3.14	1.90	3.14	

The 2010 and 2011 Emissions Inventories showed 3,313 hours for these operations (average).

PM emissions are filterable plus condensable.

B. VOC

Emission Point	Process Description	Process Rates		Emission Factors, lb/ton	VOC EMISSIONS	
		Hourly TPH	Annual TPY		lb/hr	TPY
P-001 P-003 P-16	Sawdust	68.2	69,199	0.31 (dry basis) 0.155 (wet basis)	10.57	5.36
P-004	Planing Trimming	18.6	26,615	0.12	1.90	1.36
P-005	Planing Trimming	18.6	26,615	0.12	1.90	1.36
TOTALS					14.37	8.08

EUG 3: Lumber Kilns

Emission Unit	Process Rates		Pollutant	Emission Factors		Emissions	
	Hourly	Annual		lb/MBF hourly	lb/MBF annual	lb/hr	TPY
Kiln 1	8.51 MBF/hr, 33.8 MMBTUH	48,172 MBF	PM ₁₀	0.1538	0.1538	1.31	3.70
			PM _{2.5}	0.1125	0.1125	0.96	2.71
			NO _x	0.382	0.272	3.25	6.55
			CO	1.800	1.052	15.32	25.34
			SO ₂	0.025 lb/MMBTU	0.025 lb/MMBTU	0.85	3.70
			VOC	3.88	3.88	33.02	93.45
Kiln 2	8.51 MBF/hr, 33.8 MMBTUH	47,376 MBF	PM ₁₀	0.1538	0.1538	1.31	3.64
			PM _{2.5}	0.1125	0.1125	0.96	2.66
			NO _x	0.382	0.272	3.25	6.44
			CO	1.800	1.052	15.32	24.92
			SO ₂	0.025 lb/MMBTU	0.025 lb/MMBTU	0.85	3.70
			VOC	3.88	3.88	33.02	91.91
Kiln 3	10.48 MBF/hr, 23.9 MMBTUH	51,092 MBF	PM ₁₀	0.1538	0.1538	1.61	3.93
			PM _{2.5}	0.1125	0.1125	1.18	2.87
			NO _x	0.382	0.272	4.00	6.95
			CO	1.800	1.052	18.86	26.87
			SO ₂	0.025 lb/MMBTU	0.025 lb/MMBTU	0.60	2.62
			VOC	3.88	3.88	40.66	99.12

EUG 4: Fugitives

Operation	TPY	Weight in, lbs	Weight out, lbs	Tons per load	Trips	Trip Miles	Miles	Avg Wt Tons	PM ₁₀ lb/VMT	PM _{2.5} lb/VMT	PM ₁₀ TPY	PM _{2.5} TPY
Logs in	532303.20	80000	24000	28.0	19011	0.50	9505	26.0	0.457	0.046	1.61	0.161
Shavings	26593	73820	37000	18.4	1445	0.15	217	27.7	0.470	0.047	0.04	0.004
Bark	31,938	71909	32000	20.0	1601	0.70	1120	26.0	0.456	0.046	0.19	0.02
Chips	138399	79916	26500	26.7	5182	0.85	4405	26.6	0.461	0.046	0.75	0.08
Lumber out	183621	80000	30500	24.8	7419	0.40	2968	27.6	0.469	0.047	0.41	0.04
Waste out	3079	77501	32000	22.8	0	0.70	0	27.4	0.467	0.047	0.02	0.002
TOTALS											3.01	0.301

EUG 5 Insignificant Activities

Activity	Process Rates		PM ₁₀ Emission Factor	PM ₁₀		PM _{2.5}		VOC	
	Hourly TPH	Annual TPY		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Bark Removal Conveyor	9.7	31,938	0.00075 lb/ton	0.01	0.01	0.01	0.01	--	--
Log Chipping Conveyor	41.9	138,399	0.00075 lb/ton	0.03	0.05	0.02	0.01	--	--
Gasoline Tank	--	9,600 gal	TANKS 4.09	--	--	--	--	--	0.25
Diesel Tank	--	100,000 gal	TANKS 4.09	--	--	--	--	--	0.01
Bark Conveyor	9.7	31,938	0.00075 lb/ton	0.01	0.01	0.01	0.01	--	--
Bark Pile Loading	9.7	31,938	0.00075 lb/ton	0.01	0.01	0.01	0.01	--	--
Bark Loading (truck and rail)	9.7	31,938	0.00075 lb/ton	0.01	0.01	0.01	0.01	--	--
Shavings Conveyors	8.1	26,593	0.00075 lb/ton	0.01	0.01	0.01	0.01	--	--
Shavings Bin	8.1	26,593	0.00075 lb/ton	0.01	0.01	0.01	0.01	--	--
Shavings Loading (truck and rail)	8.1	26,593	0.00075 lb/ton	0.01	0.01	0.01	0.01	--	--
Chip Pile	0.23 acre	0.23 acre	1.7 lb/acre/day	0.02	0.07	0.01	0.01	--	--
Chip Conveyor	41.9	138,399	0.00075 lb/ton	0.03	0.05	0.01	0.02	--	--
Chip Loading (truck and rail)	41.9	138,399	0.00075 lb/ton	0.02	0.10	0.01	0.02	--	--
Kiln Bypass Stacks	--	--	--	0.06	0.87	0.11	0.24	0.51	2.19
TOTALS				0.22	1.18	0.19	0.28	0.58	2.45

EUG 7 Tub Grinder

Emission Unit	Process Rates		Emission Factors	Emissions	
	Hourly	Annual		lb/hr	TPY
Tub Grinder	50 TPH, 850-hp	450 hours	PM: 0.16 lb/ton and 0.0007 lb/hp-hr	8.60	1.93
			PM _{2.5} : 0.016 lb/ton 0.0007 lb/hp-hr	1.40	0.31
			SO ₂ : 0.00566 lb/hp-hr	4.81	1.08
			NO _x : 0.024 lb/hp-hr	20.40	4.59
			VOC: 0.000705 lb/hp-hr	0.60	0.14
			CO: 0.0055 lb/hp-hr	4.68	1.05

EUG 8 Fire Pump Engine

Emission Unit	Process Rates		Emission Factors	Emissions	
	Hourly	Annual		lb/hr	TPY
Fire Pump	208-hp	450 hours	PM _{2.5} : 0.25 g/hp-hr	0.11	0.03
			SO ₂ : 0.62 g/hp-hr	0.28	0.06
			NO _x : 4.58 g/hp-hr	2.10	0.47
			VOC: 1.13 g/hp-hr	0.52	0.12
			CO: 2.60 g/hp-hr	1.19	0.27

TOTAL AIR EMISSIONS

A. CRITERIA POLLUTANTS

Emission Unit Group	Unit ID	PM ₁₀		PM _{2.5}		SO ₂		NO _x		VOC		CO	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Cyclones	2	1.90	3.52	1.90	3.52	--	--	--	--	14.37	14,87	--	--
Lumber Kilns	3	6.24	20.76	4.57	15.19	3.16	13.85	15.51	36.72	157.53	523.80	73.08	142.02
Fugitives	4	1.26	5.54	0.13	0.55	--	--	--	--	--	--	--	--
Insignificant Activities	5	0.66	2.10	0.24	0.51	--	--	--	--	0.58	2.45	--	--
Tub Grinder	7	8.60	1.93	1.40	0.31	4.81	1.08	20.40	4.59	0.60	0.13	4.68	1.05
Fire Pump Engine	8	0.11	0.03	0.11	0.03	0.28	0.06	2.10	0.47	0.52	0.12	1.19	0.27
Totals		18.78	33.89	8.34	20.11	8.00	14.94	38.01	41.78	168.35	541.37	78.95	143.34
BAE (Prior to Kiln 4)		15.75	20.56	6.77	12.31	7.13	11.11	33.00	25.01	122.76	295.26	55.37	78.45
Emissions Increases (Kiln 4 and Associated Operations)		3.03	13.33	1.57	7.80	0.87	3.83	5.01	16.77	45.59	246.11	23.58	64.89
PSD Levels of Significance			15		10		40		40		40		100

Only VOC exceeds its PSD level of significance. PSD review will be limited to VOC.

B. HAZARDOUS AIR POLLUTANTS (Facility Total)

HAP	Emissions	
	lb/hr	TPY
Acetaldehyde	1.38	4.58
Acrolein	0.50	1.66
Benzene	0.52	1.73
Formaldehyde	1.53	5.13
m,p-xylene	0.22	0.74
Methanol	5.22	17.34
Methyl isobutyl ketone	0.26	0.85
Phenol	0.53	1.77
Styrene	0.08	0.25
Toluene	0.61	2.04
TOTALS	10.86	36.09

The facility is a major source of HAP and is subject to NESHAP Subpart DDDD, which specifies only a notification requirement for lumber kilns.

C. GREENHOUSE GAS EMISSIONS

Potential greenhouse gas emissions were stated as 121,712 tons per year, using factors from Tables C-1 and C-2 in 40 CFR 98.38. The existing facility (Kilns 1, 2, and 3) had 69.2% of GHG emissions, or 84,188 TPY. Kiln 4 adds 26.5% of the total, or 32,203 TPY. Added GHG is below the PSD level of significance of 75,000 TPY.

SIGNIFICANT DISCHARGE POINTS

Emission Unit	Point	Height Feet	Diameter Inches	Temp. °F	Flow Rate ACFM
Kiln 1	P-006	29	42.5	212	16,843
	P-007	29	42.5	212	16,843
Kiln 2	P-010	29	42.5	212	16,843
	P-011	29	42.5	212	16,843
Kiln 3	P-012	29	24 x 24	212	16,843
	P-013	29	24 x 24	212	16,843
Kiln 4	P-014	15	111	135	21,000
	P-015	15	111	135	21,000
Green Sawdust Cyclone #1 Fisher-Klostermann	P-001	95	15	70	3,500
Green Sawdust Cyclone #3 Fisher-Klostermann	P-003	70	15	70	3,500

Emission Unit	Point	Height Feet	Diameter Inches	Temp. °F	Flow Rate ACFM
Planer Mill Cyclone Fisher-Klostermann	P-004	50	44	70	4,100
Truck Bin Relay Cyclone Fisher-Klostermann	P-005	70	15	70	3,500
Green Sawdust Cyclone #4 Windsor	P-016	70	15	70	3,500

SECTION VII. BEST AVAILABLE CONTROL TECHNOLOGY

By the revised emissions factors, the facility was a PSD-major source (PTE above 250 TPY) prior to construction of Kiln 4. The proposed relaxed limits on Kiln 4 add more than 40 TPY VOC. Therefore, the proposed relaxation for Kiln 4 re-opens BACT only for Kiln 4. Since added emissions of only VOC are above its PSD significant emission rate (SER) of 40 TPY, only VOC emissions are subject to BACT review.

OAC 252:100-8-31 states that BACT “means an emissions limitation (including a visible emissions standard) based on the maximum degree of reduction for each regulated NSR pollutant which would be emitted from any proposed major stationary source or major modification which the Director, on a case-by-case basis, taking into account energy, environmental, and economic impacts or other costs, determines is achievable for such source or modification....” A BACT analysis is required to assess the appropriate level of control for each new or physically modified emission unit for each pollutant that exceeds the applicable PSD Significant Emissions Rate (SER).

The U.S. EPA has stated its preference for a “top-down” approach for determining BACT and that is the methodology used for this permit review. After determining whether any New Source Performance Standard (NSPS) is applicable, the first step in this approach is to determine, for the emission unit in question, the available control technologies, including the most stringent control technology, for a similar or identical source or source category. If the proposed BACT is equivalent to the most stringent emission limit, no further analysis is necessary.

If the most stringent emission limit is not selected, further analyses are required. Once the most stringent emission control technology has been identified, its technical feasibility must be determined; this leads to the reason for the term “available” in Best Available Control Technology. A technology that is available and is applicable to the source under review is considered technically feasible. A control technology is considered available if it has reached the licensing and commercial sales stage of development. In general, a control option is considered applicable if it has been, or is soon to be, developed on the same or similar source type. If the control technology is feasible, that control is considered to be BACT unless economic, energy, or environmental impacts preclude its use. This process defines the “best” term in Best Available Control Technology. If any of the control technologies are technically infeasible for the emission unit in question, that control technology is eliminated from consideration.

The remaining control technologies are then ranked by effectiveness and evaluated based on energy, environmental, and economic impacts beginning with the most stringent remaining technology. If it can be shown that this level of control should not be selected based on energy, environmental, or economic impacts, then the next most stringent level of control is evaluated. This process continues until the BACT level under consideration cannot be eliminated by any energy, environmental, or economic concerns.

The five basic steps of a top-down BACT review are summarized as follows:

- Step 1. Identify Available Control Technologies
- Step 2. Eliminate Technically Infeasible Options
- Step 3. Rank Remaining Control Technologies by Control Effectiveness
- Step 4. Evaluate Most Effective Controls Based on Energy, Environmental, and Economic impacts
- Step 5. Select BACT and Document the Selection as BACT

In Step 1 in a “top down” analysis, all available control options for the emission unit in question are identified. Identifying all potential available control options consists of those air pollution control technologies or control techniques with a practical potential for application to the emission unit and the regulated pollutant being evaluated.

In Step 2, the technical feasibility of the control options identified in Step 1 are evaluated and the control options that are determined to be technically infeasible are eliminated. Technically infeasible is defined where a control option, based on physical, chemical, and engineering principles, would preclude the successful use of the control option on the emission unit under review due to technical difficulties. Technically infeasible control options are then eliminated from further consideration in the BACT analysis.

Step 3 of the “top-down” analysis is to rank all the remaining control options not eliminated in Step 2, based on control effectiveness for the pollutant under review. If the BACT analysis proposes the top control alternative, there would be no need to provide cost and other detailed information. Once the control effectiveness is established in Step 3 for all feasible control technologies identified in Step 2, additional evaluations of each technology, based on energy, environmental, and economic impacts, are considered to make a BACT determination in Step 4. The energy impact of each evaluated control technology is the energy benefit or penalty resulting from the operation of the control technology at the source. The costs of the energy impacts either in additional fuel costs or the cost of lost power generation impacts the cost-effectiveness of the control technology.

The second evaluation to be reviewed for each control technology remaining in Step 4 is the environmental evaluation. Non-air quality environmental impacts are evaluated to determine the cost to mitigate the environmental impacts caused by the operation of a control technology. The third evaluation addresses the economic evaluation of the remaining control technologies. The cost to purchase and to operate the control technology is analyzed. The capital and annual operating costs are estimated based on established design parameters or documented assumptions

in the absence of established designed parameters. The cost-effectiveness describes the potential to achieve the required emission reduction in the most economical way. It also compares the potential technologies on an economic basis.

In Step 5, BACT is selected for the pollutant and emission unit under review. BACT is the highest ranked control technology not eliminated in Step 4. The U.S. EPA has consistently interpreted statutory and regulatory BACT definitions as containing two core requirements that the agency believes must be met by any BACT determination, regardless of whether it is conducted in a “top-down” manner. First, the BACT analysis must include consideration of the most stringent available control technologies, i.e., those that provide the maximum degree of emission reduction. Second, any decision to require a lesser degree of emission reduction must be justified by an objective analysis of energy, environmental, and economic impacts. As stated in the BACT definition, in no case can the maximum available emission rate for the sources exceed the NSPS emission rate for the source, or cause an exceedance of the National Ambient Air Quality Standards (NAAQS). Therefore, the minimum control efficiency to be considered in a BACT analysis must result in an emission rate below those specified by the NSPS and the ambient impact cannot exceed the NAAQS. Since the stationary engines and process cyclones were “existing” units, the BACT does not include them.

In order to eliminate a control technology from further consideration, an applicant must demonstrate that the control technology is infeasible. A control technology is considered technically infeasible if it has not been demonstrated and operated successfully on the same type of source or if it is not available or applicable to that type of source. Based on review of the RBLC, there are no control technologies that have been installed and operated on lumber drying kilns. Most if not all VOC control technologies are commercially available. Therefore, applicability of a specific control technology is the only question that needs to be answered to determine if a specific control technology is feasible. A control technology is applicable only if it can reasonably be installed and operated on lumber drying kilns and there are no specific reasons that preclude the successful operation of the control technology on lumber drying kilns. Applicability of a control technology is dependent on the feasibility of both the capture and control systems.

Applicability of each control technology to continuous lumber drying kilns should be evaluated in order for the control technology to be eliminated as technically infeasible. Technical difficulties associated with collection and control of the gases from the continuous lumber drying kiln preclude the successful use of the control option on the continuous lumber drying kiln.

In applicability of the following control technologies is based on a qualitative assessment of the physical and chemical properties of the gases from the continuous lumber drying kiln which would preclude the successful use of the control technology for continuous lumber drying kilns.

VOC FROM KILNS

BACT has been proposed as no add-on controls and an operation/maintenance (O&M) plan which limits drying temperature to below 250°F and lumber moisture to a minimum of 11%. VOC will be limited to 3.88 lb/MBF. A review of the EPA BACT/LAER Clearinghouse and contacts with several states has not revealed any cases where add-on controls were required for lumber kilns.

Step 1. Identify Available Control Technologies

The applicant analyzed seven alternative control strategies for control of VOC emissions from the lumber kilns: carbon adsorption, regenerative thermal oxidizers, regenerative catalytic oxidation, biofilters, liquid adsorption, wet electrostatic precipitation, and ultraviolet oxidation.

Regenerative Thermal Oxidation (RTO):

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.

Regenerative Catalytic Oxidation (RCO):

RCO units function similar to an 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.

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 on-site 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%.

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.

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 CO₂ and H₂O with varying efficiency.

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.

Proper Maintenance and Operation:

Proper maintenance and operation of the continuous lumber drying kiln can effectively reduce VOC emissions. Proper drying schedules and temperatures should be selected based on moisture content and manufacturer's specifications. Routine maintenance should also be completed on kilns based on manufacturer's recommendations.

Step 2. Eliminate Technically Infeasible Options.

The presence of any add-on controls on the lumber kilns would compromise the ability of the lumber kiln to produce dry wood. Wood quality is a function of the drying process: time at a given temperature within a range of relative humidity. The applicant has consulted the EPA RBLC database. There were numerous BACT determinations for lumber kilns, all showing no add-on controls.

RTO:

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

RCO:

Although regenerative catalytic oxidizers can operate at a lower temperature than thermal oxidizers, the temperature of the exit stream from the continuous lumber drying kiln 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. Therefore, use of RCO is not technically feasible for the proposed continuous lumber drying kiln. Also, there are currently no known continuous lumber drying kilns that are equipped with RCO.

Carbon Adsorption:

Carbon adsorption is not practical because of the high moisture content and temperatures (above 150°F) of the exhaust stream from the continuous lumber drying kiln. 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. Therefore, use of carbon adsorption systems is not technically feasible for the proposed continuous lumber drying kiln. Also, there are currently no known continuous lumber drying kilns that are equipped with a carbon adsorption system.

Condensation:

Condensation is only effective when the gas stream can be cooled to a temperature where VOC constituents condense 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. Therefore, condensation is not technically feasible for the proposed continuous lumber drying kiln.

Biofiltration:

The most important variable affecting bioreactor operations is temperature. Most microorganisms can survive and flourish in a temperature range of 60°F to 105°F (30°C to 41°C). The exiting exhaust temperature of the proposed lumber kiln is approximately 140°F to 200°F. Furthermore, the VOC emissions from the kiln are primarily terpenes. Terpenes are highly viscous and would foul the biofilter. The application of biofiltration technology for control of VOC from lumber kilns has not been demonstrated. Due to the temperature requirement, large footprint requirement for a biofiltration system, and the unproven application of biofiltration to this type of process, biofiltration is not technically feasible for the proposed continuous lumber drying kiln.

Wet Scrubbing:

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

In addition, control of VOC is primarily for ozone control. Combustion adds NO_x. In a NO_x-limited area, additional NO_x would increase ozone rather than decrease it.

Step 3. Rank Remaining Control Technologies by Control Effectiveness.

The only control technology considered technically feasible and identified in the RBLC is proper maintenance and operation of the continuous lumber drying kiln and ranking of the applicable control technologies is not necessary.

The only option left to rank is no add-on controls.

BACT is selected as no add-on controls at a 3-hour average VOC emission rate of 3.88 lb/MBF and an annual emission rate of 3.88 lb/MBF.

Step 4. Evaluate Most Effective Controls Based on Energy, Environmental, and Economic Impacts.

The proposed VOC limit (3.88 lb/MBF) is comparable to all but the one most stringent level shown on RBLC of 0.73 lb/MBF.

Step 5. Select BACT and Document the Selection as BACT.

A limitation of 3.88 lb/MBF (annual average) and 3.88 lb/MBF (3-hour average) for the kiln is accepted as BACT based on add-on controls being infeasible. Operating requirements will be as follows. The determination is consistent with other determinations nationally on RBLC.

1. At a minimum, the facility will monitor and operate Kiln 4 in accordance with the following best operating practices:
 - a. Maintain proper kiln maintenance;
 - b. Maintain Proper kiln operation to minimize over-drying of lumber:
 - i. Complete periodic verification of proper temperature sensor operation;
 - ii. Complete periodic verification of proper fan operation;
 - iii. Maintain average kiln temperature below 250 °F; and
 - iv. Maintain proper stacking of lumber using kiln sticks for efficient and even kiln drying.
2. The facility will also demonstrate compliance with the VOC emission rate from Kiln 4 indirectly by measuring the moisture content of the lumber just after the lumber exits the kiln or in the planer mill at least once/month and verify the 12-month rolling average final lumber moisture content is equal to or greater than 11%.

RECENT BACT DETERMINATIONS FOR VOC FROM SOFT LUMBER KILNS

RBLC ID	Facility	Date	Process	Fuel	Control Method	VOC Emission Limit
AL-0235	Albertville Sawmill (Bowater)	4/29/2008	Two 182.14 steam-heated dry kilns			7 lb/MBF
AL-0257	West Frasier-Opelika Lumber Mill	2/9/2015	Two 87.5 MMBF/Yr continuous kilns with 35 MMBTUH direct-fired wood burner	wood shavings		3.76 lb/MBF
AL-0258	West Fraser - Maplesville Mill	2/10/2015	Two 100 MMBF/YR continuous direct fired kilns	wood residuals	operate below 185F	3.76 lb/MBF
AL-0259	The Westervelt Company	2/9/2015	Three 93 MMBF/YR continuous dual-path indirect-fired kilns	steam		4.57 lb/MBF
AL-0274	Weyerhaeuser Millport Wood Products	5/5/2016	Continuous direct lumber dry kiln	sawdust		4.7 lb
AL-0305	Resolute Forest Products - Alabama	9/28/2017	Continuous direct lumber dry kiln with 35 MMBTUH wood-fired burner	wood		0.73 lb/MBF
AL-0305	Resolute Forest Products - Alabama	9/28/2017	Continuous direct lumber dry kiln with 35 MMBTUH wood-fired burner	wood		3.76 lb/MBF
AL-0310	Fulton Sawmill (Scotch Gulf)	11/30/2017	11.4 MBF/HR continuous direct-fired lumber kiln, 40 MMBTUH natural gas burner	natural gas		4 lb/MBF
AL-0311	Weyerhaeuser Millport Wood Products	11/30/2017	Three continuous direct-fired lumber dry kilns	wood sawdust	pneumatic conveyance with cyclone	4.7 lb/MBF
AL-0312	Belk Chip-n-Saw (G-P)	11/30/2017	115,000 MBF/YR CDK with 35 MMBTUH wood-fired and 7 MMBTUH gas-fired burners	wood sawdust	pneumatic conveyance with cyclone	5.49 lb/MBF
AL-0318	Talladega Sawmill (G-P)	1/11/2018	Dry Kiln	natural gas		5.49 lb/MBF
AL-0322	Cottonton Sawmill (Westrock)	2/9/2018	Continuous direct-fired lumber kiln with 34 MMBTUH wood-fired burner	biomass		4.21 lb/MBF
AR-0101	Bibler Brothers Lumber Company	9/29/2009	Continuous operating kilns	wood residue		3.8 lb/MBF

RECENT BACT DETERMINATIONS FOR VOC FROM SOFT LUMBER KILNS - Continued

RBLC ID	Facility	Date	Process	Fuel	Control Method	VOC Emission Limit
AR-0102	Anthony Timberlands Inc.	2/19/2016	Indirect fired kiln			3.5 lb/MBF
AR-0120	OLA (Deltic)	7/29/2016	Dry Kiln			33.3 lb/hr
AR-0122	Georgia-Pacific Wood Products South	8/15/2016	Lumber Kiln	natural gas		3.8 lb/MBF
AR-0123	Deltic Timber Corp Waldo	2/19/2016	Kiln No. 3, 4, 5			3.5 lb/MBF
AR-0124	El Dorado Sawmill (Union Co.)	6/17/2016	Lumber Drying Kiln	natural gas		3.8 lb/MBF
AR-0127	Deltic Timber Corp OLA	8/15/2016	Steam-heated continuous kiln 3, 4, 5			3.7 lb/MBF
AR-0135	West Fraser Inc. Leola lumber mill	8/15/2016	Lumber kiln, continuous, indirect			3.5 lb/MBF
AR-0143	Caddo River LLC	5/12/2017	Continuous lumber drying kilns	wood		4.0 lb/MBF
AR-0147	Anthony Forest Products Company	10/19/2017	Dual-path kiln	sawdust		3.8 lb/MBF
AR-0148	Caddo River LLC	2/13/2018	Dual-path kiln	wood		3.8 lb/MBF
FL-0315	North Florida Lumber Bristol Sawmill	10/5/2010	Wood lumber kiln	steam		116.93 TPY
FL-0340	Perry Mill (Gillman)	1/6/2015	Direct-fired lumber drying kiln	wood waste		3.5 lb/MBF
FL-0343	Whitehouse Lumber Mill (West Fraser)	5/5/2016	Direct-fired continuous kiln	wood waste		3.76 lb/MBF
FL-0358	Graceville Lumber Mill (Rex)	4/28/2017	Direct-fired continuous kiln	sawdust		3.5 lb/MBF
GA-0146	Simpson Lumber Co Meldrim	8/1/2012	Kiln No. 3, 4, 5	wood waste		3.83 lb/MBF
LA-0252	Joyce Mill (West Fraser)	12/12/2011	Lumber kilns			930 TPY
LA-0281	Southwest Louisiana Lumber (TIN)	9/12/2016	Wood-fired dry kilns	wood		4.27 lb/MBF
LA-0293	Chopin Mill (Martco)	9/19/2016	Lumber dry kilns		production limit	7 lb/MBF

RECENT BACT DETERMINATIONS FOR VOC FROM SOFT LUMBER KILNS - Continued

RBLC ID	Facility	Date	Process	Fuel	Control Method	VOC Emission Limit
LA-0294	Dodson Div (Weyerhaeuser)	12/20/2016	Dry Kiln 1, 2, 3, 4			4.29 lb/MBF
SC-0135	New South Companies - Conway Plt	4/1/2015	Lumber kilns			4.2 lb/MBF
SC-0136	Simpson Lumber Co	8/27/2014		dry wood waste		104 TPY
SC-0138	Elliot Sawmilling Co	8/27/2014	Direct-fired lumber drying kiln	sawdust		119 TPY
SC-0149	Klausner Holding USA, Inc.	8/27/2014	Lumber Drying Kiln			3.5 lb/MBF
SC-0151	West Fraser - Newberry Lumber Mill	5/4/2016	Two 35 MMBTUH dual path direct fired continuous kilns, 15 MBF/hr	sawdust		3.76 lb/MBF
SC-0162	New South Lumber Co Darlington Plant	11/2/2017	Kiln No. 1	steam		343.98 TPY
SC-0162	New South Lumber Co Darlington Plant	11/2/2017	Kiln No. 5	wood waste		141 TPY
SC-0163	Kapstone Charleston Kraft Summerville	7/6/2016	Lumber kilns			225.6 TPY
SC-0164	Simpson Lumber Company	7/6/2016	Lumber kilns			156 TPY
SC-0165	New South Companies - Conway Plt	7/6/2016	Lumber kilns			4.07 lb/MBF
SC-0166	New South Lumber Co Darlington Plant	11/2/2017	Two kilns			not stated
SC-0169	New South Camden Plant	11/2/2017	Direct-fired continuous kiln			3.76 lb/MBF
SC-0172	New South Companies - Conway Plt	11/2/2017	Lumber kilns			4.07 lb/MBF
TX-0584	Temple Inland Pineland Complex	9/14/2011	Dry studmill kilns 1 and 2			2.49 lb/MBF
TX-0607	Lumber Mill West Fraser	4/3/2012	Continuous lumber kilns	wood		3.5 lb/MBF

SECTION VIII. AIR QUALITY IMPACTS

For an area that is affected by emissions from a new major source or modification, an analysis of the impacts on air quality is required for those pollutants that are emitted in significant quantities. The facility emits VOC at rates above major source significance levels. The owner or operator must demonstrate that the facility does not cause nor contribute to a violation of the National Ambient Air Quality Standards.

A. VOC / Ozone

VOC is not limited directly by NAAQS. Rather, it is regulated as an ozone precursor. For this application, AQD has determined that modeling of ozone impacts is not required. The facility is located in a rural area, McCurtain County, 3 miles northwest of Idabel, Oklahoma, with a population density of 18 people per square mile. The emission density reflects a lack of population and industrial development. Based on the most recent triennial emission inventory, the NO_x emission density for McCurtain County from all sources is 2.96 tons per square mile. The VOC emission density is 6.51 tons per square mile for anthropogenic sources and 35.73 tons per square mile when including biogenic sources as well. There are two major sources within 10 miles of the facility.

The area is NO_x-limited for ozone, which means a large amount of VOC can be added to the area without affecting resulting ozone concentrations.

EPA conducted photochemical modeling studies to provide guidance on the development of Modeled Emission Rates for Precursors (MERPs). These MERPs are intended to be used, where appropriate, as a Tier I demonstration tool for ozone and secondary formation PM_{2.5} evaluation requirements under PSD. The draft guidance was released for public review and comment on December 2, 2016. The guidance uses conservative assumptions to evaluate hypothetical single-source impacts on downwind O₃. The parameters relied upon are documented in EPA document number EPA-454/R-16-006, December 2016.

In EPA's draft guidance, Table 7.1 breaks the country up into three regions and identifies the most conservative (lowest) illustrative MERP Values in tons per year by precursor, pollutant, and region. The analysis identified an Ozone MERP for VOC precursors of 948 tons per year for the central region. When narrowing it down to a low level VOC source in **Muskogee County**, the MERP increases to **3,571** tons per year. In deriving the lowest MERP values, EPA explored impacts from surface level releases and high level, 90 meter, releases of precursor pollutants. Emissions were modeled using a typical industrial speciation for VOCs. The critical air quality threshold for ozone or Significant Impact Level, SIL, used to derive the MERP was 1.0 part per billion (ppb).

Oklahoma MERP Values Based on EPA

Location	Modeled Emission Rate	Modeled Concentration	MERP
	TPY	PPB	TPY
Muskogee County (VOC)	500	0.140	3,571
Muskogee County (NOx)	500	1.460	342

The critical air quality threshold for ozone or SIL, of 1.0 ppb should not be relied upon without justification. However, given the conservative design value for the Hugo area was established by monitor #40-023-2017 at 62 ppb and that the ozone impact from the project based on an increase of 16.77 TPY of NOx and 246.11 TPY of VOC would be a relative ozone increase in the neighborhood of 0.104-ppb or 10.4% of the of the MERP. The project is anticipated to be well below any reasonably established significant impact level and therefore no further evaluation is necessary.

Given the low level increase in VOC and NOx emissions from the facility, the VOC dominance of local emission inventories and the fact that current models would be inadequate to provide reasonably accurate assessments of the impact of such a small source, no further analyses are warranted.

IX. OTHER PSD ANALYSES

A. Evaluation of Class I Area Impacts

Class I areas are provided special protection under PSD by Air Quality Related Values (AQRVs) defined and enforced by the Federal Land Manager (FLM). The FLM may recommend against issuance of a PSD permit if a source adversely impacts the AQRVs. Potential AQRV impacts are screened per the FLM guidance in *Federal Land Managers' Air Quality Related Values Work Group (FLAG) Phase I Report – Revised (2010)* (NPS 2010). For sources located more than 50 km from a Class I area and passing screening under the 10D Rule there is a presumptive No Adverse Impact. Modeling may still be required to demonstrate compliance with EPA Class increment thresholds.

Under the 10D Rule, the equation $Q/D < 10$ is applied, where:

Q is equal to the sum of the emission increases of NO_x and PM₁₀ that result from the proposed project (in TPY).

D is the distance from the source to the Class I Area (in km).

A Q/d analysis shows that no Class I area analysis for AQRVs is needed. Total emissions, Q, is 33.93 TPY (sum of increases of PM₁₀, SO₂, and NO_x) and the distance to the nearest Class I area, d, is approximately 85 kilometers. So $Q/d = 0.40$. Per FLM guidance, no analysis is needed for any Q/d values of less than 10.

B. Evaluation of Source-Related Impacts on Growth, Soils, Vegetation, and Visibility

Commercial, Residential, and Industrial Growth Analysis

A growth analysis is intended to quantify the amount of new residential, commercial, or industrial growth that is likely to occur in support of the project and to estimate emissions resulting from that associated growth. Residential growth depends on the number of new employees and the availability of housing in the area, while associated commercial and industrial growth consists of new sources providing services to the new employees and the facility. No additional personnel are anticipated as a result of the proposed project. Therefore, additional growth from this project is expected to be negligible.

Soils & Vegetation Analyses

The effects of air pollutants on vegetation may be classified into three rather broad categories: acute, chronic, and long-term. Acute effects are those that result from relatively short (less than 1 month) exposures to high concentrations of pollutants. Chronic effects occur when organisms are exposed for months or even years to certain threshold levels of pollutants. Long-term effects include abnormal changes in ecosystems and subtle physiological alterations in organisms. Acute and chronic effects are caused by the pollutant acting directly on the organism, whereas long-term effects may be indirectly caused by secondary agents such as changes in soil pH.

The proposed expansion will not threaten any National Ambient Air Quality Standard (NAAQS), which are designed to protect both public health and welfare and the environment from any unknown or adverse effects of air pollution, including damage to vegetation and harmful contamination of soils. Therefore, it is expected this project will have no adverse impacts on vegetation or soil.

Visibility Impairment Analysis

This project is not expected to produce any perceptible visibility impacts in the immediate vicinity of the plant given the limitation of 20 percent opacity for operations at the plant.

Visibility impacts are normally determined using the VISCREEN model. VISCREEN relies on NO_x and PM inputs. Emissions of both are low. Since no visibility impairment is anticipated in the vicinity of the plant, and there are no nearby scenic vistas nor Class I areas, no adverse impact on visibility is anticipated.

SECTION X. OKLAHOMA AIR POLLUTION CONTROL RULES

OAC 252:100-1 (General Provisions) [Applicable]
Subchapter 1 includes definitions but there are no regulatory requirements.

OAC 252:100-2 (Incorporation by Reference) [Applicable]
This subchapter incorporates by reference applicable provisions of Title 40 of the Code of Federal Regulations. These requirements are addressed in the “Federal Regulations” section.

OAC 252:100-3 (Air Quality Standards and Increments) [Applicable]
Subchapter 3 enumerates the primary and secondary ambient air quality standards and the significant deterioration increments. At this time, all of Oklahoma is in “attainment” of these standards. In addition, modeled emissions from the facility demonstrate that the facility would not have a significant impact on air quality.

OAC 252:100-5 (Registration, Emissions Inventory and Annual Operating Fees) [Applicable]
Subchapter 5 requires sources of air contaminants to register with Air Quality, file emission inventories annually, and pay annual operating fees based upon total annual emissions of regulated pollutants. Emission inventories were submitted and fees paid for previous years as required.

OAC 252:100-8 (Permits for Part 70 Sources) [Applicable]
Part 5 includes the general administrative requirements for Part 70 permits. Any planned changes in the operation of the facility which result in emissions not authorized in the permit and which exceed the “Insignificant Activities” or “Trivial Activities” thresholds require prior notification to AQD and may require a permit modification. Insignificant activities mean individual emission units that either are on the list in Appendix I (OAC 252:100) or whose actual calendar year emissions do not exceed the following limits:

- 5 TPY of any one criteria pollutant
- 2 TPY of any one hazardous air pollutant (HAP) or 5 TPY of multiple HAPs or 20% of any threshold less than 10 TPY for single HAP that the EPA may establish by rule

Emission limits for the facility are based on the current application and the previous Title V permit.

OAC 252:100-9 (Excess Emission Reporting Requirements) [Applicable]
Except as provided in OAC 252:100-9-7(a)(1), the owner or operator of a source of excess emissions shall notify the Director as soon as possible but no later than 4:30 p.m. the following working day of the first occurrence of excess emissions in each excess emission event. No later than thirty (30) calendar days after the start of any excess emission event, the owner or operator of an air contaminant source from which excess emissions have occurred shall submit a report for each excess emission event describing the extent of the event and the actions taken by the owner or operator of the facility in response to this event. Request for mitigation, as described in OAC 252:100-9-8, shall be included in the excess emission event report. Additional reporting

may be required in the case of ongoing emission events and in the case of excess emissions reporting required by 40 CFR Parts 60, 61, or 63.

OAC 252:100-13 (Open Burning) [Applicable]
 Open burning of refuse and other combustible material is prohibited except as authorized in the specific examples and under the conditions listed in this subchapter.

OAC 252:100-19 (Particulate Matter (PM)) [Applicable]
 Subchapter 19 establishes an emissions limitation of particulate matter based on process weight rate for process equipment and direct-fired fuel-burning process equipment. The following table shows the process weight rates, allowable PM emissions rates, and permit limitations. All anticipated PM emissions rates are in compliance with Subchapter 19.

**COMPARISON OF PM EMISSION RATES TO ALLOWABLE EMISSION RATES
 UNDER OAC 252:100-19**

Process Unit	Process Weight, TPH	OAC 252:100-19 Allowable PM Emissions, lb/hr	PM Emissions, lb/hr
Kiln 1	29.85	39.9	1.31
Kiln 2	29.85	39.9	1.31
Kiln 3	36.74	41.8	1.61
Kiln 4	47.55	44.1	2.01
Lumber Sawing	55.4	45.54	0.60
Planing	18.6	29.06	0.70
Trimming	18.6	29.06	0.70
Tub Grinder	50	44.58	8.60

OAC 252:100-25 (Visible Emissions and Particulates) [Applicable]
 No discharge of greater than 20% opacity is allowed except for short-term occurrences that consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity. There is little possibility of the kilns exceeding these standards. The permit requires weekly observation of the cyclone stacks. If visible emissions are detected, the permit requires opacity readings to be conducted using Method 9.

OAC 252:100-29 (Fugitive Dust) [Applicable]

No person shall cause or permit the discharge of any visible fugitive dust emissions beyond the property line on which the emissions originate in such a manner as to damage or to interfere with the use of adjacent properties, or cause air quality standards to be exceeded, or to interfere with the maintenance of air quality standards. Most of the materials handled are wood/wood waste, therefore non-brittle and not very susceptible to becoming fugitive dust. Haul roads are watered to minimize emissions of fugitive dust.

OAC 252:100-31 (Sulfur Compounds) [Applicable]

Part 5 limits sulfur dioxide emissions from new equipment (constructed or modified after July 1, 1972). For solid fuels the limit is 1.2 lbs/MMBTU heat input. The anticipated SO₂ emission rate for burning wood-waste, based on AP-42 (9/03), Section 1.6, of 0.025 lb/MMBTU SO₂ is in compliance. For diesel for the tub grinders and kiln start-up, liquid fuels are limited to 0.8 lb/MMBTU. Diesel fuel is limited to 0.7% by weight, which is equal to the limitation of Subchapter 31.

OAC 252:100-33 (Nitrogen Oxides) [Not Applicable]

Subchapter 33 affects new or modified fuel-burning equipment with a rated heat input of 50 MMBTUH or more. None of the kilns have heat inputs above the 50 MMBTUH de minimis level.

OAC 252:100-35 (Carbon Monoxide) [Not Applicable]

None of the following affected processes are part of this project: gray iron foundry, blast furnace, basic oxygen furnace, petroleum catalytic reforming unit, or petroleum catalytic cracking unit.

OAC 252:100-37 (Volatile Organic Compounds) [Parts 3 and 7 Applicable]

Part 3 requires storage tanks constructed after December 28, 1974, with a capacity of 400 gallons or more and containing a VOC with a vapor pressure greater than 1.5 psia at maximum storage temperature to be equipped with a permanent submerged fill pipe or with an organic vapor recovery system. The gasoline tank has a submerged fill pipe. The storage tank containing diesel has a vapor pressure below the 1.5 psia de minimis level.

Part 3 requires loading facilities with a throughput equal to or less than 40,000 gallons per day to be equipped with a system for submerged filling of tank trucks or trailers if the capacity of the vehicle is greater than 200 gallons. The facility does not have the physical equipment (loading arm and pump) to conduct this type of loading. Therefore, this requirement is not applicable.

Part 5 limits the VOC content of coating used in coating lines or operations. This facility does not normally conduct coating or painting operations except for routine maintenance of the facility and equipment which is exempt.

Part 7 requires all effluent water separator openings or floating roofs to be sealed or equipped with an organic vapor recovery system. No effluent water separators are located at this facility.

Part 7 also requires fuel-burning equipment to be operated and maintained so as to minimize emissions. Temperature and available air must be sufficient to provide essentially complete combustion. The equipment at this location is subject to this requirement.

OAC 252:100-42 (Toxic Air Contaminants (TAC)) [Applicable]
 This subchapter regulates toxic air contaminants (TAC) that are emitted into the ambient air in areas of concern (AOC). Any work practice, material substitution, or control equipment required by the Department prior to June 11, 2004, to control a TAC, shall be retained, unless a modification is approved by the Director. Since no AOC has been designated there are no specific requirements for this facility at this time.

OAC 252:100-43 (Testing, Monitoring, and Recordkeeping) [Applicable]
 This subchapter provides general requirements for testing, monitoring and recordkeeping and applies to any testing, monitoring or recordkeeping activity conducted at any stationary source. To determine compliance with emissions limitations or standards, the Air Quality Director may require the owner or operator of any source in the state of Oklahoma to install, maintain and operate monitoring equipment or to conduct tests, including stack tests, of the air contaminant source. All required testing must be conducted by methods approved by the Air Quality Director and under the direction of qualified personnel. A notice-of-intent to test and a testing protocol shall be submitted to Air Quality at least 30 days prior to any EPA Reference Method stack tests. Emissions and other data required to demonstrate compliance with any federal or state emission limit or standard, or any requirement set forth in a valid permit shall be recorded, maintained, and submitted as required by this subchapter, an applicable rule, or permit requirement. Data from any required testing or monitoring not conducted in accordance with the provisions of this subchapter shall be considered invalid. Nothing shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

The following Oklahoma Air Pollution Control Rules are not applicable to this facility:

OAC 252:100-7	Minor Facilities	not in source category
OAC 252:100-11	Alternative Emissions Reduction	not eligible
OAC 252:100-15	Mobile (Motor Vehicle) Sources	not in source category
OAC 252:100-17	Incinerators	not type of emission unit
OAC 252:100-23	Cotton Gins	not type of emission unit
OAC 252:100-24	Feed & Grain Elevators	not in source category
OAC 252:100-39	Nonattainment Areas	not in area category
OAC 252:100-47	Municipal Solid Waste Landfills	not in source category

SECTION XI. FEDERAL REGULATIONS

PSD, 40 CFR Part 52

[Applicable]

Existing emissions are above 250 TPY of any regulated pollutant, and the proposed relaxation (i.e., all emissions from Kiln 4) is above PSD SERs. PSD review has been conducted in this permit. Any future increases must be evaluated in the context of PSD significance levels: 40 TPY NO_x, 100 TPY CO, 40 TPY SO₂, 15 TPY PM₁₀, 40 TPY VOC, 10 TPY TRS, 0.6 TPY lead, or 75,000 TPY CO_{2e}.

NSPS, 40 CFR Part 60

[Not Applicable]

Subpart Kb (Volatile Organic Liquids Storage Vessels) affects volatile organic materials storage tanks with a capacity above 19,813 gallons which commenced construction, reconstruction, or modification after July 23, 1984. The storage vessels are smaller than the 19,813 gallon de minimis level.

Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, affects stationary compression ignition (CI) internal combustion engines (ICE) based on power and displacement ratings, depending on date of construction, beginning with those constructed after July 11, 2005. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator. By meeting the definition of “nonroad engine” in 40 CFR Part 1068.30, the tub grinder is excluded from the definition of “stationary engine.” The fire pump engine pre-dates Subpart IIII.

NESHAP, 40 CFR Part 61

[Not Applicable]

There are no emissions of any of the pollutants subject to 40 CFR 61 except for trace amounts of benzene and arsenic. Subpart J affects process streams which are more than 10% by weight benzene. No NESHAP subparts affect wood-waste combustion.

NESHAP, 40 CFR Part 63

[Subparts DDDD and ZZZZ Applicable]

Subpart DDDD (Plywood and Composite Wood Products) affects manufacture of plywood, particle board, and fiberboard. The facility is a major source of HAP. Lumber kilns are only required to submit an initial notification per 40 CFR Part 63.9(b).

Subpart QQQQ (Wood Building Products (Surface Coatings)) affects surface coatings of wood building products. No painting, etc., is conducted at this facility.

Subpart ZZZZ, Reciprocating Internal Combustion Engines (RICE). This subpart previously affected only RICE with a site-rating greater than 500 brake horsepower that are located at a major source of HAP emissions. On January 18, 2008, the EPA published a final rule that promulgates standards for new and reconstructed engines (after June 12, 2006) with a site rating less than or equal to 500 HP located at major sources, and for new and reconstructed engines (after June 12, 2006) located at area sources. However, Subpart ZZZZ does not affect “Nonroad engines,” which are defined to include “equipment, it is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another. Indicia of transportability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform.” The tub grinder is mounted on a trailer and transported to the site three or four times each year to perform its function, then transported away. The fire pump engine is subject as an emergency stationary CI RICE smaller than 250-hp.

Category	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
Emergency stationary CI RICE and black start stationary CI RICE	a. Change oil and filter every 500 hours of operation or annually, whichever comes first. b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. ³

Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial and Institutional Boilers and Process Heaters at major sources of HAPs. *Boiler* means an enclosed device using controlled flame combustion and having the primary purpose of recovering thermal energy in the form of steam or hot water. *Process heater* means an enclosed device using controlled flame, and the unit's primary purpose is to transfer heat indirectly to a process material (liquid, gas, or solid) or to a heat transfer material (e.g., glycol or a mixture of glycol and water) for use in a process unit, instead of generating steam. Process heaters are devices in which the combustion gases do not come into direct contact with process materials. Since the kilns are direct-fired, they do not meet the applicability criteria.

Subpart CCCCC, Gasoline Dispensing Facilities. This subpart establishes emission limitations and management practices for HAP emitted from the loading of gasoline storage tanks at gasoline dispensing facilities (GDF) located at an area source. The facility is a major source of HAPs and Subpart CCCCC does not apply.

Compliance Assurance Monitoring, 40 CFR Part 64 [Not Applicable]
 Compliance Assurance Monitoring, as published in the Federal Register on October 22, 1997, applies to any pollutant specific emission unit at a major source that is required to obtain a Title V permit, if it meets all the following criteria:

- It is subject to an emission limit or standard for an applicable regulated air pollutant.
- It uses a control device to achieve compliance with the applicable emission limit or standard.
- It has potential emissions, prior to the control device, of the applicable regulated air pollutant of 100 TPY.

The cyclones are not among the types of air pollution controls affected by Part 64.

Chemical Accident Prevention Provisions, 40 CFR Part 68 [Not Applicable]
Toxic and flammable substances subject to this regulation not stored on-site in quantities greater than the threshold quantities. More information on this federal program is available on the web page: www.epa.gov/rmp.

Stratospheric Ozone Protection, 40 CFR Part 82 [Subpart A and F Applicable]
These standards require phase out of Class I & II substances, reductions of emissions of Class I & II substances to the lowest achievable level in all use sectors, and banning use of nonessential products containing ozone-depleting substances (Subparts A & C); control servicing of motor vehicle air conditioners (Subpart B); require Federal agencies to adopt procurement regulations which meet phase out requirements and which maximize the substitution of safe alternatives to Class I and Class II substances (Subpart D); require warning labels on products made with or containing Class I or II substances (Subpart E); maximize the use of recycling and recovery upon disposal (Subpart F); require producers to identify substitutes for ozone-depleting compounds under the Significant New Alternatives Program (Subpart G); and reduce the emissions of halons (Subpart H).

Subpart A identifies ozone-depleting substances and divides them into two classes. Class I controlled substances are divided into seven groups; the chemicals typically used by the manufacturing industry include carbon tetrachloride (Class I, Group IV) and methyl chloroform (Class I, Group V). A complete phase-out of production of Class I substances is required by January 1, 2000 (January 1, 2002, for methyl chloroform). Class II chemicals, which are hydrochlorofluorocarbons (HCFCs), are generally seen as interim substitutes for Class I CFCs. Class II substances consist of 33 HCFCs. A complete phase-out of Class II substances, scheduled in phases starting by 2002, is required by January 1, 2030.

Subpart F requires that any persons servicing, maintaining, or repairing appliances except for motor vehicle air conditioners; persons disposing of appliances, including motor vehicle air conditioners; refrigerant reclaimers, appliance owners, and manufacturers of appliances and recycling and recovery equipment comply with the standards for recycling and emissions reduction.

This facility does not utilize any Class I & II substances.

SECTION XII. COMPLIANCE

Tier Classification And Public Review

This application has been determined to be **Tier II** based on the request for a construction permit for a significant modification to a Part 70 source.

The permittee has submitted an affidavit that they are not seeking a permit for land use or for any operation upon land owned by others without their knowledge. The affidavit certifies that the applicant owns the land. Information on all permit actions is available for review by the public on the Air Quality section of the DEQ web page at: <http://www.deq.ok.gov>.

The applicant published the “Notice of Filing a Tier II Application” on May 13, 2018, in the *McCurtain Gazette*, a daily newspaper in McCurtain County. The notice stated that the application was available for review at the Idabel Public Library. The applicant also published a “Notice of Tier II Draft Permit” in the *McCurtain Gazette*. This facility is located within 50 miles of the border of Oklahoma and the states of Arkansas and Texas; those states were notified of the draft permit. The “proposed” permit was submitted to EPA for a 45-day review period concurrent with public review. No comments were received from the public, adjacent states, or EPA Region VI.

The draft permit was available for public review on the Air Quality section of the DEQ web page at <http://www.deq.ok.gov>.

Fees Paid

Part 70 construction permit fee of \$5,000.

SECTION XIII. SUMMARY

The facility has demonstrated the ability to comply with the requirements of the several air pollution control rules and regulations. Ambient air quality standards are not threatened at this site. There are no active Air Quality compliance or enforcement issues. Issuance of the construction permit is recommended.

Weyerhaeuser NR Company - Idabel
Attn: Ms. Shelly Boykin
5500 NW Texas Street
Idabel, OK 74745

Re: Permit Application No. 2015-1163-C (M-1)(PSD)
Idabel Pine Lumber Mill (FAC ID 2291)
Idabel, McCurtain County, Oklahoma

Dear Ms. Boykin:

Enclosed is the permit authorizing construction of the referenced facility. Please note that this permit is issued subject to standard and specific conditions, which are attached. These conditions must be carefully followed since they define the limits of the permit and will be confirmed by periodic inspections.

Also note that you are required to annually submit an emissions inventory for this facility. An emissions inventory must be completed on approved AQD forms and submitted (hardcopy or electronically) by April 1st of every year. Any questions concerning the form or submittal process should be referred to the Emissions Inventory Staff at (405) 702-4100.

Thank you for your cooperation in this matter. If we may be of further service, please contact our office at (405) 702-4100.

Sincerely,

David S. Schutz, P.E.
AIR QUALITY DIVISION
Enclosure



PART 70 PERMIT

AIR QUALITY DIVISION
STATE OF OKLAHOMA
DEPARTMENT OF ENVIRONMENTAL QUALITY
707 N. ROBINSON STREET, SUITE 4100
P.O. BOX 1677
OKLAHOMA CITY, OKLAHOMA 73101-1677

Permit Number: 2015-1163-C (M-1)(PSD)

Weyerhaeuser NR Company - Idabel,

having complied with the requirements of the law, is hereby granted permission to construct a pine lumber sawmill at Section 27 – T7S – R23E, Idabel, McCurtain County, Oklahoma subject to standard conditions dated June 21, 2016, and specific conditions, both attached.

In the absence of commencement of construction, this permit shall expire 18 months from the issuance date, except as authorized under Section VIII of the Standard Conditions.

Division Director
Air Quality Division

Date

DEQ Form #100-885

Revised 10/20/06

**PERMIT TO CONSTRUCT
AIR POLLUTION CONTROL FACILITY
SPECIFIC CONDITIONS**

**Weyerhaeuser NR Company
Idabel Pine Lumber Sawmill**

Permit No. 2015-1163-C (M-1)(PSD)

The permittee is authorized to construct in conformity with the specifications submitted to Air Quality on April 18, 2018. The Evaluation Memorandum dated July 23, 2019, explains the derivation of applicable permit requirements and estimates of emissions; however, it does not contain limitations or permit requirements. Continuing operations under this permit constitutes acceptance of, and consent to the conditions contained herein:

1. Points of emissions and emissions limitations for each point. Compliance with emissions limitations shall be determined on a 24-hour basis. [OAC 252:100-8-6(a)]

EUG 2 – Cyclones

Emission Point	Process Description	PM ₁₀		PM _{2.5}		VOC	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
P-001 P-003 P-016	Green Sawdust Cyclones	0.60	2.63	0.60	2.63	10.57	46.30
P-004	Planing	0.70	3.07	0.70	3.07	1.90	8.32
	Trimming						
P-005	Planing	0.60	2.63	0.60	2.63	1.90	8.32
	Trimming						

- A. Total annual throughput for the sawmill shall not exceed 270,000,000 board feet of lumber per year (12-month rolling total).
- B. All air exhausts from the finishing/planing operations and sawing operations shall be processed by cyclonic separators or equivalent air pollution control devices which achieve PM concentrations no greater than 0.02 gr/DSCF.
- C. The permittee shall conduct visual observations of emissions from each cyclone at least once per week using Method 22 except as authorized below. In no case shall the observation period be less than six minutes in duration. If visible emissions are observed for six minutes in duration for any observation period and such emissions are not the result of a malfunction, then the permittee shall conduct, for the identified points, within 24 hours, a visual observation of emissions, in accordance with 40 CFR Part 60, Appendix A, Method 9.

1. When four consecutive weekly visible emission observations or Method 9 observations show no visible emissions, or no emissions of a shade or density greater than twenty (20) percent equivalent opacity, respectively, the frequency may be reduced to monthly visual observations, as above. Upon any showing of non-compliance the observation frequency shall revert to weekly.
2. If a Method 9 observation exceeds 20% opacity the permittee shall conduct at least two additional Method 9 observations within the next 24-hours.
3. If more than one six-minute Method 9 observation exceeds 20% opacity in any consecutive 60 minutes; or more than three six-minute Method 9 observations in any consecutive 24 hours exceeds 20% opacity; or if any six-minute Method 9 observation exceeds 60% opacity; the owner or operator shall comply with the provisions for excess emissions during start-up, shut-down, and malfunction of air pollution control equipment. [OAC 252:100-25]

EUG 3: Lumber Kilns

Emission Unit Group	PM ₁₀		PM _{2.5}		SO ₂		NO _x		VOC		CO	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Kiln No. 1	6.24	20.76	4.57	15.19	3.16	13.85	15.51	36.72	157.53	523.80	73.08	142.02
Kiln No. 2												
Kiln No. 3												
Kiln No. 4												

- A. Throughput of the lumber kilns shall not exceed a combined total of 270,000,000 board feet per year.
- B. Except as provided in Item “C”, Kilns No. 1, 2, 3, and 4 shall be fueled with wood waste only. Wood waste may include sawdust or shavings used for oil spill clean-up.
- C. The permittee shall be authorized to use up to 100 gallons of diesel fuel per kiln for start-ups. The diesel shall have 0.7% or less by weight sulfur.
- D. VOC emissions from lumber kilns shall not exceed 3.88 lb/MBF (3-hr average).
- E. At a minimum, the facility will monitor and operate Kiln 4 in accordance with the following best operating practices:

1. Maintain proper kiln maintenance;
2. Maintain Proper kiln operation to minimize over-drying of lumber:
 - a. Complete periodic verification of proper temperature sensor operation;
 - b. Complete periodic verification of proper fan operation;
 - c. Maintain average kiln temperature below 250 °F; and
 - d. Maintain proper stacking of lumber using kiln sticks for efficient and even kiln drying.

2. The facility will also demonstrate compliance with the VOC emission rate from Kiln 4 indirectly by measuring the moisture content of the lumber just after the lumber exits the kiln or in the planer mill at least once/month and verify the 12-month rolling average final lumber moisture content is equal to or greater than 11%.

EUG 4: Fugitives

EU ID#	Source	Const. Date
EU-009	Unpaved Roads	1996

A. Plant roads shall be watered when necessary to control emissions of fugitive dust.

EUG 5 – Insignificant Activities: Emissions from the equipment listed below are estimated based on existing equipment items and are insignificant.

Emission Unit Description	EU Name/Model
Bark Removal	CSMI 30” MK-30 debarker
Log Chipping	Two 66” MT-479-96A Forano chippers one 75” MT-80-96A Forano chipper
Diesel Tank	8,000 gallon tank
Gasoline Tank	550-gallon Tank
Bark Conveyor	Mill Services conveyor
Bark Pile Loading	Kolman Model 101-R conveyor
Bark Loading (truck and rail)	Front-end loaders
Shavings Conveyors	West Coast Sheet Metal conveyor
Shavings Bin	West Coast Sheet Metal conveyor
Shavings Loading (truck and rail)	West Coast Sheet Metal conveyor
Chip Pile	Kolman conveyors
Chip Conveyor	Mill Services conveyor
Chip Loading (truck and rail)	Mill Services conveyor
Kiln Burner Bypass Stacks	Lumber Kilns 1, 2, and 3

A. The gasoline tank shall be operated with a submerged fill pipe.

[OAC 252:100-37-15(b)]

EUG 7 Tub Grinder

Emission Unit Group	PM ₁₀		PM _{2.5}		SO ₂		NO _x		VOC		CO	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Tub Grinder	8.60	1.93	1.40	0.31	4.81	1.08	20.40	4.59	0.60	0.13	4.68	1.05

A. The 850-hp engine driving the tub grinder shall be fueled with No. 2 diesel containing 0.7% by weight or less sulfur. [OAC 252:100-31]

B. The Tub Grinder shall be authorized to operate up to 450 hours per year, 12-month rolling total. [OAC 252:100-8-6(a)]

EUG 8 Fire Pump Engine

EU ID#	Source	Const. Date
EU-015	208-hp Diesel-powered Fire Pump	1995

A. The fire pump engine shall comply with applicable standards for emergency engines of 40 CFR Part 63, Subpart ZZZZ. [40 CFR 63.6580 – 6675]

1. § 63.6580 What is the purpose of subpart ZZZZ?
2. § 63.6585 Am I subject to this subpart?
3. § 63.6590 What parts of my plant does this subpart cover?
4. § 63.6595 When do I have to comply with this subpart?
5. § 63.6603 What emission limitations and operating limitations must I meet if I own or operate an existing stationary CI RICE located at an area source of HAP emissions?
6. § 63.6605 What are my general requirements for complying with this subpart?
7. § 63.6625 What are my monitoring, installation, operation, and maintenance requirements?
8. § 63.6630 How do I demonstrate initial compliance with the emission limitations and operating limitations?
9. § 63.6640 How do I demonstrate continuous compliance with the emission limitations and operating limitations?
10. § 63.6650 What reports must I submit and when?
11. § 63.6655 What records must I keep?
12. § 63.6660 In what form and how long must I keep my records?
13. § 63.6665 What parts of the General Provisions apply to me?
14. § 63.6670 Who implements and enforces this subpart?
15. § 63.6675 What definitions apply to this subpart?

2. On issuance of an operating permit, the permittee shall be authorized to operate this facility continuously (24 hours per day, every day of the year). [OAC 252:100-8-6(a)]

3. The permittee shall keep records as follow. Required records shall be retained on location for a period of at least five years following dates of recording and shall be made available to regulatory personnel upon request. [OAC 252:100-43]

- A. Lumber kiln throughput expressed as board feet (monthly and 12-month rolling totals)
- B. Planer and trimmer throughput expressed as board feet (monthly and 12-month rolling totals)
- C. Sawmill throughput expressed as board feet (monthly and 12-month rolling totals)
- D. Summary of visible emissions observations results for each cyclone (weekly)
- E. Sulfur content of diesel fuels used for kiln start-up and the tub grinder (each shipment)
- F. Summary of records verifying insignificant activities: gasoline throughput, diesel throughput, insignificant activity process PM emissions, and tub Grinder operations.
- G. Hours of operation of the Tub Grinder (monthly).
- H. Hours of operation of the fire pump engine (monthly).
- I. Records as required by 40 CFR Part 63, Subpart ZZZZ.
- J. Records of Kiln 4 operating temperatures and lumber moisture content (monthly).

4. The following records shall be maintained on-site to verify insignificant activities. [OAC 252:100-43]

- A. Debarkers, material storage piles, and material storage bins: calculations of PM₁₀ emissions (12-month rolling total)
- B. Other insignificant activities: calculations of emissions showing that 12-month rolling total emissions are less than 5 TPY per unit.

5. No later than 30 days after each anniversary date of the issuance of the original Title V operating permit (December 15, 2000), the permittee shall submit to Air Quality Division of DEQ, with a copy to the US EPA, Region 6, a certification of compliance with the terms and conditions of this permit. [OAC 252:100-8-6 (c)(5)(A) & (D)]

6. The Permit Shield (Standard Conditions, Section VI) is extended to the following requirements that have been determined to be inapplicable to this facility.

[OAC 252:100-8-6(d)(2)]

- A. OAC 252:100-11 Alternative Emissions Reduction
- B. OAC 252:100-15 Mobile Sources
- C. OAC 252:100-23 Cotton Gins
- D. OAC 252:100-24 Grain Elevators
- E. OAC 252:100-39 Nonattainment Areas
- F. OAC 252:100-47 Landfills

7. Within 180 days of first operation under this permit, the permittee shall submit an application for a modified operating permit.

8. This facility is considered a Prevention of Significant Deterioration (PSD) facility. As such, the facility is subject to the provisions of OAC 252:100-8-36.2(c) for any project as defined therein.

[OAC 252:100-8-36.2(c)]

9. This permit supersedes and replaces Permit No. 2010-272-C (M-5). [OAC 252:100-8-6(a)]

**MAJOR SOURCE AIR QUALITY PERMIT
STANDARD CONDITIONS
(June 21, 2016)**

SECTION I. DUTY TO COMPLY

A. This is a permit to operate / construct this specific facility in accordance with the federal Clean Air Act (42 U.S.C. 7401, et al.) and under the authority of the Oklahoma Clean Air Act and the rules promulgated there under. [Oklahoma Clean Air Act, 27A O.S. § 2-5-112]

B. The issuing Authority for the permit is the Air Quality Division (AQD) of the Oklahoma Department of Environmental Quality (DEQ). The permit does not relieve the holder of the obligation to comply with other applicable federal, state, or local statutes, regulations, rules, or ordinances. [Oklahoma Clean Air Act, 27A O.S. § 2-5-112]

C. The permittee shall comply with all conditions of this permit. Any permit noncompliance shall constitute a violation of the Oklahoma Clean Air Act and shall be grounds for enforcement action, permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application. All terms and conditions are enforceable by the DEQ, by the Environmental Protection Agency (EPA), and by citizens under section 304 of the Federal Clean Air Act (excluding state-only requirements). This permit is valid for operations only at the specific location listed.

[40 C.F.R. §70.6(b), OAC 252:100-8-1.3 and OAC 252:100-8-6(a)(7)(A) and (b)(1)]

D. 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 in order to maintain compliance with the conditions of the permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in assessing penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continuing operations. [OAC 252:100-8-6(a)(7)(B)]

SECTION II. REPORTING OF DEVIATIONS FROM PERMIT TERMS

A. Any exceedance resulting from an emergency and/or posing an imminent and substantial danger to public health, safety, or the environment shall be reported in accordance with Section XIV (Emergencies). [OAC 252:100-8-6(a)(3)(C)(iii)(I) & (II)]

B. Deviations that result in emissions exceeding those allowed in this permit shall be reported consistent with the requirements of OAC 252:100-9, Excess Emission Reporting Requirements. [OAC 252:100-8-6(a)(3)(C)(iv)]

C. Every written report submitted under this section shall be certified as required by Section III (Monitoring, Testing, Recordkeeping & Reporting), Paragraph F. [OAC 252:100-8-6(a)(3)(C)(iv)]

SECTION III. MONITORING, TESTING, RECORDKEEPING & REPORTING

A. The permittee shall keep records as specified in this permit. These records, including monitoring data and necessary support information, shall be retained on-site or at a nearby field office for a period of at least five years from the date of the monitoring sample, measurement, report, or application, and shall be made available for inspection by regulatory personnel upon request. Support information includes all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Where appropriate, the permit may specify that records may be maintained in computerized form.

[OAC 252:100-8-6 (a)(3)(B)(ii), OAC 252:100-8-6(c)(1), and OAC 252:100-8-6(c)(2)(B)]

B. Records of required monitoring shall include:

- (1) the date, place and time of sampling or measurement;
- (2) the date or dates analyses were performed;
- (3) the company or entity which performed the analyses;
- (4) the analytical techniques or methods used;
- (5) the results of such analyses; and
- (6) the operating conditions existing at the time of sampling or measurement.

[OAC 252:100-8-6(a)(3)(B)(i)]

C. No later than 30 days after each six (6) month period, after the date of the issuance of the original Part 70 operating permit or alternative date as specifically identified in a subsequent Part 70 operating permit, the permittee shall submit to AQD a report of the results of any required monitoring. All instances of deviations from permit requirements since the previous report shall be clearly identified in the report. Submission of these periodic reports will satisfy any reporting requirement of Paragraph E below that is duplicative of the periodic reports, if so noted on the submitted report.

[OAC 252:100-8-6(a)(3)(C)(i) and (ii)]

D. If any testing shows emissions in excess of limitations specified in this permit, the owner or operator shall comply with the provisions of Section II (Reporting Of Deviations From Permit Terms) of these standard conditions.

[OAC 252:100-8-6(a)(3)(C)(iii)]

E. In addition to any monitoring, recordkeeping or reporting requirement specified in this permit, monitoring and reporting may be required under the provisions of OAC 252:100-43, Testing, Monitoring, and Recordkeeping, or as required by any provision of the Federal Clean Air Act or Oklahoma Clean Air Act.

[OAC 252:100-43]

F. Any Annual Certification of Compliance, Semi Annual Monitoring and Deviation Report, Excess Emission Report, and Annual Emission Inventory submitted in accordance with this permit shall be certified by a responsible official. This certification shall be signed by a responsible official, and shall contain the following language: "I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete."

[OAC 252:100-8-5(f), OAC 252:100-8-6(a)(3)(C)(iv), OAC 252:100-8-6(c)(1), OAC 252:100-9-7(e), and OAC 252:100-5-2.1(f)]

G. Any owner or operator subject to the provisions of New Source Performance Standards (“NSPS”) under 40 CFR Part 60 or National Emission Standards for Hazardous Air Pollutants (“NESHAPs”) under 40 CFR Parts 61 and 63 shall maintain a file of all measurements and other information required by the applicable general provisions and subpart(s). These records shall be maintained in a permanent file suitable for inspection, shall be retained for a period of at least five years as required by Paragraph A of this Section, and shall include records of the occurrence and duration of any start-up, shutdown, or malfunction in the operation of an affected facility, any malfunction of the air pollution control equipment; and any periods during which a continuous monitoring system or monitoring device is inoperative.

[40 C.F.R. §§60.7 and 63.10, 40 CFR Parts 61, Subpart A, and OAC 252:100, Appendix Q]

H. The permittee of a facility that is operating subject to a schedule of compliance shall submit to the DEQ a progress report at least semi-annually. The progress reports shall contain dates for achieving the activities, milestones or compliance required in the schedule of compliance and the dates when such activities, milestones or compliance was achieved. The progress reports shall also contain an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted. [OAC 252:100-8-6(c)(4)]

I. All testing must be conducted under the direction of qualified personnel by methods approved by the Division Director. All tests shall be made and the results calculated in accordance with standard test procedures. The use of alternative test procedures must be approved by EPA. When a portable analyzer is used to measure emissions it shall be setup, calibrated, and operated in accordance with the manufacturer’s instructions and in accordance with a protocol meeting the requirements of the “AQD Portable Analyzer Guidance” document or an equivalent method approved by Air Quality.

[OAC 252:100-8-6(a)(3)(A)(iv), and OAC 252:100-43]

J. The reporting of total particulate matter emissions as required in Part 7 of OAC 252:100-8 (Permits for Part 70 Sources), OAC 252:100-19 (Control of Emission of Particulate Matter), and OAC 252:100-5 (Emission Inventory), shall be conducted in accordance with applicable testing or calculation procedures, modified to include back-half condensables, for the concentration of particulate matter less than 10 microns in diameter (PM₁₀). NSPS may allow reporting of only particulate matter emissions caught in the filter (obtained using Reference Method 5).

K. The permittee shall submit to the AQD a copy of all reports submitted to the EPA as required by 40 C.F.R. Part 60, 61, and 63, for all equipment constructed or operated under this permit subject to such standards. [OAC 252:100-8-6(c)(1) and OAC 252:100, Appendix Q]

SECTION IV. COMPLIANCE CERTIFICATIONS

A. No later than 30 days after each anniversary date of the issuance of the original Part 70 operating permit or alternative date as specifically identified in a subsequent Part 70 operating permit, the permittee shall submit to the AQD, with a copy to the US EPA, Region 6, a certification of compliance with the terms and conditions of this permit and of any other applicable requirements which have become effective since the issuance of this permit.

[OAC 252:100-8-6(c)(5)(A), and (D)]

B. The compliance certification shall describe the operating permit term or condition that is the basis of the certification; the current compliance status; whether compliance was continuous or intermittent; the methods used for determining compliance, currently and over the reporting period. The compliance certification shall also include such other facts as the permitting authority may require to determine the compliance status of the source.

[OAC 252:100-8-6(c)(5)(C)(i)-(v)]

C. The compliance certification shall contain a certification by a responsible official as to the results of the required monitoring. This certification shall be signed by a responsible official, and shall contain the following language: "I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete."

[OAC 252:100-8-5(f) and OAC 252:100-8-6(c)(1)]

D. Any facility reporting noncompliance shall submit a schedule of compliance for emissions units or stationary sources that are not in compliance with all applicable requirements. This schedule shall include a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with any applicable requirements for which the emissions unit or stationary source is in noncompliance. This compliance schedule shall resemble and be at least as stringent as that contained in any judicial consent decree or administrative order to which the emissions unit or stationary source is subject. Any such schedule of compliance shall be supplemental to, and shall not sanction noncompliance with, the applicable requirements on which it is based, except that a compliance plan shall not be required for any noncompliance condition which is corrected within 24 hours of discovery.

[OAC 252:100-8-5(e)(8)(B) and OAC 252:100-8-6(c)(3)]

SECTION V. REQUIREMENTS THAT BECOME APPLICABLE DURING THE PERMIT TERM

The permittee shall comply with any additional requirements that become effective during the permit term and that are applicable to the facility. Compliance with all new requirements shall be certified in the next annual certification.

[OAC 252:100-8-6(c)(6)]

SECTION VI. PERMIT SHIELD

A. Compliance with the terms and conditions of this permit (including terms and conditions established for alternate operating scenarios, emissions trading, and emissions averaging, but excluding terms and conditions for which the permit shield is expressly prohibited under OAC 252:100-8) shall be deemed compliance with the applicable requirements identified and included in this permit.

[OAC 252:100-8-6(d)(1)]

B. Those requirements that are applicable are listed in the Standard Conditions and the Specific Conditions of this permit. Those requirements that the applicant requested be determined as not applicable are summarized in the Specific Conditions of this permit.

[OAC 252:100-8-6(d)(2)]

SECTION VII. ANNUAL EMISSIONS INVENTORY & FEE PAYMENT

The permittee shall file with the AQD an annual emission inventory and shall pay annual fees based on emissions inventories. The methods used to calculate emissions for inventory purposes shall be based on the best available information accepted by AQD.

[OAC 252:100-5-2.1, OAC 252:100-5-2.2, and OAC 252:100-8-6(a)(8)]

SECTION VIII. TERM OF PERMIT

A. Unless specified otherwise, the term of an operating permit shall be five years from the date of issuance. [OAC 252:100-8-6(a)(2)(A)]

B. A source's right to operate shall terminate upon the expiration of its permit unless a timely and complete renewal application has been submitted at least 180 days before the date of expiration. [OAC 252:100-8-7.1(d)(1)]

C. A duly issued construction permit or authorization to construct or modify will terminate and become null and void (unless extended as provided in OAC 252:100-8-1.4(b)) if the construction is not commenced within 18 months after the date the permit or authorization was issued, or if work is suspended for more than 18 months after it is commenced. [OAC 252:100-8-1.4(a)]

D. The recipient of a construction permit shall apply for a permit to operate (or modified operating permit) within 180 days following the first day of operation. [OAC 252:100-8-4(b)(5)]

SECTION IX. SEVERABILITY

The provisions of this permit are severable and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

[OAC 252:100-8-6 (a)(6)]

SECTION X. PROPERTY RIGHTS

A. This permit does not convey any property rights of any sort, or any exclusive privilege.

[OAC 252:100-8-6(a)(7)(D)]

B. This permit shall not be considered in any manner affecting the title of the premises upon which the equipment is located and does not release the permittee from any liability for damage to persons or property caused by or resulting from the maintenance or operation of the equipment for which the permit is issued. [OAC 252:100-8-6(c)(6)]

SECTION XI. DUTY TO PROVIDE INFORMATION

A. The permittee shall furnish to the DEQ, upon receipt of a written request and within sixty (60) days of the request unless the DEQ specifies another time period, any information that the DEQ may request to determine whether cause exists for modifying, reopening, revoking, reissuing, terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the DEQ copies of records required to be kept by the permit.

[OAC 252:100-8-6(a)(7)(E)]

B. The permittee may make a claim of confidentiality for any information or records submitted pursuant to 27A O.S. § 2-5-105(18). Confidential information shall be clearly labeled as such and shall be separable from the main body of the document such as in an attachment.

[OAC 252:100-8-6(a)(7)(E)]

C. Notification to the AQD of the sale or transfer of ownership of this facility is required and shall be made in writing within thirty (30) days after such sale or transfer.

[Oklahoma Clean Air Act, 27A O.S. § 2-5-112(G)]

SECTION XII. REOPENING, MODIFICATION & REVOCATION

A. The permit may be modified, revoked, reopened and reissued, or terminated for cause. Except as provided for minor permit modifications, the filing of a request by the permittee for a permit modification, revocation and reissuance, termination, notification of planned changes, or anticipated noncompliance does not stay any permit condition.

[OAC 252:100-8-6(a)(7)(C) and OAC 252:100-8-7.2(b)]

B. The DEQ will reopen and revise or revoke this permit prior to the expiration date in the following circumstances:

[OAC 252:100-8-7.3 and OAC 252:100-8-7.4(a)(2)]

- (1) Additional requirements under the Clean Air Act become applicable to a major source category three or more years prior to the expiration date of this permit. No such reopening is required if the effective date of the requirement is later than the expiration date of this permit.
- (2) The DEQ or the EPA determines that this permit contains a material mistake or that the permit must be revised or revoked to assure compliance with the applicable requirements.
- (3) The DEQ or the EPA determines that inaccurate information was used in establishing the emission standards, limitations, or other conditions of this permit. The DEQ may revoke and not reissue this permit if it determines that the permittee has submitted false or misleading information to the DEQ.
- (4) DEQ determines that the permit should be amended under the discretionary reopening provisions of OAC 252:100-8-7.3(b).

C. The permit may be reopened for cause by EPA, pursuant to the provisions of OAC 100-8-7.3(d).

[OAC 100-8-7.3(d)]

D. The permittee shall notify AQD before making changes other than those described in Section XVIII (Operational Flexibility), those qualifying for administrative permit amendments, or those defined as an Insignificant Activity (Section XVI) or Trivial Activity (Section XVII). The notification should include any changes which may alter the status of a “grandfathered source,” as defined under AQD rules. Such changes may require a permit modification.

[OAC 252:100-8-7.2(b) and OAC 252:100-5-1.1]

E. Activities that will result in air emissions that exceed the trivial/insignificant levels and that are not specifically approved by this permit are prohibited. [OAC 252:100-8-6(c)(6)]

SECTION XIII. INSPECTION & ENTRY

A. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized regulatory officials to perform the following (subject to the permittee's right to seek confidential treatment pursuant to 27A O.S. Supp. 1998, § 2-5-105(17) for confidential information submitted to or obtained by the DEQ under this section):

- (1) enter upon the permittee's premises during reasonable/normal working hours where a source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
- (2) have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
- (3) inspect, at reasonable times and using reasonable safety practices, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
- (4) as authorized by the Oklahoma Clean Air Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit.

[OAC 252:100-8-6(c)(2)]

SECTION XIV. EMERGENCIES

A. Any exceedance resulting from an emergency shall be reported to AQD promptly but no later than 4:30 p.m. on the next working day after the permittee first becomes aware of the exceedance. This notice shall contain a description of the emergency, the probable cause of the exceedance, any steps taken to mitigate emissions, and corrective actions taken.

[OAC 252:100-8-6 (a)(3)(C)(iii)(I) and (IV)]

B. Any exceedance that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to AQD as soon as is practicable; but under no circumstance shall notification be more than 24 hours after the exceedance. [OAC 252:100-8-6(a)(3)(C)(iii)(II)]

C. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under this permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error. [OAC 252:100-8-2]

D. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that: [OAC 252:100-8-6 (e)(2)]

- (1) an emergency occurred and the permittee can identify the cause or causes of the emergency;
- (2) the permitted facility was at the time being properly operated;
- (3) during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit.

E. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof. [OAC 252:100-8-6(e)(3)]

F. Every written report or document submitted under this section shall be certified as required by Section III (Monitoring, Testing, Recordkeeping & Reporting), Paragraph F. [OAC 252:100-8-6(a)(3)(C)(iv)]

SECTION XV. RISK MANAGEMENT PLAN

The permittee, if subject to the provision of Section 112(r) of the Clean Air Act, shall develop and register with the appropriate agency a risk management plan by June 20, 1999, or the applicable effective date. [OAC 252:100-8-6(a)(4)]

SECTION XVI. INSIGNIFICANT ACTIVITIES

Except as otherwise prohibited or limited by this permit, the permittee is hereby authorized to operate individual emissions units that are either on the list in Appendix I to OAC Title 252, Chapter 100, or whose actual calendar year emissions do not exceed any of the limits below. Any activity to which a State or Federal applicable requirement applies is not insignificant even if it meets the criteria below or is included on the insignificant activities list.

- (1) 5 tons per year of any one criteria pollutant.
- (2) 2 tons per year for any one hazardous air pollutant (HAP) or 5 tons per year for an aggregate of two or more HAP's, or 20 percent of any threshold less than 10 tons per year for single HAP that the EPA may establish by rule.

[OAC 252:100-8-2 and OAC 252:100, Appendix I]

SECTION XVII. TRIVIAL ACTIVITIES

Except as otherwise prohibited or limited by this permit, the permittee is hereby authorized to operate any individual or combination of air emissions units that are considered inconsequential and are on the list in Appendix J. Any activity to which a State or Federal applicable requirement applies is not trivial even if included on the trivial activities list.

[OAC 252:100-8-2 and OAC 252:100, Appendix J]

SECTION XVIII. OPERATIONAL FLEXIBILITY

A. A facility may implement any operating scenario allowed for in its Part 70 permit without the need for any permit revision or any notification to the DEQ (unless specified otherwise in the permit). When an operating scenario is changed, the permittee shall record in a log at the facility the scenario under which it is operating. [OAC 252:100-8-6(a)(10) and (f)(1)]

B. The permittee may make changes within the facility that:

- (1) result in no net emissions increases,
- (2) are not modifications under any provision of Title I of the federal Clean Air Act, and
- (3) do not cause any hourly or annual permitted emission rate of any existing emissions unit to be exceeded;

provided that the facility provides the EPA and the DEQ with written notification as required below in advance of the proposed changes, which shall be a minimum of seven (7) days, or twenty four (24) hours for emergencies as defined in OAC 252:100-8-6 (e). The permittee, the DEQ, and the EPA shall attach each such notice to their copy of the permit. For each such change, the written notification required above shall include a brief description of the change within the permitted facility, the date on which the change will occur, any change in emissions, and any permit term or condition that is no longer applicable as a result of the change. The permit shield provided by this permit does not apply to any change made pursuant to this paragraph. [OAC 252:100-8-6(f)(2)]

SECTION XIX. OTHER APPLICABLE & STATE-ONLY REQUIREMENTS

A. The following applicable requirements and state-only requirements apply to the facility unless elsewhere covered by a more restrictive requirement:

- (1) Open burning of refuse and other combustible material is prohibited except as authorized in the specific examples and under the conditions listed in the Open Burning Subchapter. [OAC 252:100-13]
- (2) No particulate emissions from any fuel-burning equipment with a rated heat input of 10 MMBTUH or less shall exceed 0.6 lb/MMBTU. [OAC 252:100-19]
- (3) For all emissions units not subject to an opacity limit promulgated under 40 C.F.R., Part 60, NSPS, no discharge of greater than 20% opacity is allowed except for:

[OAC 252:100-25]

- (a) Short-term occurrences which consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity;
 - (b) Smoke resulting from fires covered by the exceptions outlined in OAC 252:100-13-7;
 - (c) An emission, where the presence of uncombined water is the only reason for failure to meet the requirements of OAC 252:100-25-3(a); or
 - (d) Smoke generated due to a malfunction in a facility, when the source of the fuel producing the smoke is not under the direct and immediate control of the facility and the immediate constriction of the fuel flow at the facility would produce a hazard to life and/or property.
- (4) No visible fugitive dust emissions shall be discharged beyond the property line on which the emissions originate in such a manner as to damage or to interfere with the use of adjacent properties, or cause air quality standards to be exceeded, or interfere with the maintenance of air quality standards. [OAC 252:100-29]
- (5) No sulfur oxide emissions from new gas-fired fuel-burning equipment shall exceed 0.2 lb/MMBTU. No existing source shall exceed the listed ambient air standards for sulfur dioxide. [OAC 252:100-31]
- (6) Volatile Organic Compound (VOC) storage tanks built after December 28, 1974, and with a capacity of 400 gallons or more storing a liquid with a vapor pressure of 1.5 psia or greater under actual conditions shall be equipped with a permanent submerged fill pipe or with a vapor-recovery system. [OAC 252:100-37-15(b)]
- (7) All fuel-burning equipment shall at all times be properly operated and maintained in a manner that will minimize emissions of VOCs. [OAC 252:100-37-36]

SECTION XX. STRATOSPHERIC OZONE PROTECTION

A. The permittee shall comply with the following standards for production and consumption of ozone-depleting substances: [40 CFR 82, Subpart A]

- (1) Persons producing, importing, or placing an order for production or importation of certain class I and class II substances, HCFC-22, or HCFC-141b shall be subject to the requirements of §82.4;
- (2) Producers, importers, exporters, purchasers, and persons who transform or destroy certain class I and class II substances, HCFC-22, or HCFC-141b are subject to the recordkeeping requirements at §82.13; and
- (3) Class I substances (listed at Appendix A to Subpart A) include certain CFCs, Halons, HBFCs, carbon tetrachloride, trichloroethane (methyl chloroform), and bromomethane (Methyl Bromide). Class II substances (listed at Appendix B to Subpart A) include HCFCs.

B. If the permittee performs a service on motor (fleet) vehicles when this service involves an ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all applicable requirements. Note: 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. [40 CFR 82, Subpart B]

C. The permittee shall comply with the following standards for recycling and emissions reduction except as provided for MVACs in Subpart B: [40 CFR 82, Subpart F]

- (1) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to § 82.156;
- (2) 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;
- (3) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to § 82.161;
- (4) Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with record-keeping requirements pursuant to § 82.166;
- (5) Persons owning commercial or industrial process refrigeration equipment must comply with leak repair requirements pursuant to § 82.158; and
- (6) 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.

SECTION XXI. TITLE V APPROVAL LANGUAGE

A. DEQ wishes to reduce the time and work associated with permit review and, wherever it is not inconsistent with Federal requirements, to provide for incorporation of requirements established through construction permitting into the Source’s Title V permit without causing redundant review. Requirements from construction permits may be incorporated into the Title V permit through the administrative amendment process set forth in OAC 252:100-8-7.2(a) only if the following procedures are followed:

- (1) The construction permit goes out for a 30-day public notice and comment using the procedures set forth in 40 C.F.R. § 70.7(h)(1). This public notice shall include notice to the public that this permit is subject to EPA review, EPA objection, and petition to EPA, as provided by 40 C.F.R. § 70.8; that the requirements of the construction permit will be incorporated into the Title V permit through the administrative amendment process; that the public will not receive another opportunity to provide comments when the requirements are incorporated into the Title V permit; and that EPA review, EPA objection, and petitions to EPA will not be available to the public when requirements from the construction permit are incorporated into the Title V permit.
- (2) A copy of the construction permit application is sent to EPA, as provided by 40 CFR § 70.8(a)(1).
- (3) A copy of the draft construction permit is sent to any affected State, as provided by 40 C.F.R. § 70.8(b).

- (4) A copy of the proposed construction permit is sent to EPA for a 45-day review period as provided by 40 C.F.R. § 70.8(a) and (c).
- (5) The DEQ complies with 40 C.F.R. § 70.8(c) upon the written receipt within the 45-day comment period of any EPA objection to the construction permit. The DEQ shall not issue the permit until EPA's objections are resolved to the satisfaction of EPA.
- (6) The DEQ complies with 40 C.F.R. § 70.8(d).
- (7) A copy of the final construction permit is sent to EPA as provided by 40 CFR § 70.8(a).
- (8) The DEQ shall not issue the proposed construction permit until any affected State and EPA have had an opportunity to review the proposed permit, as provided by these permit conditions.
- (9) Any requirements of the construction permit may be reopened for cause after incorporation into the Title V permit by the administrative amendment process, by DEQ as provided in OAC 252:100-8-7.3(a), (b), and (c), and by EPA as provided in 40 C.F.R. § 70.7(f) and (g).
- (10) The DEQ shall not issue the administrative permit amendment if performance tests fail to demonstrate that the source is operating in substantial compliance with all permit requirements.

B. To the extent that these conditions are not followed, the Title V permit must go through the Title V review process.

SECTION XXII. CREDIBLE EVIDENCE

For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any provision of the Oklahoma implementation plan, nothing shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

[OAC 252:100-43-6]