PSD NSR Air Permit Application

Weyerhaeuser

Weyerhaeuser NR Company, Millport Facility
14715 Highway 96 East
Millport, Alabama 35576

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Water ▪ Soils ▪ Air ▪ Compliance

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1.0 Introduction

1.1 Background

This permit application constitutes a request for the construction of new air emissions equipment for Weyerhaeuser's wood products facility in Millport, Alabama (Millport Mill). Figure 3 through Figure 5 depict the location of the Millport Mill. The Weyerhaeuser NR Company, Millport Facility was originally constructed in 1974. Historically, the facility has operated a lumber, veneer and plywood mill at the location and additionally a landscape treating plant. The facility currently operates a sawmill, a planer mill and one wood fired steam boiler which supplies steam to three steam-heated batch kilns. Weyerhaeuser received a PSD construction permit in December of 2014 to construct one continuous direct fired kiln (CDK) to replace the boiler and steam heated batch kilns. The Millport Mill is currently configured as a stud mill. Weyerhaeuser is proposing to replace the current sawmill and planer mill with modernized equipment and configure the mill for the production of random length dimensional lumber.

The mill was recently permitted at 140,000 MBF/yr with one CDK. The capacity of the proposed mill is 360,000 MBF/yr or 120,000 MBF for each CDK when drying random length dimensional lumber. Because of the timing in the requested modifications, this application will aggregate the previous CDK application with the current proposed changes and this review considers the increase in emissions from both projects together. Additions and modifications to the existing emission points are summarized in the table below.

Emission Point	Description	New	To be Removed
CDK-4, 5 & 6	3 Continuous Direct Fired Kilns with 35 MMBTU/hr gasifier burner and abort stack	X	
CDKC-4, 5 & 6	Green lumber chip-n-saw, vertical gang saw, board edger process with green sawdust pneumatic delivery system with 3 cyclones and fuel silos	X	
PM-1	Dry lumber planer and trimmer with cyclone		
001	125 MMBtu/hr wood-fired boiler with multiclone and a wet venturi scrubber		X
002, 003 & 008	Three (3) 110 thousand board-foot (MBF) steam-heated lumber dry kilns		X
004	Dry lumber planer with cyclone		X
005	Dry lumber trimmer with cyclone		X
006	Green lumber chip-n-saw, vertical gang saw, board edger process with truck loadout cyclone and sawdust fuel cyclone		X
007	Rechipper and conveying system with cyclone		X

1.2 Technical Conclusions

The following is a summary of the technical and regulatory conclusions that constitute this permit application:

- A PSD applicability analysis was performed for the project and the project was found to have net emissions increases below the PSD significant increase rates for all pollutants with the exception of VOC. The net emissions increase does rely on the shutting down of the existing boiler and batch kilns.

1.3 Permit Request

The Millport Mill currently operates under Major Source Operating Permit 408-S003. The facility is requesting a permit to construct under Alabama Department of Environmental Management Air Permit Rule 335-3-14-.04.

The following is included in this application for permit Review:

- ADEM Air Application (Appendix A)
- PSD Applicability Determination (Section 4.0)
- Emissions Calculations (Appendix B)
- RACT/BACT/LAER Report (Appendix C)

2.0 Site and Project Description

The Weyerhaeuser Millport facility is located in Lamar County just outside the city limits of Millport approximately three miles east of the intersection of Highway 96 and Highway 17. The facility falls under the Standard Industrial Classification (SIC) codes of 2421 for general sawmills and planing mills. At the requested production capacity of 360 million board feet per year, the facility can process approximately 1,500,000 tons of logs to produce kiln dried lumber. Figure 6 depicts the proposed process flow diagram for the facility.

2.1 Sawmill and Planer Mill

The basic function of the initial log processing area is to debark logs for further processing within the lumber area. Principal operations include log unloading, log storage, log debarking, cutting, sorting, and distribution. A chipper is used to produce wood chips from reject materials. Other wood residuals from this area are hogged and will be mechanically conveyed to a shipment bin for transfer off-site by truck.

In the sawmill, logs are cut into boards using a Chip-N-Saw, a vertical gang saw, a board edger, and a green trimmer. Residuals are chipped, screened, and sorted into chips and sawdust. Green chips from the sawmill and associated chipper will be mechanically conveyed to a chip bin in the loading area for shipment. Green sawdust will be pneumatically conveyed to the three silos providing fuel for the CDKs.

Green lumber will be trimmed, sorted, and stacked, and directed to one of three CDKs. Dried lumber will be placed into the rough dry storage area and then sent to the planer mill. After the lumber is planed, the product lumber pieces are trimmed, stacked, and placed into finished storage for shipment. Planer

shavings and hogged trim blocks will be pneumatically transferred to a shipment bin for transfer off-site by truck.

2.2 Boiler Area

The Millport mill utilizes one boiler fired by wood residuals, the No. 1 Boiler. The boiler is permitted to combust waste office paper and dispose of oil absorbent material used on the mill site, provided the absorbent is not a hazardous waste. Steam from the boiler is used to heat the lumber dry kilns. The No. 1 Boiler is equipped with a single multiclone followed by a venture scrubber.

The boiler is proposed to be shut down as a part of the project, prior to the first CDK becoming operational.

2.3 Overview of the Mill Modernization Project

Currently, the Millport Mill operates a sawmill, planer mill, three (3) steam heated batch kilns and one (1) wood fired boiler producing stud lumber. Weyerhaeuser is proposing to modernize and reconfigure the mill to produce random length dimensional lumber. The modernization will involve the replacement of all of the major components of the mill. The proposed layout of the facility modification in relation to the existing facility is depicted in Figure 4.

The maximum mill capacity is dependent on a number of factors such as product mix and efficiency of maintenance activities. For emissions estimate purposes the mill capacity is presumed to be 360,000 MBF per year which is equal to the anticipated drying capacity of the three continuous direct fired kilns (120,000 MBF/yr each). Production under normal operations is anticipated to be 300,000 MBF/yr.

The proposed CDK systems have a reverse flow double track design and incorporate preheating, drying, cooling, equalizing and conditioning phases in one extended chamber. The CDKs will be equipped with a green sawdust burner/gasification system that has a nominal heat input of 35 MMBtu/hr. The burner system generates combustible gases from the green sawdust. The combustible gases are transferred to a secondary gas burner for combustion. Once combustion has taken place in the gas burner, hot gases are transferred to the dry kiln for process heat. Each gasifier is provided with a fabricated steel abort stack with pneumatic cylinder. The abort stack is open during startup and shutdown/burn-outs. It also opens during burner or kiln upset conditions where isolation of the burner from the kiln is required. The kilns are designed to operate on a continuous basis, therefore, startup/shutdown will be infrequent.

Each gasifier is equipped with two automatic ash removal screws that run in a tubular trough in each of two ash pits. Ash is handled under saturated conditions reducing fire hazard and controlling fugitive dust emissions.

The installation of the new CDKs will necessitate the construction of fuel-handling equipment. This system will replace the existing boiler fuel cyclone and truck loadout cyclone (006). Three (3) fuel silos and enclosed fuel pneumatic conveyor systems will be installed to manage CDK fuel. Green sawdust will be blown from the sawmill and deposited in the fuel silos through cyclones on top of each silo. Only one fuel silo cyclone is operational at any given time. From the silo, the sawdust will be transferred to the burner via a screw conveyor.

After construction of a CDK, there will be a period of time the CDK will be tested until the equipment is determined to operate at design specifications. A shakedown period is requested where the CDK will be commissioned in conjunction with the existing batch kilns until the CDK is determined to be in commercial operation. It is anticipated that this shakedown period will be no more than ninety (90) days. The batch kilns and boiler will be shut down after the shakedown period of the first CDK prior to the CDK becoming commercially operational.

3.0 Permitting History

Weyerhaeuser NR's wood products manufacturing facility in Millport, Alabama, was constructed in 1974. Initially, the facility included both lumber and veneer mills. A plywood mill was added in 1977 and a landscape timber treating plant was added in 1982. After initial construction of the facility by Weyerhaeuser, several improvements and additions were made (e.g., installation of the rechipper cyclone, increased lumber production, installation of the regenerative catalytic oxidizer to control veneer dryer emissions, installation of the hog system and core trim material cyclone).

In 1993, Weyerhaeuser NR submitted a letter to ADEM containing a historical analysis of the permitting that occurred for the previous projects at the Mill. This analysis focused on changes that occurred in 1984 and 1987, which included installation of the No.2 Boiler, installation of the radiofrequency veneer redryer, modifications to the hot press, and rebuilding of the lumber kilns. The historical analysis concluded that both the 1984 and 1987 projects should have undergone Prevention of Significant Deterioration (PSD) permitting for both volatile organic compounds (VOC) and particulate matter (PM); carbon monoxide (CO) and oxides of nitrogen (NOx) PSD permitting was also required for the 1984 project. In follow-up to the analysis, Weyerhaeuser NR submitted a retroactive PSD permit application covering these projects in September 1993. ADEM issued revised operating permits containing the appropriate PSD BACT limits in October 1994. The 1994 permits contain the original VOC and PM_{10} BACT limits, expressed in terms of tpy and lb/MBF, for the lumber kilns. Specific production limits for the kilns were not included.

An initial MSOP application was submitted to ADEM in November 1995. The Mill was a Title V major source since at least one criteria pollutant had potential emissions greater than 100 tpy and/or potential hazardous air pollutant (HAP) emissions exceeded 10 tpy of a single HAP or 25 tpy total HAP.

In 1997, Weyerhaeuser NR determined that the current VOC emission limits on the kilns, which were based on information available at the time of the 1993 PSD permit application, were too low. Further, the Mill determined that an increase in the lumber production rate of the lumber mill was required to satisfy market demand. In April 1997, a PSD permit application was submitted, requesting that the kiln VOC limit be changed to 4.0 lb/MBF as carbon and the kiln production rate be permitted at 110,000 MBF/yr (the BACT emission limit for PM, expressed in terms of lb/MBF, was retained). ADEM issued a PSD permit with the new kiln VOC and production limits on October 2, 1997.

A revised MSOP application was submitted in July 1998 based on the revised production capacity and kiln VOC limits. The initial MSOP was issued November 2, 1999. In August 1998, Weyerhaeuser NR shut down the wood treating plant. This area was therefore excluded from the initial MSOP issued to the facility.

In March 2003, Weyerhaeuser NR closed the plywood mill portion of the facility. Because numerous air emission sources ceased with the closing of the plywood operations, a request to issue a revised MSOP without the plywood sources was submitted to ADEM. The facility received a revised MSOP on January 8, 2004. Note that although shutdown of the treatment plant and removal of the plywood sources lowered the facility's potential emissions, potential emissions of at least one criteria pollutant still exceed 100 tpy and the maximum single and total aggregate potential HAP emissions exceed 10 tpy and 25 tpy, respectively, keeping the Mill a Title V major source.

In April 2004, the Mill submitted a MSOP renewal permit application. In an October 2004 revision to the renewal application, Weyerhaeuser NR requested that the No.2 Boiler be removed from the operating permit. The boiler, which was utilized to provide steam to the plywood operations at the Mill, was determined to no longer be necessary and had only been fired for annual stack testing since shutdown of the plywood mill sources in March 2003. The renewal permit was issued on July 20, 2005 by ADEM.

In November 2006, the Mill submitted a PSD and MSOP modification permit application to request authorization to construct and operate a new lumber kiln (No. 3 Lumber Dry Kiln) as well as to install a venturi scrubber on the No. 1 Boiler. Weyerhaeuser NR also requested operating limits for the existing two kilns, Nos. 1 and 2 Lumber Dry Kilns, be removed and replaced with an overall facility-limit, including the new kiln, of 160,000 thousand board feet (MBF) per twelve-month period. The facility received a PSD permit on July 10, 2007, authorizing construction of the No.3 Lumber Dry Kiln and increasing the facility production limit to 160,000 MBF per twelve-month period. At this time, the previous kiln emission limits on a VOC as carbon basis were removed.

In April 2007, the Mill submitted a construction permit application to update the existing Nos. 1 and 2 Lumber Dry Kilns to decrease leakage and reduce the steam requirements. No changes to the facility-wide lumber production limit were requested, and no changes to the MSOP were required to accommodate these changes.

A modified MSOP incorporating the No.3 Lumber Dry Kiln was issued on January 30, 2009. In May of 2014 the Mill applied for an air permit to modify the drying process to change from a boiler and steam heated batch kilns to continuous direct fired kilns. The permit authorizing this change was issued in December of 2014. The MSOP was renewed in June of 2015.

4.0 PSD Applicability Analysis

Major modification means any physical change in or change in the method of operation of a major stationary source that would result in: a significant emissions increase of a regulated NSR pollutant; and a significant net emissions increase of that pollutant from the major stationary source. The project is not a major modification if it does not cause a significant emissions increase. If the project causes a significant emissions increase, then the project is a major modification only if it also results in a significant net emissions increase. Source specific emissions calculations are provided in Table 4.

4.1 Significant Emissions Increase

The procedure for calculating (before beginning actual construction) whether a significant emissions increase (i.e., the first step of the process) will occur depends upon the type of emissions units being modified; projects that only involve existing emissions units, projects that only involve construction of a new emissions unit(s) or projects that involve multiple types of emissions units.

The hybrid test [40 CFR 52.21(a)(iv)(f)] applies because the proposed project includes both new and existing units. Under the hybrid test, a significant emissions increase of a regulated NSR pollutant is projected to occur if the sum of the emissions increases for each emissions unit, using the actual to projected actual or actual to potential method as applicable with respect to each emissions unit, for each type of emissions unit equals or exceeds the significant amount for that pollutant.

The proposed CDKs, fuel cyclones and planer mill cyclone will be new units subject to the actual to potential test. The existing units will be removed and will, therefore, result in an emissions decrease. The use of project netting is not allowed in the first step of the applicability process, i.e., only project increases are considered. The decreases in emissions from the sources to be shut down are, therefore, not considered in this first step. Project emission increases for each emissions unit are indicated in column C of Table 4. The project emission increases are summarized below. The project has significant increases for $PM/PM_{10}/PM_{2.5}$, CO, NO_x, VOC and CO_{2e}. A netting analysis is required for these pollutants.

Table 1 - Project Emissions Increases

Pollutant	Project Emissions Increases (TPY)	Significant Emission Rate (TPY)	Netting Required (Y/N)
CO	148.35	100	Y
NO_x	82.78	40	Y
SO_2	11.50	40	N
PM	71.41	25	Y
PM_{10}	70.40	15	Y
$PM_{2.5}$	63.43	10	Y
VOC	865.45	40	Y
CO_{2e}	96,372.98	75,000	Y

4.2 Significant Net Emissions Increase

The procedure for calculating (before beginning actual construction) whether a significant net emissions increase will occur at the major stationary source (i.e., the second step of the process) is contained in the definition of net emissions increase [40 CFR 52.21(b)(3)]. Increases in emissions are determined in the same manner as determining the significant emissions increase, step one of the process. Baseline actual emissions for calculating increases and decreases of contemporaneous sources are determined as provided in the definition of baseline actual emissions [40 CFR 52.21(b)(48)]. Baseline actual emissions

means the average rate, in tons per year, at which the emissions unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the 10-year period immediately preceding either the date the owner or operator begins actual construction of the project, or the date a complete permit application is received, whichever is earlier.

The regulations allow for projected emissions to be adjusted by emissions that an existing unit could have accommodated. There are no existing emission units unrelated to the project which could have accommodated an increase in emissions.

All of the units at the facility are affected by the proposed changes to the facility. All of the units were, therefore, considered in the analysis. The impact of any contemporaneous changes has been accounted for by considering all emission units.

The results of the netting analysis are summarized below. Baseline and future emissions by source are presented in column A and B of Table 4. The project was found to have net emissions below the PSD significant emission rates for all pollutants except VOC.

Table 2 - Net Emissions Increase

Pollutant	Net Emissions Increase (TPY)	Significant Emission Rate (TPY)	PSD Review Required (Y/N)
CO	-46.11	100	N
NO_x	27.69	40	N
PM	19.68	25	N
PM_{10}	14.16	15	N
$PM_{2.5}$	8.08	10	N
VOC	597.91	40	Y
CO_{2e}	28,458.18	75,000	N

4.3 Baseline Period Selection

Baseline actual emissions means the average rate, in tons per year, at which the emissions unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the 10-year period immediately preceding either the date the owner or operator begins actual construction of the project, or the date a complete permit application is received by the Administrator for a permit required under this section or by the reviewing authority for a permit required by a plan, whichever is earlier.

Emissions for all pollutants can be directly related to the lumber production and the steam production. The past ten years of production rates were evaluated to determine the maximum annual average production rate for a consecutive 24-month time period. The time period was selected such that it was within both the 10-year lookback period for the first CDK (complete application submitted June 11, 2014)

and the current proposed changes. The period January 2007 to December 2008 was selected to determine the baseline emissions. The average production rate for this time period was 106,470 MBF/yr. The average steam production for this time period was 370,017,550 lbs/yr.

In addition to the future allowable to baseline actual test, the PSD regulations also allow for a baseline actual to future projected actual test. The source is allowed to reduce the future projected actuals by the amount of emissions that the unit could have accommodated before the change and that are unrelated to the project. The source can also exclude emissions resulting from increased utilization due to demand growth that the unit could have accommodated before the change. In calculating the projected actual emissions, the source should consider both the expected and the highest projections of the business activity that is expected to be achieved and that is consistent with information published for business-related purposes such as a stockholder prospectus, or applications for business loans. Projected actual emissions and accommodated emissions were not considered in the PSD applicability evaluation.

4.4 Baseline Emissions

Baseline emissions were related to the steam production for the boiler emissions and the lumber production rate for all other sources. The steam production during the baseline period was 370,017.55 Mlb/yr and lumber production was 106,470 MBF/yr as previously stated. Boiler heat input was determined using the parameters used in the Weyerhaeuser emissions tracking sheets. These parameters are based upon 58,900 lb-steam per hour and 103.18 MMBTU/hr from the June 20, 2008 stack test. The boiler heat input during the baseline period was determined as follows:

$$\frac{MMBTU}{yr} = 370{,}017.55\frac{Mlb - steam}{yr}\ X\ 103.18\frac{MMBTU}{hr}\ \div 58.9\ \frac{Mlb - steam}{hr} = 648{,}190\frac{MMBTU}{yr}$$

4.4.1 Boiler Emissions

The boiler is a source of the PSD criteria pollutants Carbon Monoxide (CO), Particulate Matter (PM), Particulate Matter less than 10 microns (PM_{10}), Particulate Matter less than 2.5 microns ($PM_{2.5}$), Sulfur Dioxide (SO_2), Nitrogen Dioxide (NO_2) and Volatile Organic Compounds (VOC). Additionally, carbon dioxide, methane and nitrous oxide were considered for PSD applicability in regards to greenhouse gas.

There is existing testing information specific to the boiler for PM. The average of the stack tests conducted during the baseline period were used to determine the emission factor for determining the baseline boiler PM emissions (Table 6). A decrease in actual emissions is only creditable if the Administrator has not relied upon it in issuing a PSD permit. The wet scrubber was permitted in a PSD action issued July 10, 2007. Although the test conducted in May of 2007 was before the permit issuance, the scrubber was operational during the test and was, therefore, included in the basis for the baseline emissions. Filterable PM was estimated using the average of 0.145 lb/MMBtu for the tests.

Table 1.6-5. of AP-42 indicates a PM fraction for a boiler with wet scrubber to be 98% PM_{10} and 98% $PM_{2.5}$. The emission factor for filterable fractions of PM_{10} and $PM_{2.5}$ was estimated to be 98% of the boiler tests. The PM tests conducted on the boiler did not include the condensable portion of PM. The AP-42 factor of 0.017 lb/MMBTU was added to the PM_{10} and $PM_{2.5}$ estimates to account for the condensable portion.

SO_2 and CO emissions were based upon the emission factor from AP-42 Table 1.6-1. "EMISSION FACTORS FOR PM FROM WOOD RESIDUE COMBUSTION." Greenhouse gas emissions were based upon emission factor listed in 40 CFR Part 98 Tables C-1 and C-2. The AP-42 factor for NO_x is greater than that used as the basis during permitting for the baseline period. The lower value of 0.17 lb/MMBtu was used to determine the baseline emissions.

4.4.2 Existing Kiln Emissions

The existing kilns are a source of $PM/PM_{10}/PM_{2.5}$, and VOC. NCASI does not distinguish a difference in VOC emissions from direct versus indirectly heated kilns. The VOC emissions were estimated from average NCASI test factors for VOC as carbon (3.38 lb/MBF), methanol (0.194 lb/MBF) and formaldehyde (0.0153 lb/MBF). The total VOC was determined using the "Wood Products Protocol" by expressing the VOC as propane and adding methanol and formaldehyde. The methanol factor was adjusted in accordance to the protocol such that 35% of the NCASI factor was included in the total VOC estimate. The VOC emission factor for the existing kilns was taken to be equal to 4.22 lb VOC $_{\text{as WPP1}}$.

$PM/PM_{10}/PM_{2.5}$ emissions were determined using the emissions factors contained in the 2009 Title V application. All fractions of PM were assumed to be emitted at 0.066 lb/MBF.

4.4.3 Cyclone Emissions

The cyclones are sources of $PM/PM_{10}/PM_{2.5}$ and VOC. There was not test data for these sources. The $PM_{10}/PM_{2.5}$ and VOC emission factors were taken from the current Title V application dated April 2009. The emission factor for the rechipper cyclone was converted to lb/MBF based upon the throughput of material at 6,750 dry tons/yr at the maximum production capacity of 160,000 MBF/yr. For example the PM_{10} emission factor was determined as follows:

$$(0.016 \text{ lb } PM_{10}/\text{dry-ton})x(6{,}750 \text{ dry-tons/yr})/(160{,}000 \text{ MBF/yr}) = 0.000675 \text{ lb } PM_{10}/\text{MBF}$$

4.4.4 Fugitive Emissions

The Millport facility is not a listed category source, however, fugitives are to be considered in the PSD applicability for major sources. Fugitive road emissions calculated in the Title V permit application are listed as 3.2 tpy PM, 0.6 tpy PM_{10} and 0.2 tpy $PM_{2.5}$. These emissions were based upon a facility production of 160,000 MBF/yr. Fugitive emissions during the baseline period were determined by prorating the emissions based on the baseline production and the production basis for the fugitive emissions calculations.

4.5 Future Emissions

4.5.1 Existing Sources

All existing point sources will be removed except for the emergency diesel fire pump engine. The future emissions were considered to be zero for existing point sources to be removed.

4.5.2 New CDKs

The new CDKs will be a source of CO, $PM/PM_{10}/PM_{2.5}$, NO_x, SO_2 and VOC. The emission point will also be a source of greenhouse gas emissions. Greenhouse gas emissions were based upon emission factors listed in 40 CFR Part 98 Tables C-1 and C-2. The US EPA Compilation of Air Emission Factors, AP-42, does not

contain emission factors for lumber dry kilns. The National Council for Air and Stream Improvement (NCASI) database on wood lumber kilns test data, other publically available kiln test data and available applications were used to determine the estimate of emissions from the new continuous direct fired kilns. No available test data was found in regards to SO_2 emissions from lumber kilns. The SO_2 emissions were, conservatively, based upon AP-42 for the combustion of wood waste residue Table 1.6-2. "Emission Factors for NO_x, SO_2, and CO from Wood Residue Combustion" at 0.025 lb/MMBtu.

With the exception of VOC, the majority of the emissions from the continuous direct fired kilns result from the combustion of the sawdust wood residuals. NCASI test data which is expressed as lb/MBF was used to determine emissions of VOC. There is little difference in the average VOC as carbon NCASI factors for continuous versus batch kilns. Although NCASI reports a slightly lower factor for continuous kilns, the emissions for the new CDK were based upon the NCASI emission factors for batch kilns. The batch kiln data is based upon a larger dataset. The emission factor for the new CDK was determined using of the average batch VOC emission factor as carbon from NCASI in conjunction with the maximum methanol NCASI value for batch kilns (0.194 lb/MBF) and the maximum formaldehyde value for direct fired batch kilns (0.0735 lb/MBF) to determine the total VOC emission factor. These values equate to a total VOC limit of 4.28 lb VOC/MBF when expressed as propane. A safety factor of 10% was applied to arrive at an emission factor for the new CDK of 4.7 lb VOC/MBF.

For the remaining criteria pollutants, emissions estimates were based upon the heat input rather than the lumber throughput. Emissions presented in the NCASI database for NOx and CO were compared between direct fired batch kilns and direct fired continuous kilns. Average CO emissions from batch kilns were found to be approximately 80% higher than continuous kilns and NOx emissions from batch kilns were found to be approximately 40% higher. Based on this comparison, it was determined that emissions tests from batch kilns could be used as a conservative estimate of NOx and CO emissions from continuous kilns. Nine tests of seven batch kilns at a Weyerhaeuser site were used to estimate average CO emission at 0.324 lb/MMBtu and an average NOx emission at 0.18 lb/MMBtu. The same batch kiln test data in terms of lb/MBF is 0.648 lb CO/MBF and 0.371 lb NOx/MBF which is comparable to the NCASI data of 0.788 lb CO/MBF and 0.384 lb/MBF for batch kilns.

In examining the NCASI database for PM, there was a marked difference (over 300%) in the tests for suspension burners vs that for gasifiers. The suspension burner tests were determined to not be applicable to the proposed gasifier unit. Three additional tests not included in the NCASI dataset were obtained for a site with a shaker grate gasifier. These tests are comparable with the NCASI data for gasifiers and the average emissions inclusive of the NCASI dataset for gasifiers is 0.123 lb/MBF for filterable PM. The additional test data presented the emissions in lb/MMBtu and averaged 0.078 lb/MMBTU for filterable PM. A 25% safety margin was applied and the emissions of filterable PM from the proposed CDK was estimated at 0.0975 lb/MMBtu.

There was no available test data found for PM_{10} and $PM_{2.5}$ for units with gasifiers. Filterable PM_{10} and $PM_{2.5}$ were assumed to be equal to filterable PM at 0.0975 lb/MMBtu. The condensable PM fraction was estimated using the AP-42 factor of 0.017 lb/MMBtu for combustion of wood residue in boilers with a 40% safety margin at 0.0238 lb/MMBtu. Total PM_{10} and $PM_{2.5}$ was estimated as 0.1213 lb/MMBtu (0.098 lb/MMBtu plus 0.0238 lb/MMBtu).

Startup emissions were estimated based upon four startups per kiln per year. Startup of the kilns is conducted such that there is a gradual increase in the furnace exit temperature over a period of 10 to 12 hours. Emissions were calculated using uncontrolled AP-42 factors for a wood fired boiler burning wet wood assuming a gradual, equal, feed rate to the burner for the first 8 hours and maximum feed for the last 4 hours of startup. Kiln emissions were estimated considering continuous operation for 8760 hours per year, therefore, only startup emissions in excess of normal operations were added to the netting calculations. It is anticipated that startup emissions of $PM/PM_{10}/PM_{2.5}$ and CO will be higher than normal operations, although, the kiln maintenance downtime associated with a startup will result in a net emissions decrease from normal operating emissions over the year.

4.5.3 New Fuel Silo Cyclones

PM emissions from the new fuel silo cyclone were based upon the State of Oregon publication AQ-EF02, Emission Factors Wood Products. PM_{10} and $PM_{2.5}$ emissions were estimated from the PM emissions and the State of Oregon publication AQ-EF03, Emission Factors – PM10/PM2.5 Fraction. The average dry ton throughput for the cyclone was estimated using the higher heating value of the sawdust (9,100 Btu/lb) and the rated burner capacity of 35 MMBtu based on 8,760 hours of operation or 16,846 tons/yr for each cyclone.

4.5.4 Fugitive Emissions

Fugitive emissions from roads were determined based on AP-42 Section 13.2.1, Paved Roads and traffic estimates for transporting raw materials, secondary materials and finished product necessary to support continuous operation of the facility. All proposed traffic areas will be concrete or asphalt.

The NCASI Special Report NO. 15-01, "Estimating the Potential for $PM_{2.5}$ Emissions from Wood and Bark Handling" was used to estimate the bark and chip handling fugitive materials. Maximum potential emissions were estimated by applying the silt, PM_{10} and $PM_{2.5}$ fractions of the parent material and assuming all of the fractions are released during the handling activities.

5.0 Regulatory Applicability

This section summarizes all federally-enforceable and state-enforceable air regulations that will be applicable to the Project. Both applicable and important non-applicable regulations are addressed. Proposed compliance demonstration procedures are also discussed. Supporting process information for the proposed project is provided in the application forms contained in Appendix A. Information contained on the application forms are provided for determining regulatory applicability and demonstrating compliance with applicable requirements, and should not be considered proposed permit terms, limits or conditions.

5.1 Federal Air Quality Regulations

The federal regulations applicable to the proposed project are Prevention of Significant Deterioration regulations contained in 40 CFR 52.21, National Emission Standard for Hazardous Air Pollutants (NESHAP) contained in 40 CFR 63, and Title V Operating Permit regulations contained in 40 CFR 70. Of note, there

are no NSPS that apply to continuous direct-fired lumber kilns. A discussion of these applicable regulations, as well as key non-applicable regulations, is provided in this section.

5.1.1 Prevention of Significant Deterioration (40 CFR Part 52)

Under the prevention of significant deterioration (PSD) requirements, all new or modified major stationary sources of air pollutants regulated under the Clean Air Act (CAA) must undergo a preconstruction review consistent with Section 165 of the Act prior to beginning actual construction. A "major stationary source" is defined as any one of 28 named source categories which has the potential to emit 100 tons per year (tpy) or more, or any other stationary source which has the potential to emit 250 TPY or more, of any pollutant regulated under the CAA. Weyerhaeuser is not one of the listed source categories with a 100 tpy threshold; therefore the major source threshold for the proposed facility is 250 tpy of any regulated pollutant. Weyerhaeuser, prior to the installation of the new continuous direct fired kilns, has a potential to emit for VOC and CO greater than 250 tpy. Therefore, the facility is classified as a PSD major stationary source.

5.1.2 New Source Performance Standards (40 CFR Part 60)

New Source Performance Standards (NSPS) require new, reconfigured, or reconstructed sources to control emissions to the level achievable by the best demonstrated technology as specified in the applicable provisions.

5.1.2.1 40 CFR 60 Subpart Db – Steam Generating Units

Due to the capacity of the No. 1 Boiler, 115 MMBtu/hr of heat input, it is potentially subject to NSPS Subpart Db – Standards of Performance for Industrial-Commercial- Institutional Steam Generating Units. However, since the boiler was constructed prior to June 19, 1984, and it has not been reconstructed or modified per the definitions of NSPS Subpart A, the No. 1 Boiler is not subject to NSPS Subpart Db. The boiler is proposed to be closed as part of the modification.

5.1.2.2 40 CFR 60 Subpart Kb – Volatile Organic Liquid Storage Tanks

Another potentially applicable NSPS is Subpart Kb- Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or modification Commenced After July 23, 1984. NSPS Subpart Kb applies to each storage vessel containing a volatile organic liquid that is greater than 75 cubic meters [19,183 gallons] in capacity and has been constructed, reconstructed, or modified after July 23, 1984. There are no proposed tanks above the threshold capacity.

5.1.2.3 40 CFR 60 Subpart IIII- Compression Ignition Rice

Another potentially applicable NSPS is Subpart IIII- Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. The facility has a 175 hp CI Rice installed circa 1973. Since Subpart IIII only regulates engines of this size manufactured after July 1, 2006, and the engine has not been modified or reconstructed since the original installation, this rule does not apply to the existing fire water pump engine.

5.1.2.4 40 CFR 60 Subpart JJJJ- Spark Ignition Rice

This subpart is applicable to new spark ignited internal combustion engines. The Millport Mill does not currently have any proposed stationary spark ignited engines, therefore Subpart JJJJ is not applicable.

5.1.3 National Emission Standards for Hazardous Air Pollutants (40 CFR Parts 61 and 63)

National Emission Standards for Hazardous Air Pollutants (NESHAP) are emission standards for HAP and are generally only applicable to major sources of HAP or specifically designated area sources. NESHAPs apply to sources in specifically regulated industrial source classifications (Clean Air Act Section 112(d) or on a case by case basis (Clean Air Act Section 112(g) for facilities not regulated as a specific industrial source type. Pollutant specific NESHAP may also be applicable.

5.1.3.1 40 CFR 61, Subpart M (Asbestos)

Subpart M is the pollutant-specific NESHAP for asbestos. This NESHAP requires proper inspection, procedures, and documentation for any asbestos removal/demolition project. Weyerhaeuser NR will comply with the NESHAP for any removals required by the modification.

5.1.3.2 40 CFR 63 Subpart T – halogenated Solvent Cleaning

This NESHAP applies to batch vapor, in-line vapor, in-line cold, and batch cold solvent cleaning operations that use solvents containing greater than 5% of any combination of methylene chloride, perchloroethylene, trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride, or chloroform. Weyerhaeuser NR does not use any of these halogenated cleaning solvents at the Millport Mill. Thus, this NESHAP is not currently applicable.

5.1.3.3 40 CFR 63, Subpart DDDD (Plywood and Composite Wood Products)

The Plywood and Composite Wood products NESHAP, Subpart DDDD, was promulgated on July 30, 2004. Subpart DDDD regulates HAP emissions from activities associated with manufacture of plywood and other composite wood products, including lumber kilns. The rule regulates only sources at facilities that are major sources of HAP. The Millport Mill is currently a major source of HAPs, and the kilns are subject to this NESHAP. However, the rule does not require any specific emissions reductions, monitoring, recordkeeping, controls or reporting for lumber kilns other than the initial notification.

The proposed CDKs are subject to this NESHAP. Initial notification was provided with the application for the construction of the first CDK which was permitted in December 2014.

5.1.3.4 40 CFR 63 Subpart ZZZZ (Stationary Reciprocating Internal Combustion Engines)

This NESHAP applies to stationary Reciprocating Internal Combustion Engines (RICE) at a major or area source of HAP emissions, with a few exceptions. For engines less than or equal to 500 hp at a major source of HAPs, the subpart is applicable to engines which commenced construction or reconstruction before June 12, 2006 (existing RICE). The Millport Mill has one existing stationary RICE, the 175 hp emergency fire water pump installed in 1973 which must comply with the applicable requirements of Subpart A and Subpart ZZZZ.

5.1.4 40 CFR 63 Subpart DDDDD (Small Boilers & Process Heaters -Boiler MACT)

On December 20, 2012, the USEPA finalized a specific set of adjustments to Subpart DDDDD, originally finalized in March 2011, for boilers and certain solid waste incinerators. The Millport Mill is a major source of HAPs, and the boiler at the mill meets the definition of existing, biomass fuel-fired, large boiler. The Millport Boiler is subject to Subpart DDDDD, and must comply with the standards no later than January 31, 2017. The extension of the compliance date from January 31, 2016, was approved by ADEM March 9, 2015.

The boiler is proposed to be decommissioned as part of this permit application.

5.1.4.1 Compliance Assurance Monitoring (40 CFR Part 64)

Under 40 CFR Part 64, the Compliance Assurance Monitoring Regulations (CAM), facilities are required to prepare and submit monitoring plans for certain emission units with the Title V application. The CAM Plans provide an on-going and reasonable assurance of compliance with emission limits. Under the general applicability criteria, this regulation only applies to emission units that use a control device to achieve compliance with an emission limit and whose pre-controlled emission levels exceed the major source thresholds under the Title V permitting program. For an emission unit whose post-controlled emissions are less than the major source emission thresholds, a CAM plan is required to be submitted with the first Title V permit renewal application.

The wood residue-fired boiler at the Millport Mill utilizes a multiclone and a venture scrubber to minimize PM/PM_{10} emissions. The multiclone is considered inherent to the operation of the boiler and is not a control device since its primary purposes are to recover carbon fuel for use in the boiler, and reduce erosion of down-stream equipment. The scrubber, however, is considered a control device. Since the boiler's pre-control PM emissions exceed 100 tpy, a control device (scrubber) is utilized, and the boiler is subject to a PM emission limit, the Millport boiler is subject to the CAM regulations.

There are no other sources at the Mill that employ a control device as defined in the CAM regulations, and upon shutdown of the boiler 40 CFR 64 will not apply.

5.1.5 Chemical Accident Prevention Provisions (40 CFR Part 68)

Subpart B of 40 CFR 68 outlines requirements for risk management prevention plans pursuant to Section 112(r) of the Clean Air Act Applicability to this subpart is determined based on type and quantity of chemicals stored at the Mill. Weyerhaeuser has evaluated the amount of Section 112(r) substances stored at the Mill, and has determined that the stored quantities do not trigger applicability of the risk management plan regulations of 40 CFR 68 Subpart B.

5.1.6 Title V Operating Permit Program

40 CFR 70 establishes the federal Title V operating program. Alabama has incorporated the provisions of this federal program in its state regulation, Rule 335-3-16, Major Source Operating permits. The Title V permit expires November 1, 2019.

5.1.7 Stratospheric Ozone Protection (40 CFR Part 82)

The requirements originating from Title VI of the Clean Air Act, entitled Protection of Stratospheric Ozone, are contained in 40 CFR 82. Subparts A through E and Subparts G and H of 40 CFR 82 are not applicable to the Millport Mill. 40 CFR 82, Subpart F, Recycling and Emission Reduction, potentially applies if the facility operates , maintains, repairs, services, or disposes of appliances that utilize Class I or Class II ozone depleting substances. Subpart F generally requires persons completing the repairs, service, or disposal be properly certified and follow the required procedures for capture and recycling of refrigerants. All repairs, service, and disposal of ozone depleting substances from subject appliances at the facility are completed by certified technicians in accordance with all required procedures.

5.2 Alabama State Regulations

The following paragraphs discuss ADEM air quality control regulations and the applicability of these regulations to emission sources at the Mill. Further information on source-specific regulations is provided below.

5.2.1 ADEM Admin. Code R. 335-3-3-.02- Incineration of Wood Wastes

Although wood residues are currently used as fuel in the No. 1 Boiler and will be used in the CDK in the future, such combustion is not considered incineration in the context of this regulation since the primary purpose of the boiler is the production of process steam or heat, not the destruction/disposal of wood material. This regulation does not apply to the boiler nor will it apply to the proposed CDK.

5.2.2 ADEM Admin. Code R. 335-3-4.01- Visible Emissions

ADEM Admin. Code R. 335-3-4-.01 restricts visible emissions from any source of particulate emissions to 20 percent opacity with not more than one 6-minute period of up to 40 percent opacity per 60-minute period. This regulation applies to all particulate-emitting sources at the Millport Mill without a unit-specific opacity limit.

5.2.3 ADEM Admin. Code R. 335-3-4-.02- Fugitive Dust and fugitive Emissions

ADEM Admin. Code R. 335-3-4-.02 requires usage of reasonable precautions to minimize fugitive dust and fugitive emissions from sources such as roadways and storage piles. The Mill utilizes reasonable precautions to minimize fugitive emissions. Traffic areas are proposed to be concrete or asphalt and on-site speed restrictions are imposed.

5.2.4 ADEM Admin. Code R. 335-3-4-.03- Fuel Burning Equipment

Fuel burning sources are subject to ADEM Admin. Code R. 335-3-4-.03. This regulation limits PM emissions from sources built after January 1972 based on the following equation, where E is the emission rate (lb/MMBtu) and H is the heat input capacity (MMBtu/hr):

$$E = 1.38H^{-0.44}$$

While this regulation does not explicitly exclude wood waste boilers, ADEM has historically only regulated PM emissions from the Millport Mill under the PM emission limit established for wood waste boilers, ADEM Admin. Code R. 335-3-4-.08. The boiler will be shut down as part of this project.

This regulation applies to equipment supplying indirect heat. The CDKs supply direct heat to the process and are not subject to this regulation.

5.2.5 ADEM Admin. Code R. 335-3-4-.04- PM From process Industries

Process emission sources are subject to ADEM Admin. Code R. 335-3-4-.04. This regulation limits PM emissions counties based on the following equations, known as the process weight rule, where E is the PM emission rate (lb/hr) and p is the process weight input rate (ton/hr):

$$\text{For } p < 30\text{ton/hr}: \quad E = 3.59p^{0.62}$$

$$\text{For } p > 30\text{ton/hr}: \quad E = 17.31p^{0.16}$$

This regulation applies to all emission sources at the Millport Mill that do not have a unit-specific PM or PM_{10} emission limit. The weight of the logs used in the process area is used as the process weight input rate for the emission units involved.

5.2.6 ADEM Admin. Code R. 335-3-4-.08- Wood Waste Boilers

This regulation limits PM emissions from boilers firing more than 30 % wood waste. The No. 1 Boiler at the Millport Mill primarily fires wood residue and is subject to the limit for boilers only firing wood residue that had to be modified to meet the regulation, i.e., 0.20 grains per dry standard cubic foot (gr/dscf), adjusted to 50% excess air. The No. 1 Boiler will be taken out of service as a part of the proposed project and at that time the facility will no longer be subject to the regulation.

5.2.7 ADEM Admin. Code R. 335-3-5-.01- Sulfur from Fuel Combustion

This regulation limits SO_2 emissions from boilers. The limit for boilers in Lamar County, the location of the Millport Mill, is 4.0 lb/MMBtu. This limit applies to the No. 1 Boiler at the Mill. The boiler will be shut down as part of the project. The standard will not apply to the proposed CDKs.

5.2.8 ADEM Admin. Code R. 335-3-5-.05- Sulfur from Process Industries

ADEM Admin. Code R. 335-3-5-.05 requires new sources of sulfur emissions to meet any applicable NSPS and utilize the best available control technology. This regulation also requires compliance with the SO_2 ambient air quality standards. While this regulation applies to all process equipment, SO_2 emissions are negligible from the Mill process equipment.

5.2.9 ADEM Admin. Code R. 335-3-6-.03- Loading and Storage of VOC

The Mill will utilize a gasoline storage tanks that are affected sourcse under this regulation since the vapor pressure of gasoline exceeds 1.5 psia. For storage tank capacity which exceed 1,000 gallons, the tanks will be equipped with a permanent submerged fill pipe, an acceptable compliance option under this regulation.

5.2.10 ADEM Admin. Code R. 335-3-6-.12- Solvent Metal Cleaning

The Mill will utilize parts washers (ionic heated degreasers) that are affected sources under ADEM Admin. Code R. 335-3-6-.12. However, because the vapor pressure of the solvent used is less than 0.02 psia, the mill must only ensure the following for each device to demonstrate compliance: 1) equip the washer with a device for draining cleaned parts, 2) provide a permanent, conspicuous label summarizing the operating

requirements, 3) close the cover whenever parts are not being handled, 4) drain cleaned parts for at least 15 seconds or until dripping ceases, 5) if used, supply a solvent spray that is a solid fluid stream at a pressure which does not cause excessive splashing, and 6) store waste solvent only in covered containers and dispose of waste in a manner to maintain evaporation at less than 20%. The Mill's parts washers' design and operating practices will meet these requirements.

5.2.11 ADEM Admin. Code R. 335-3-14-.04- PSD Permitting

The facility has undergone several permitting actions which were regulated by the PSD permitting regulations of ADEM Admin. Code R. 335-3-14-.04. The facility is a PSD major source and must evaluate PSD permitting applicability for all future projects.

5.2.12 ADEM Admin. Code R. 335-3-16- Major Source Operating Permit

The facility has been issued previous permits under the MSOP program guidelines of ADEM Admin. Code R. 335-3-16. The facility is currently a MSOP program major source and its current MSOP will expire on November 1, 2019.

6.0 Best Available Control Technology Analysis

6.1 Introduction

In accordance with PSD requirements listed in 40 CFR 51.166(J) and 52.21(J) and ADEM Admin Code R. 335-3-14-.04(9), a facility must apply Best Available Control Technology (BACT) for the control of each regulated air pollutant emitted in significant quantities from a new major stationary source or resulting from a major modification of an existing source located in an attainment area for that pollutant. The proposed project at the Weyerhaeuser NR Company, Millport Mill results in an actual-to-potential VOC emissions increase above the significant emissions rate for major modifications, and therefore, this process change is subject to a BACT review for VOC.

The BACT requirements are intended to ensure that a proposed facility or major modification will incorporate air pollution control systems that reflect the latest demonstrated practical techniques for each particular emission unit, and will not result in the exceedance of a National Ambient Air Quality Standard (NAAQS), PSD Increment, or other standards imposed at the state level.

6.2 Kiln Exhaust Characteristics

Traditional, batch lumber kilns are generally equipped with 10 to 20 individual roof vents spaced equidistantly following the ridge of the roof. An equal number of vents are located on each side of the kiln roof, and each set of vents reacts in unison during the kiln drying cycle. At any given time, one set of vents allow moisture to exhaust from the kiln while the other set of vents allow dry make-up air to enter from the atmosphere. Continuous kilns have no vents and are enclosed structures with the exception of the doors at each end, which are always open. Each kiln will have a double track that allows the lumber packages to travel through the kiln in opposite directions. Green lumber enters the kiln in the preheating chamber and dry lumber exits the kiln from the cooling chamber. The middle section of the kiln is where the majority of the drying takes place. Hot air is recirculated from the drying section and is used to pre-

heat green lumber and condition dry lumber. The air recirculation system improves the thermal efficiency of the kiln and reduces the total dry cycle time.

A continuous direct-fired kiln (CDK) has openings at the doors (entrance and exit) and the by-pass stack on the gasifier. (The by-pass stack only vents to atmosphere during a cold start-up, kiln shutdown, or equipment malfunctions, which are infrequent.) Therefore, the exhaust occurs through the openings left between the lumber packages entering and exiting the kiln at the doors, which are always open. Unlike traditional kilns, a continuous kiln is expected to have a fairly constant exhaust volume; however, essentially, the CDK is an area source, not a point source.

While the drying section may reach temperatures up to 250 °F, the temperature of the exhaust air will likely be between 150 °F and 200 °F. The exhaust stream will be at 100% humidity.

Any control system that reduces volatile organic compound (VOC.) emissions from a process has two fundamental components. The first is the containment or capture system, which is a single device or group of devices whose function is to collect the pollutant vapors and direct them into a duct leading to a control device. The second component is the control device, which reduces the quantity of the pollutant emitted to the atmosphere.

The American Forest and Paper Association (AF&PA) and the National Council for Air and Stream Improvement (NCASI) have prepared justification for EPA that work practices and not emission limits are appropriate as MACT for lumber kilns. This justification outlines the complexities of the first step of controlling VOCs, capture.

The continuous kilns have no doors or vents, so all of the emissions are fugitive and exit out the open ends of the kiln. There is a continuous movement of product into and out of the kiln which inhibits the capture and routing of emissions to a control device. Additionally, attempts to direct the air flows through a duct conveyance to the atmosphere or to a control device would disrupt the necessary ventilation and circulation patterns required to maintain the proper moisture content and temperature control.

6.3 CDK Top-Down BACT Approach

EPA recommends a “top down” approach when evaluating available air pollution control technologies. The first step in this approach is to determine, for the emission unit in question, the most stringent control available for a similar or identical source or source category. If it can be shown that this level of control is technically or economically infeasible for the unit in question, then the next most stringent level of control is determined and similarly evaluated. This process continues until a control technology and associated emission level is determined that cannot be eliminated by any technical, environmental, or economic objections. The top-down BACT evaluation process is described in U.S. EPA’s draft document “New Source Review Workshop Manual” (U.S. EPA, October 1990). The five steps involved in a top-down BACT evaluation are:

Step 1. Identify all control technologies;

Step 2. Eliminate technically infeasible or unavailable technology options;

Step 3. Rank the remaining control technologies by control effectiveness;

Step 4. Evaluate the most effective controls and document the results; if the top option is not selected as BACT, evaluate the next most effective control option;

Step 5. Select BACT

When conducting the BACT analysis, one must include consideration of the most stringent technologies. Any decision to require a lesser degree of emissions reduction must be justified by an objective analysis of energy, environmental, and economic impacts. Furthermore, if a facility is subject to a New Source Performance Standard (NSPS) or National Emission Standards for Hazardous Air Pollutants (NESHAP), the minimum control efficiency to be controlled in a BACT analysis must result in an emission rate less than or equal to the NSPS and/or NESHAP emission rate.

The "top down" approach has been employed in this analysis to evaluate available pollution controls for the Weyerhaeuser NR Company, Millport Mill proposed process modification.

6.3.1 Control Technologies

Control technologies used to control VOCs were identified through literature review, the RBLC, and previous applications submitted for continuous kilns. Candidate technologies for consideration were found to be combustion (thermal and catalytic), adsorption, biofiltration, condensation, wet scrubbing, and good work practices.

6.3.1.1 Combustion

Essentially all VOC will burn; hence combustion is the technique most universally applicable to reducing VOC emissions. Gases containing organic are usually burned if they have little recovery value or contain contaminants that make recovery unprofitable. Combustion devices include thermal incinerators, catalytic incinerators, boilers and process heaters.

Incinerators destroy pollutants through thermal or catalytic oxidation and control efficiencies should be at least 98 percent. Pollutant streams not capable of sustaining combustion may require additional fuel. Fuel costs can be at least partially offset by employing various methods of heat recovery. In addition, some pollutant streams can be directly vented into a process boiler's flame, thus reducing energy costs for the boiler and alleviating the need (or cost) of an add-on control device.

Incineration has been successfully applied to aluminum chip dryers, petroleum processing and marketing operations, animal blood dryers, automotive brakeshoe debonding ovens, citrus pulp dryers, coffee roasters, wire enameling ovens, foundry core ovens, meat smokehouses, paint baking ovens, varnish cookers, paper printing and impregnating installations, pharmaceutical manufacturing plants, sewage disposal plants, chemical processing plants, and textile finishing plants.

6.3.1.1.1 Thermal Oxidation and Catalytic Oxidation

Regenerative Thermal Oxidizers or RTOs use a high-density media such as ceramic-packed bed still hot from a previous cycle to preheat an incoming VOC-laden waste gas stream. The preheated, partially oxidized gases then enter a combustion chamber where they are heated by auxiliary fuel (natural gas)

combustion to a final oxidation temperature typically between 760°C to 820 °C (1400 to 1500 °F) and maintained at this temperature to achieve maximum VOC destruction, however, temperatures of up to 1100 °C (2000 °F) may be achieved, if required, for very high control efficiencies of certain toxic VOC. The purified, hot gases exit this chamber and are directed to one or more different ceramic-packed beds cooled by an earlier cycle. Heat from the purified gases is absorbed by these beds before the gases are exhausted to the atmosphere. The reheated packed bed then begins a new cycle by heating a new incoming waste gas stream.

A Regenerative Catalytic Oxidizer or RCO operates in the same manner as an RTO, however, it uses a catalyst material rather than ceramic material in the packed bed. This allows for destruction of VOC at a lower oxidation temperature. An RCO uses a precious metal catalyst in the packed bed, allowing oxidation to occur at approximately 400°C (800°F). The lower temperature requirement reduces the amount of natural gas needed to fuel the VOC abatement system and the overall size of the incinerator. Catalysts typically used for VOC incineration include platinum and palladium.

VOC destruction efficiency depends upon design criteria. Typical regenerative incinerator design efficiencies range from 59 to 99% for RTO systems and 90 to 99% for ROC systems, depending on system requirements and characteristics of the contaminated stream. Lower control efficiencies are generally associated with lower concentration flows.

6.3.1.2 Adsorption.

Adsorption is the use of a solid material to trap a gas. The material most commonly used is carbon, a highly porous material. Adsorption occurs in two ways: (1) physical adsorption, in which van der Waal's forces attract and hold gas molecules to the adsorbent surface, and (2) chemical adsorption, in which gas molecules are chemically bonded to the adsorbent. Additionally, within the capillaries of the porous solid, surface adsorption is supplemented by capillary condensation. The VOC is usually recovered by stripping the organic from the carbon by heating with steam.

Activated carbon is the most widely used adsorbent for recovering VOC. Carbon adsorption is usually more economical than combustion for the control of organic compounds in low concentrations where the cost of supplemental fuel can be very high. Depending on the application, carbon adsorption efficiencies can be at least 95 percent. In addition, this control technique offers recovery of adsorbed organic which can be recycled to the process or used as fuel. Recovery and reuse has gained greater favor by industries as the price of petrochemicals has risen over the last decade.

Adsorption systems have been used successfully in the following industries: organic chemical processing, varnish manufacture, synthetic rubber manufacture, production of selected rubber products, pharmaceutical processing, graphic arts operations, food production, dry cleaning, synthetic fiber manufacture, and some surface coating operations.

6.3.1.3 Biofiltration

In biofiltration, off-gases containing biodegradable organic compounds are vented, under controlled temperature and humidity, through a biologically active material. The process uses a biofilm containing a population of microorganisms immobilized on a porous substrate such as peat, soil, sand, wood, compost, or numerous synthetic media. As an air stream passes through the biofilter, the contaminants in the air

stream partition from the gaseous phase to the liquid phase of the biofilm. Once contaminants pass into the liquid phase, they become available for the complex oxidative process by the microorganisms inhabiting the biofilm.

6.3.1.4 Condensation

Condensation is the physical change from the vapor to liquid phase. Condensers operate in either of two ways: (1) the most common is a constant pressure system where the temperature of the gas stream is reduced to cause the desired condensable materials to liquefy, or (2) less common is the technique of increasing the pressure of a gas stream to cause the combustible material to liquefy. Condensation is also commonly applied to a gas stream to reduce VOC concentrations before the stream is routed to the other "add-on" devices.

Condensers have been used successfully in bulk gasoline terminals, petroleum refining, petrochemical manufacturing, dry cleaning, degreasing, and tar dripping.

The VOC efficiency achieved by a condenser, as a sole add-on control device, is a function of: 1) the heat capacity and temperature of the inlet exhaust stream, 2) the heat transfer characteristics of the condenser (including the heat transfer area and the heat transfer coefficient), and 3) the outlet temperature of the exhaust gas exiting the condenser. Condensers are most effective in single component systems involving emission streams with a high percentage of a condensable VOC, because less heat must be removed from the exhaust gas to reduce the sensible heat of non-condensable gases and the required condenser temperature to achieve high levels of recovery. Unlike other VOC control devices for which quantifying control efficiency can require emissions testing, only the outlet exhaust gas temperature is required to estimate the VOC control efficiency of a condenser if the temperature, VOC concentration, and flow rate of the non-condensables in the inlet exhaust stream are all known. Since the control efficiency of a condenser is dynamic based on the outlet temperature and inlet concentration of VOC in the exhaust stream, condensers exhibit a wide range of VOC control efficiency from as low as 50 percent to as high as 99 percent.

6.3.1.5 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 countercurrent flow of a scrubbing liquid. Scrubbing liquid can be water, caustic solution, or other liquid media.

6.3.1.6 Proper Maintenance and Operating Practices

Proper maintenance and operating practices are comprised of work practice and operational standards and recordkeeping and reporting requirements. The establishment of these good operating practices is intended to minimize VOC emissions from the kilns to the extent practicable. This method involves no add-on pollution controls. However, written procedures of best management practices, proper maintenance and operating activities can be an effective abatement technique when combined with training of employees and recordkeeping.

6.3.2 Control Technologies Eliminated Based on Feasibility

6.3.2.1 Thermal Oxidation and Catalytic Oxidation

Several factors make the use of RTO and RCO units technically infeasible for controlling VOC emissions from lumber kilns. First, the installation of emissions collection equipment can affect the quality of the lumber product by disrupting the necessary ventilation and circulation patterns required to maintain the proper moisture content and temperature. Potential back-pressure from a blower generated vacuum would disrupt the controlled drying environment and adversely affect the lumber product quality.

The high moisture content and low exit temperature of the exhaust stream would likely make an RTO technically infeasible. While regenerative catalytic oxidizers can operate at lower temperatures than the RTO, the exit temperature of the exhaust stream from the kilns is still too low for this option to be feasible. Also, the low temperature of the exhaust stream precludes the system from using a catalytic oxidizer system for VOC control. Further, due to the sensitive nature of the catalysts (precious metals), even small amounts of particulate matter and other contaminants in the exhaust stream would cause a loss of catalytic activity, thus making the catalytic oxidizer system less effective. The use of this technology is infeasible based on the reasons stated above and evidenced by the fact that no lumber drying kiln, batch or continuous, is listed in the RBLC database or discovered in the air permit database review that have utilized thermal oxidation for controls on this type of equipment.

The combustion of natural gas as an auxiliary fuel would increase NOx emissions. In rural air in the southeast there are large sources of VOCs associated with emissions from forests that tend to lead to large VOC/NOx ratios. Consequently, the rural areas tend to be NOx sensitive. Generation of NOx emissions in attempts to control VOCs would increase the potential of ambient ozone formation. Thermal oxidation and catalytic oxidation were determined to be technically infeasible.

6.3.2.2 Adsorption

The kiln exhaust contains the water vapor that has evaporated from the lumber as it is dried and will have a relative humidity at 100%. At high moisture contents, the water molecules and VOCs in the exhaust stream will compete with each other for active adsorption site, reducing the efficiency of the of the adsorption system. This control device is, therefore, deemed technically infeasible.

6.3.2.3 Condensation

Condensation requires that the exhaust stream be cooled to a low enough temperature to allow for the VOC to go from a gas phase to liquid phase. The primary constituent of the VOC in the exhaust stream from the lumber kilns is terpenes, which would require the temperature of the exhaust stream to be

lowered to well below 0 °F in order to have a low enough vapor pressure to use condensation. Temperatures this low would cause the water vapor in the stream to freeze, and the ice would clog the unit. As such, condensation is not a technically feasible control technology.

6.3.2.4 Biofiltration

Microbial activity within the filter media is readily affected by temperature conditions. Mesophilic conditions (25-40°C) are ideal for biofilteration operations and most biofilters consequently operate in ambient temperatures. Some microbes are known to function effectively in thermophilic conditions (40-55°C). In cases of extreme temperatures, cell components can begin to decompose and proteins within

enzymes can become denatured and ineffective. The temperature of the exhaust stream from the kilns will be approximately 150 °F (65°C) which exceeds the typical operational temperature of biofilters.

The primary constituent of the VOC in the exhaust stream is terpenes, which are highly viscous and would cause the biofilter to easily foul. Because of the nature of the long-chained hydrocarbons in the exhaust stream, a biofilter with a reasonable footprint/retention time, will have a reduced control efficiency. The microorganisms require a much longer retention time/size of a unit in order to provide an increased efficiency.

No installations of biofilters in lumber mills are known. Application of biofiltration technology for VOC removal from lumber kiln emissions has not been demonstrated. Due to the temperature requirement, the large land requirement, and the unproven ability of biofiltration to operate successfully for VOC removal from lumber kiln emissions, this control technology is considered technically.

6.3.2.5 Wet Scrubbing

While some VOCs that will be present in the exhaust stream are highly soluble in water, other VOCs, most notably α-pinene, are only very slightly soluble in water. Lower solubility VOCs would require much longer residence time within a scrubber packed column and would eliminate this as a technically viable solution for the constant stream that would need to be handled by a continuous kiln.

Wet scrubbing for VOC removal is also technically infeasible for application in drying kilns due to the disruption in air flow created by this type of add-on control. A vacuum blower would be necessary to route kiln emissions to the wet scrubber. As discussed previously, the installation of a vacuum blower would affect the temperature and moisture content of the kiln atmosphere and degrade the quality of the lumber product.

6.3.3 Ranking of Control Technologies

In the third step of the top-down analysis, remaining control technologies are ranked in order of effectiveness. Since add-on controls are infeasible for the kilns, proper kiln design and operation is the only remaining feasible control option.

6.4 Evaluation of CDK Control Options

Based upon the top-down BACT analysis, Weyerhaeuser has determined that proper maintenance and good operating practices are the only controls technically and economically feasible for the proposed continuous direct fired kilns. The RACT/BACT/LAER database was searched for determinations from 2006 through 2016. The determinations are summarized in Table 7 and Table 8. In 2007, EPA issued an interim protocol (WPP1) to establish calculation procedures and emission measurement methods to approximate VOC emissions for the forest products industry. The basis of the VOC BACT limit is not listed for all of the RACT/BACT/LAER clearinghouse entries, however, the entries prior to 2007 would most likely be on an "as carbon" basis. The most recent entries in the clearinghouse listed the BACT as 3.76 and 3.8 lb VOC/MBF. These entries appear to based on the Wood Products Protocol, expressing the VOC as terpene and adding in methanol and formaldehyde. None of the BACT limits in the RBLC have been verified through testing. Although, NCASI reports a slightly lower average emission factor for continuous kilns (3.23 lb as carbon/MBF) versus batch kilns (3.38 lb as carbon/MBF). The batch kiln data is based upon a

larger dataset, and Weyerhaeuser is proposing the use of the average batch VOC emission factor as carbon from NCASI in conjunction with the average methanol NCASI value for batch kilns (0.194 lb/MBF) and the average formaldehyde value for direct fired batch kilns (0.0735 lb/MBF) to determine the total VOC BACT limit. These values equate to a total VOC limit of 4.28 lb VOC/MBF when expressed as propane or 3.97 lb VOC/MBF when expressed as Terpenes. Weyerhaeuser is proposing that a 10% safety factor be applied to these average values to determine a BACT value of 4.70 lb VOC/MBF when expressed as propane or 4.37 lb VOC/MBF when expressed as alpha-pinine.

The basis for the VOC factor is adjusted per EPA protocol from the traditional VOC as carbon to a total mass VOC basis.

<u>Expressed as propane :</u> Total VOC = $VOC_{as\ C}$ X 1.225 + (1-0.65) X Methanol + Formaldehyde
<u>Expressed as alpha-pinine:</u> Total VOC = $VOC_{as\ C}$ X 1.133 + (1-0.65) X Methanol + Formaldehyde

In order to comply with BACT, Weyerhaeuser will develop an operating and maintenance plan for the new continuous kilns. Weyerhaeuser will determine the appropriate set-point temperature for the kiln based on the specific lumber and seasonal condition at the Millport Mill through on-site data gathering during the startup of the kilns. In order to continuously maintain proper operation of the kilns, the combustion air temperature, recycle air temperature, wood moisture content, push rate, and seasonal conditions will be accounted for when determining and adjusting the set-point temperature.

6.5 Cyclone VOCs

Cyclone VOC emissions result from the evolution of naturally occurring organic compounds when the air forced through the cyclones comes into contact with wood residues. Although the material transfer cyclones are a source of VOC emissions, the VOC emissions from the cyclones only represent one percent of the VOC emissions from the facility and are approximately 7 tons per year. Capture or control of the VOCs from the pneumatic systems have been evaluated for control feasibility and have been determined to be neither practical nor cost effective. The following describes the evaluation performed.

6.6 Top-Down BACT Approach

EPA recommends a “top down” approach when evaluating available air pollution control technologies. The first step in this approach is to determine, for the emission unit in question, the most stringent control available for a similar or identical source or source category. If it can be shown that this level of control is technically or economically infeasible for the unit in question, then the next most stringent level of control is determined and similarly evaluated. This process continues until a control technology and associated emission level is determined that cannot be eliminated by any technical, environmental, or economic objections. The top-down BACT evaluation process is described in U.S. EPA’s draft document “New Source Review Workshop Manual” (U.S. EPA, October 1990). The five steps involved in a top-down BACT evaluation are:

Step 1. Identify all control technologies;

Step 2. Eliminate technically infeasible or unavailable technology options;

Step 3. Rank the remaining control technologies by control effectiveness;

Step 4. Evaluate the most effective controls and document the results; if the top option is not selected as BACT, evaluate the next most effective control option;

Step 5. Select BACT

When conducting the BACT analysis, one must include consideration of the most stringent technologies. Any decision to require a lesser degree of emissions reduction must be justified by an objective analysis of energy, environmental, and economic impacts. Furthermore, if a facility is subject to a New Source Performance Standard (NSPS) or National Emission Standards for Hazardous Air Pollutants (NESHAP), the minimum control efficiency to be controlled in a BACT analysis must result in an emission rate less than or equal to the NSPS and/or NESHAP emission rate.

The "top down" approach has been employed in this analysis to evaluate available pollution controls for the Weyerhaeuser NR Company, McComb Wood Products proposed capacity modification.

6.6.1 Control Technologies

Control technologies used to control VOCs were identified through review of the RACT/BACT/LAER Clearinghouse (RBLC) and available permit applications. No facilities were found which employ a VOC control device on wood residual transfer cyclones and only one facility was identified (RBLC ID: OK-0013) which evaluated BACT controls on a planer mill. Candidate technologies for this one facility included combustion (thermal and catalytic), adsorption, and condensation.

6.6.1.1 Combustion

Combustion as a technology for control of VOCs is discussed in 6.3.1.1.

6.6.1.2 Adsorption.

Adsorption as a technology for control of VOCs is discussed in Section 6.3.1.2.

6.6.1.3 Condensation

Condensation as a control technology for VOCs is discussed in Section 6.3.1.4.

6.6.2 Control Technologies Eliminated Based on Feasibility

6.6.2.1 Thermal Oxidation and Catalytic Oxidation

The exhaust from the pneumatic conveyance system has essentially no BTU value. The combustion of natural gas as an auxiliary fuel would increase NOx emissions. In rural air in the southeast there are large sources of VOCs associated with emissions from forests that tend to lead to large VOC/NOx ratios. Consequently, the rural areas tend to be NOx sensitive. Generation of NOx emissions in attempts to control VOCs would increase the potential of ambient ozone formation which would be counter to the purpose of controlling the VOC emissions. Due to the sensitive nature of the catalysts (precious metals), even small amounts of particulate matter and other contaminants in the exhaust stream would cause a loss of catalytic activity, thus making the catalytic oxidizer system less effective. The particulate emitted for the pneumatic transfer of the wood residuals would preclude catalytic oxidation from being effective. The use of this technology is infeasible based on the reasons stated above and evidenced by

the fact that no planer mill is listed in the RBLC database or discovered in the air permit database review that have utilized thermal oxidation for controls on this type of equipment.

6.6.2.2 Adsorption

CATC TECHNICAL BULLETIN (EPA-456/F-99-004) indicates any process that generates VOC emissions at low concentrations (as low as 20 ppm) at relative high air flows (greater than 5,000 acfm) should consider adsorption technology to concentrate VOC in the emission stream prior to final treatment and either recycling or destruction. The document further states adsorption technology can now extend the range of VOC concentration from 20 ppm to one-fourth of the Lower Explosive Limit (LEL). At the lower end of this range, such small concentrations may be difficult or uneconomical to control by another technology or even by all adsorbents. The cyclones operate at approximately 50,000 acfm which indicates that adsorption may be an option. The VOC concentration, however, is expected to be below 8 ppm which is well below the lower range indicated for adsorption. The use of this technology was determined to be infeasible.

6.6.2.3 Condensation

Condensation could be a viable option where there is minimal air flow carrying the organic emissions (i.e., the air stream is saturated with the organic compound). EPA Technical Bulletin EPA-456/R-01-004 suggests air flow up to 2,000 cfm to be viable for condensation. The air flow in the pneumatic systems is over 20 times this range. This control option was determined to be infeasible due to the high air flow volume.

6.6.3 Ranking of Cyclone VOC Control Technologies

In the third step of the top-down analysis, remaining control technologies are ranked in order of effectiveness. No control technologies were determined to be feasible given the low VOC concentration, the high volumetric flowrate, and the lumber industry's use of cyclones is for material transfer and not for control of pollutants. Additionally, due to the small amount of VOCs emitted from these sources, it is our experience that any potentially feasible controls would be extremely cost prohibitive. Since add-on controls are determined to be infeasible for the cyclones, no control options are proposed. Weyerhaeuser will utilize best management practices and periodic inspections to maintain effectiveness of the cyclones.

7.0 Source Impact Analysis

The owner or operator of a proposed source or modification is required to demonstrate that allowable emission increases from the proposed source or modification, in conjunction with all other applicable emissions increases or reductions (including secondary emissions), will not cause or contribute to air pollution in violation of: 1) any national ambient air quality standard in any air quality control region; or 2) any applicable maximum allowable increase over the baseline concentration in any area.

7.1.1 Existing Air Quality

Any application for a permit under the Prevention of Significant Deterioration program is required to contain an analysis of ambient air quality in the area that the major stationary source or major modification would affect for each of the following pollutants: a) for the source, each pollutant that it

would have the potential to emit in a significant amount; b) for the modification, each pollutant for which it would result in a significant net emissions increase.

The existing air quality is defined by the natural and human-generated sources of air pollution. The area surrounding the Lamar County facility is considered rural and in attainment for all regulated pollutants. The pollutant under consideration in the analysis are volatile organic compounds (VOC).

7.1.2 Air Quality Monitoring Requirements

The ambient air quality analysis is required to contain continuous air quality monitoring data gathered for purposes of determining whether emissions of that pollutant would cause or contribute to a violation of the standard or any maximum allowable increase. The source may be exempt from the preconstruction monitoring requirements if the air quality impacts are less than the monitoring de minimis concentrations.

No de minimis air quality level is provided for ozone. However, any net emissions increase of 100 tons per year or more of volatile organic compounds or nitrogen oxides subject to PSD would be required to perform an ambient impact analysis, including the gathering of ambient air quality data. The net emission increase from the project of 598 tons VOC per year is above the 100 ton per year threshold. Weyerhaeuser is proposing to use existing air quality monitoring in lieu of conducting pre-construction monitoring. In discussions with ADEM, the monitor located in Tuscaloosa County is considered to be representative of the mill location. Monitoring results for the past three years are presented in Table 3 for the Tuscaloosa County monitor. The monitor demonstrates compliance with the new ozone standard of 70 ppb.

Table 3 - Ozone Monitoring Data

Monitor Objective	County Name	Site Num	Year	Observation Count	Observation Percent	Completeness Indicator	4th Max Value
Population Exposure	Tuscaloosa	0010	2012	5746	97	Y	0.057
			2013	5808	98	Y	0.059
			2014	5876	100	Y	0.058
						3-Year Average	0.058

7.1.3 Dispersion Modeling

There is no regulatory approved model for determining ozone impacts from point sources. In rural air in the southeast there are large sources of VOCs associated with emissions from forests that tend to lead to large VOC/NOx ratios. Consequently, the rural areas tend to be NOx sensitive. VOC and NOx emissions for Lamar County, Alabama are depicted in Figure 1 and Figure 2. While there is a current actual to future potential increase in VOC emissions of 598 tpy, the VOC increase is a small fraction of the existing VOC emissions in the area and aren't expected to cause an increase in the formation of ozone in the area.

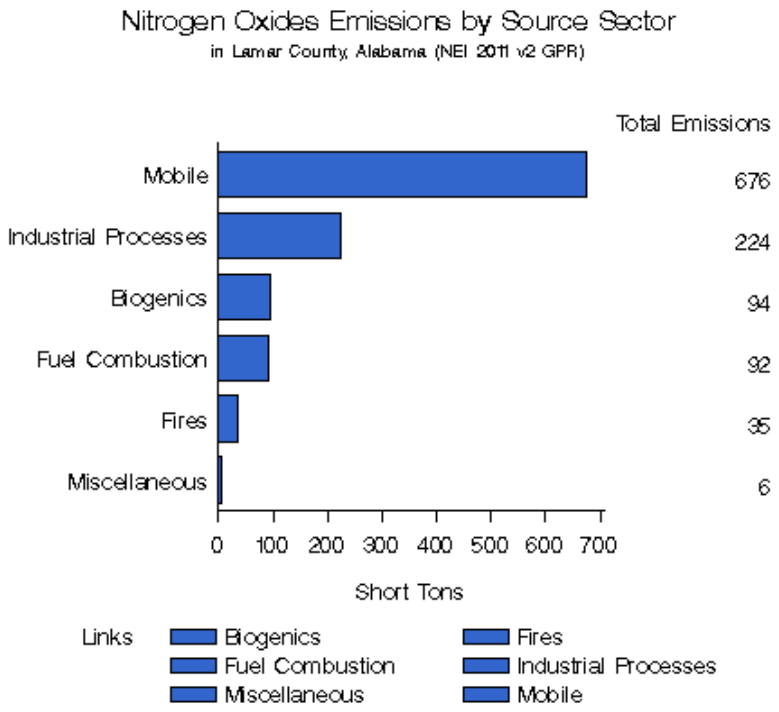


Figure 1 - Lamar County NOx Emissions

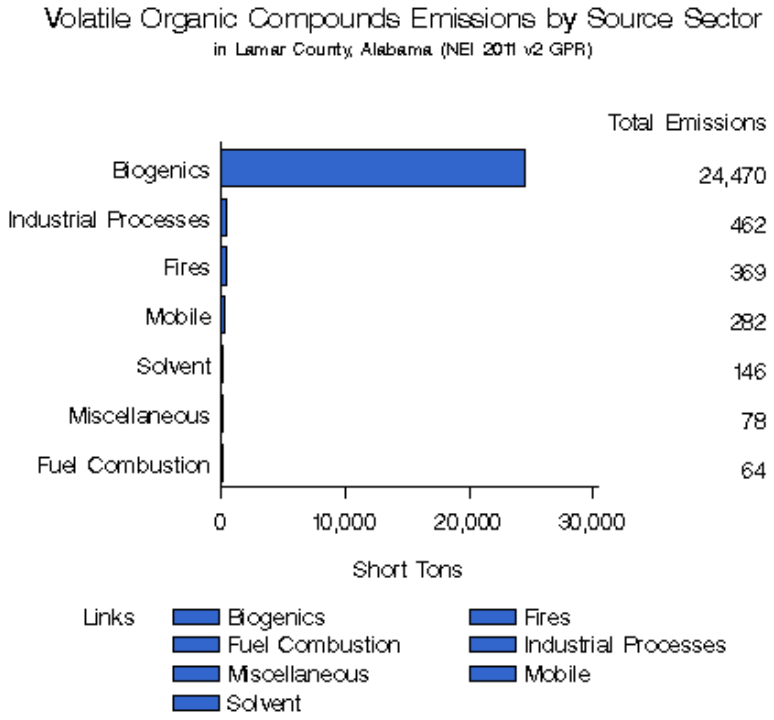


Figure 2 - Lamar County VOC Emissions

7.1.4 Vegetation and Soils Impact

VOCs are regulated as precursors to tropospheric ozone. Elevated ground-level ozone concentrations can damage plant life and crop production. VOC interfere with the ability of plants to produce and store food, making them more susceptible to disease, insects, or other pollutants and harsh weather. Ozone is formed by the interaction of NOx, VOC, and sunlight in the atmosphere. As mentioned previously, ozone formation in the area is NOx limited and ozone formation due to the project is not expected. No adverse impacts on soils and vegetation is anticipated.

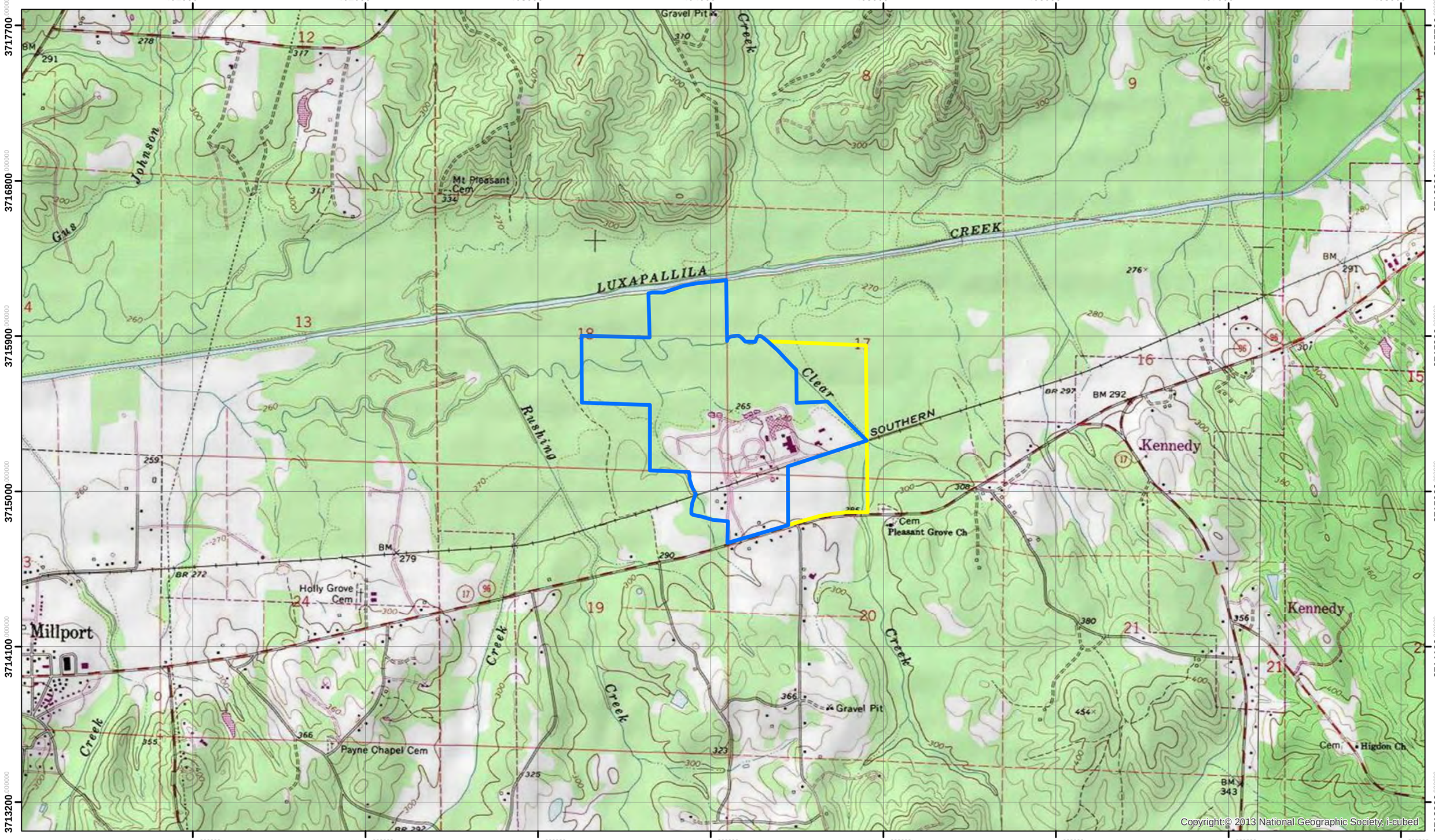
7.1.5 Associated Growth

The modification to the facility is expected to increase the facility workforce by 70 positions. The majority of positions are expected to be filled from the local work force and additional demand on housing or public utilities is not anticipated. The increase in permitted capacity for the facility will not result in the growth of support facilities in the area.

7.1.6 Class 1 Impact

The Sipsey Wilderness area is located approximately 94 kilometers from the Weyerhaeuser NR Company, Millport Mill. The total potential emissions for visibility impairing pollutants from the facility divided by the distance to the Class 1 area (Q/D) is 2.75 tons/km. Facilities with Q/D values of less than 10 are not required to perform a Class 1 Air Quality Related Values Analysis. No adverse impact on the Sipsey Wilderness area is anticipated.

Figures



FC&E Engineering, LLC
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4,500 2,250 0 4,500 Feet

N
W E
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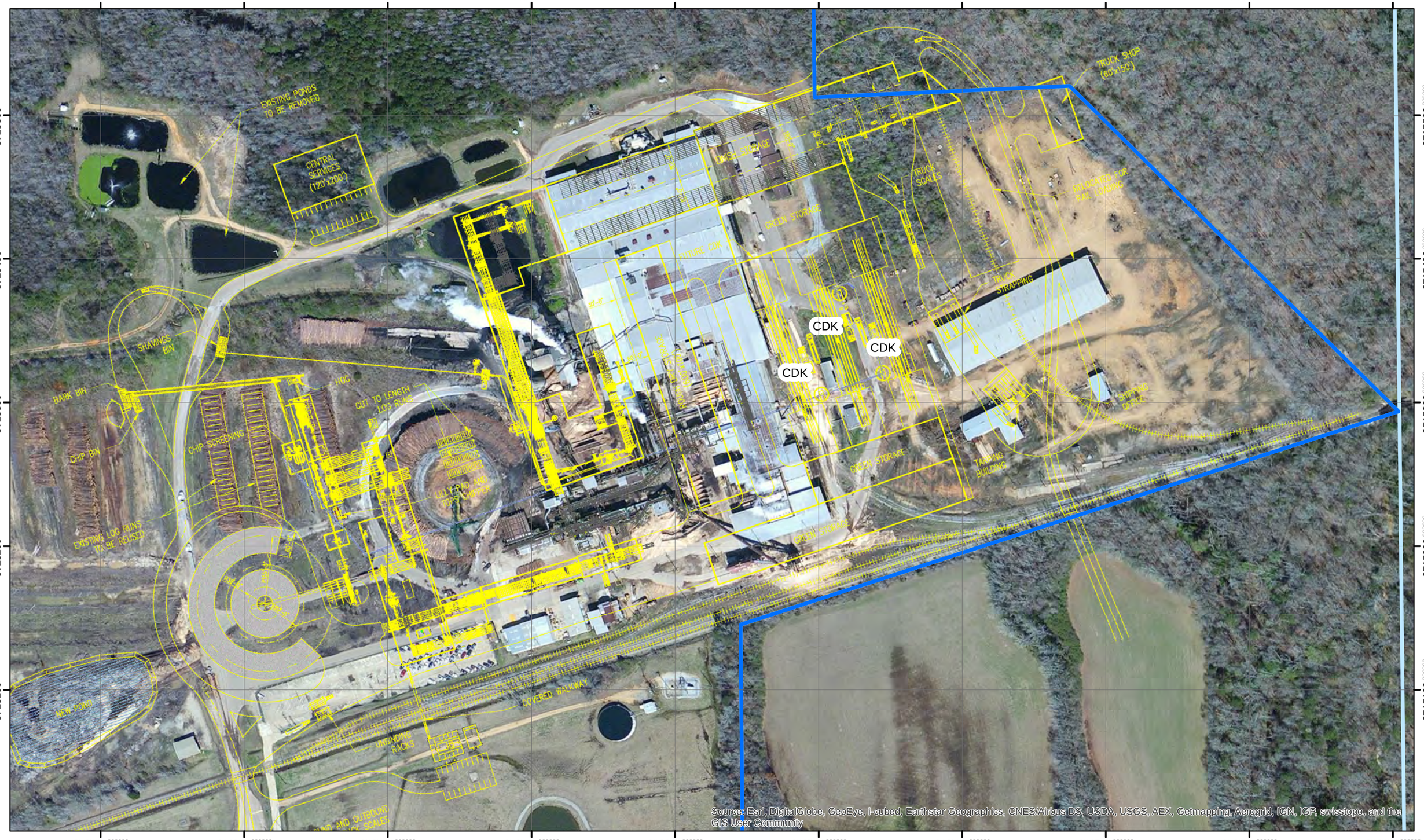
NAD 83, UTM Zone 16

Legend

Existing Boundary

New Boundary

Figure 3 - Topographic Map
Weyerhaeuser NR Company
Millport, Alabama



Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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560 280 0 560 Feet

NAD 83, UTM Zone 16

N W E S

Legend

- Existing Boundary
- New Property Boundary

Figure 4 - Site Map
Weyerhaeuser NR Company
Millport, Alabama

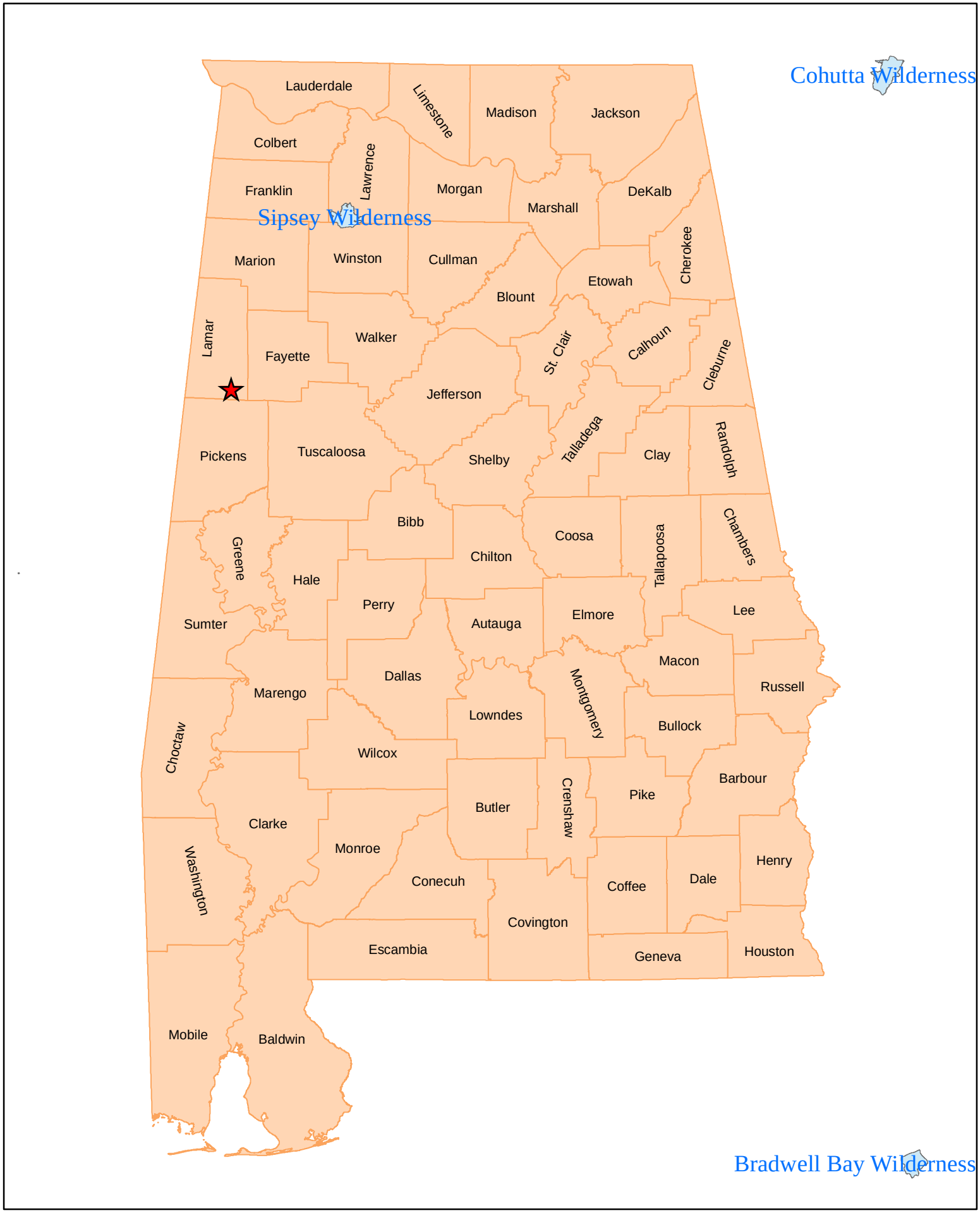
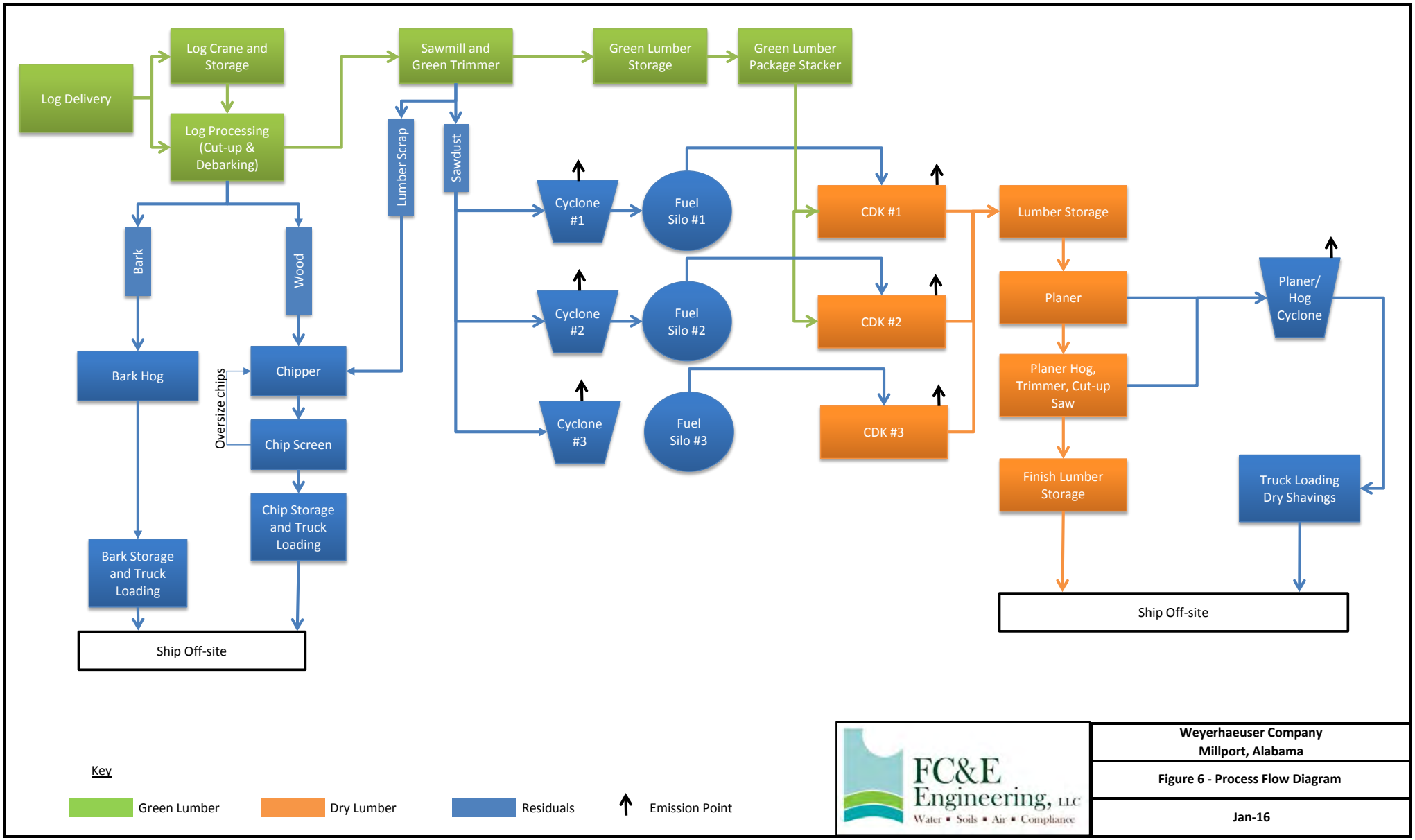


Figure 5 - Site Location
Weyerhaeuser NR Company
Millport, Alabama



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Weyerhaeuser Company
Millport, Alabama

Figure 6 - Process Flow Diagram

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Tables

Table 1 - Project Emissions Increases

Pollutant	Project Emissions Increases (TPY)	Significant Emission Rate (TPY)	Netting Required (Y/N)
CO	148.35	100	Y
NO_x	82.78	40	Y
SO_2	11.50	40	N
PM	71.41	25	Y
PM_{10}	70.40	15	Y
$PM_{2.5}$	63.43	10	Y
VOC	865.45	40	Y
CO_{2e}	96,372.98	75,000	Y

Table 2 - Net Emissions Increase

Pollutant	Net Emissions Increase (TPY)	Significant Emission Rate (TPY)	PSD Review Required (Y/N)
CO	-46.11	100	N
NO_x	27.69	40	N
PM	19.68	25	N
PM_{10}	14.16	15	N
$PM_{2.5}$	8.08	10	N
VOC	597.91	40	Y
CO_{2e}	28,458.18	75,000	N

Table 4 – PSD Applicability Emissions Calculations

	Pollutant	Emission Factor		Reference	(A) Future Potential (TPY)	(B) Baseline Emissions (TPY)	(C) Project Emissions Increase (TPY)	(A-B) Net Emissions Increase (TPY)
Plantwide Production Rate (MBF) =====>>					360,000	106,470	253,530	253,530
3-CDKs	CDK Throughput (MBF)=======>>				360,000	0	360,000	360,000
	Annual Heat Input (MMBTU/YR) =======>>				919,800	0	919,800	919,800
	CO	0.322	lb/MMBTU	15	148.1	0.0	148.1	148.1
	NO_x	0.18	lb/MMBTU	15	82.8	0.0	82.8	82.8
	SO_2	0.025	lb/MMBTU	2	11.5	0.0	11.5	11.5
	PM	0.0975	lb/MMBTU	16	44.8	0.0	44.8	44.8
	PM_{10}	0.1213	lb/MMBTU	16	55.8	0.0	55.8	55.8
	$PM_{2.5}$	0.1213	lb/MMBTU	16	55.8	0.0	55.8	55.8
	VOC	4.74	lb/MBF	9	853.2	0.0	853.2	853.2
	CO_2	206.79	lb/MMBTU	7	95,102.8	0.0	95,102.8	95,102.8
	CO_2e (CH_4)	0.40	lb/MMBTU	8	182.5	0.0	182.5	182.5
	CO_2e (N_2O)	2.37	lb/MMBTU	8	1087.7	0.0	1087.7	1087.7
3-CDKs Excess Startup Emissions	CO	See Emissions Calculations			0.26	0.0	0.3	0.3
	PM				0.34	0.0	0.3	0.3
	PM_{10}				0.21	0.0	0.2	0.2
	$PM_{2.5}$				0.14	0.0	0.1	0.1
3-CDK Cyclones	PM	0.2	lb/BDT	12	5.05	0.0	5.05	5.05
	PM_{10}	0.19	lb/BDT	13	4.80	0.0	4.80	4.80
	$PM_{2.5}$	0.16	lb/BDT	13	4.04	0.0	4.04	4.04
	VOC	0.31	lb/BDT	10	7.83	0.0	7.83	7.83
Planer/Trim Hog Cyclone	PM	0.041	lb/MBF	12	7.4	0.0	7.37	7.37
	PM_{10}	0.039	lb/MBF	13	7.00	0.0	7.00	7.00
	$PM_{2.5}$	0.014	lb/MBF	13	2.58	0.0	2.58	2.58
	VOC	0.025	lb/MBF	10	4.42	0.0	4.42	4.42
002, 003 & 008 (Kilns)	Steam Kilns Throughput (MBF)=======>>				0	106,470		-106,470
	PM	0.066	lb/MBF	1	0.0	3.5		-3.5
	PM_{10}	0.066	lb/MBF	6	0.0	3.5		-3.5
	$PM_{2.5}$	0.066	lb/MBF	6	0.0	3.5		-3.5
	VOC	4.740	lb/MBF	9	0.0	252.3		-252.3
001 (No. 1 Boiler 125 MMBTU/HR)	Annual Heat Input (MMBTU/YR) =======>>				0	648,190		-648,190
	CO	0.6	lb/MMBTU	2	0.0	194.5		-194.5
	NO_x	0.17	lb/MMBTU	1	0.0	55.1		-55.1
	SO_2	0.025	lb/MMBTU	2	0.0	8.1		-8.1
	PM	0.145	lb/MMBTU	3	0.0	47.0		-47.0
	PM_{10}	0.159	lb/MMBTU	3	0.0	51.6		-51.6
	$PM_{2.5}$	0.159	lb/MMBTU	3	0.0	51.6		-51.6
	VOC	0.017	lb/MMBTU	2	0.0	5.5		-5.5
	CO_2	206.79	lb/MMBTU	7	0.0	67,019.7		-67,019.7
	CO_2e (CH_4)	0.40	lb/MMBTU	8	0.0	128.6		-128.6
	CO_2e (N_2O)	2.37	lb/MMBTU	8	0.0	766.5		-766.5
004-Dry lumber planer with cyclone	PM	0.0079	lb/MBF	4	0.00	0.42		-0.42
	PM_{10}	0.0075	lb/MBF	1	0.00	0.40		-0.40
	$PM_{2.5}$	0.0017	lb/MBF	1	0.00	0.09		-0.09
	VOC	0.12	lb/MBF	1	0.00	6.39		-6.39
005-Dry lumber trimmer with cyclone	PM	0.014	lb/MBF	4	0.00	0.73		-0.73
	PM_{10}	0.013	lb/MBF	1	0.00	0.69		-0.69
	$PM_{2.5}$	0.0030	lb/MBF	1	0.00	0.16		-0.16
	VOC	0.0046	lb/MBF	1	0.00	0.24		-0.24
006-sawmill with truck loadout cyclone and sawdust fuel cyclone	PM	0.001	lb/MBF	4	0.00	0.04		-0.04
	PM_{10}	0.0008	lb/MBF	1	0.00	0.04		-0.04
	$PM_{2.5}$	0.0002	lb/MBF	1	0.00	0.01		-0.01
	VOC	0.051	lb/MBF	1	0.00	2.71		-2.71
007-Rechipper and conveying system with cyclone	PM	0.00069	lb/MBF	4	0.00	0.04		-0.04
	PM_{10}	0.000657	lb/MBF	5	0.00	0.03		-0.03
	$PM_{2.5}$	0.000152	lb/MBF	5	0.00	0.01		-0.01
	VOC	0.00657	lb/MBF	5	0.00	0.35		-0.35
Fugitives	PM	See Emissions Calcualtions			14.28	0.47	13.8	13.81
	PM_{10}				2.70	0.09	2.6	2.60
	$PM_{2.5}$				0.90	0.02	0.9	0.88
Totals				CO	148.3	194.5	148.3	-46.1
				NO_x	82.8	55.1	82.8	27.7
				SO_2	11.5	8.1	11.5	3.4
				PM	71.9	52.2	71.4	19.7
				PM_{10}	70.5	56.3	70.4	14.2
				$PM_{2.5}$	63.5	55.4	63.4	8.1
				VOC	865.5	267.5	865.5	597.9
				CO_2	95,102.8	67,019.7	95,102.8	28,083.1
				CO_2e (CH_4)	182.5	128.6	182.5	53.9
				CO_2e (N_2O)	1087.7	766.5	1087.7	321.2

Table 5 – PSD Applicability Emissions Calculations References

1	Table C-1, Criteria Emissions, "MAJOR SOURCE OPERATING PERMIT RENEWAL APPLICATION, WEYERHAEUSER NR COMPANY· MILLPORT, ALABAMA, April 2009"
2	AP-42 Table 1.6-2, Bark/bark and wet wood/wet wood-fired boiler
3	Average of PM stack tests from May 30, 2007 and June 20, 2008. All PM assumed to be $PM_{2.5}$
4	PM_{10} emission factor adjusted to PM using high efficiency cyclone fraction contained in AQ-EF03, Guidance from State of Oregon Department of Environmental Quality.
5	Table C-1 of Title V application. Factor converted to lb/MBF assuming 6,570 dry tons produced per 160,000 MBF.
6	PM from kiln assumed to be equal to PM_{10}. and $PM_{2.5}$
7	Table C-1 to Subpart C of Part 98—Default CO2 Emission Factors and High Heat Values for Various Types of Fuel
8	Table C-2 to Subpart C of Part 98—Default CH4 and N2 O Emission Factors for Various Types of Fuel multiplied by the global warming potential from Table A-1 to Subpart A of Part 98—Global Warming Potentials
9	NCASI Database Viewer (Feb 2013) average value for direct fired kilns expressed as propane + methanol + formaldehyde
10	Weyerhaeuser TV Bulletin
11	AP-42 Table 1.6-3. Emission Factors for Speciated Organic Compounds, TOC, VOC, NOx, AND CO2 from Wood Residue Combustion
12	State of Oregon Emission Factors Wood Products AQ-EF02
13	State of Oregon Emission Factors Wood Products PM10/PM2.5 Fractions AQ-EF03
14	$PM/PM_{2.5}$ Stack test data from Weyerhaeuser Philadelphia Mill Planer/Dry Trim Cyclone. $PM_{2.5}$ results 31% of PM
15	Average of direct fired batch kiln tests at Weyerhaeuser McComb, MS Mill
16	Average PM test results at Rex Lumber Brookhaven MS plus 25%. Filterable PM10 & PM2.5 assumed equal to filterable PM. Condensable assumed equal to AP-42 factor for wood fired boiler plus 40%.

Table 6 - Boiler No. 1 PM Tests

Date	Run	lb/hr		lb/MMBTU	
		Run Result	Test Avg	Run Result	Test Avg
5/30/2007	1	8.59	8.58	0.092	0.090
	2	8.85		0.093	
	3	8.31		0.085	
6/20/2008	1	22.1	20.590	0.202	0.199
	2	21.64		0.215	
	4	18.03		0.181	
	Average-	14.59		0.144	

Table 7 - RACT/BACT/LAER Determinations 2004 through 2014 for Continuous Kilns

RBLC ID	Facility Name	Unit Capacity	Burner size (MMBTU/hr)	Emission Limit 1		Emission Limit 2		Limit Basis	Permit Date	Control
AR-0124	EL DORADO SAWMILL	3 - 18.5 MBF/hr CDKs	45.00 MMBTU/H nat gas	3.8	LB/MBF				8/3/2015	N
AL-0305	RESOLUTE FOREST PRODUCTS - ALABAMA SAWMILL	2 - 103 MMBF/yr CDk	35 MMBtu/hr	3.76	LB/MBF			terpenes + Meth. + Form.	6/24/2015	N
AR-0122	GEORGIA-PACIFIC WOOD PRODUCTS SOUTH LLC (GURDON PLYWOOD)	130 MMBF/yr CDK	nat gas	3.8	LB/MBF	373	TPY		2/6/2015	N
SC-0163	KAPSTONE CHARLESTON KRAFT LLC-SUMMERVILLE	120 MMBF/yr CDK	40 MMBTU/hr	3.76	LB/MBF				1/20/2015	PROPER MAINTENANCE AND OPERATION
AL-0273	MILLPORT WOOD PRODUCTS FACILITY	140 MMBF/yr CDK	35 MMBtu/hr	4.7	LB/MBF			VOC as WPP1	12/30/2014	Proper maintenance & operating practice requirements
SC-0165	NEW SOUTH COMPANIES, INC. - CONWAY PLANT	85 MMBF/yr CDK	35 MMBtu/hr	4.2	LB/MBF			terpenes + Meth. + Form.	10/15/2014	PROPER MAINTENANCE AND OPERATION
FL-0343	WHITEHOUSE LUMBER MILL	2 - 15 MMBF/hr CDKs	35 MMBtu/hr	3.76	LB/MBF				9/9/2014	Proper Maintenance and Operating Procedures
SC-0164	SIMPSON LUMBER COMPANY, LLC			156	TPY	3.76	lb/MBF		6/20/2014	PROPER OPERATION AND MAINTENANCE
FL-0340	PERRY MILL	90 MBF/yr.		3.5	LB/MBF				4/1/2014	best operating practices (BMP).
AL-0257	WEST FRASER-OPELIKA LUMBER MILL	2 - 87.5 MMBF/YR CDKs	35 MMBtu/hr	3.76	LB/MBF	175	MMBF/yr		9/11/2013	N
SC-0151	WEST FRASER - NEWBERRY LUMBER MILL	15 MBF/HR	35 MMBtu/hr	3.76	LB/MBF			Total VOC	4/30/2013	PROPER OPERATION AND GOOD OPERATING PRACTICES
AL-0259	THE WESTERVELT COMPANY	3 - 93 MMBF/yr Continuous indirect kilns		4.57	LB/MBF				4/15/2013	N
AL-0258	WEST FRASER, INC. - MAPLESWILE MILL	2 - 100 MMBF/yr CDKs	35 MMBtu/hr	3.76	LB/MBF				1/14/2013	N

RBLC ID	Facility Name	Unit Capacity	Burner size (MMBTU/hr)	Emission Limit 1		Emission Limit 2		Limit Basis	Permit Date	Control
SC-0135	NEW SOUTH COMPANIES, INC. - CONWAY PLANT	2 - 85 MMBF/YR Continuous indirect		799.18	TPY	4.2	LB/MBF	Total VOC	9/24/2012	PROPER OPERATION AND GOOD OPERATING PRACTICES
GA-0146	SIMPSON LUMBER CO, LLC MELDRIM OPERATIONS	Kiln 3 - 65 MMBF/yr CDK		3.83	LB/MBF				4/25/2012	PROPER OPERATION AND GOOD OPERATING PRACTICES
		Kiln 4 - 73 MMBF/yr		3.93	LB/MBF					PROPER OPERATION AND GOOD OPERATING PRACTICES
TX-0607	WEST FRASER, INC.	2 Kilns - 270 MMBF/yr Total		3.5	LB/MBF				12/15/2011	proper temperature and process management; drying to appropriate moisture content
LA-0252	WEST FRASER -Joyce Mill	3 Kilns - 300 MMBF/YR Continuous indirect		930	TPY	6.2	LB/MBF	as VOC	8/16/2011	properly design and operation
AR-0101	BIBLER BROTHERS LUMBER COMPANY	2 kilns - 12.1 MBF/HR ea. CDK	25 MMBtu/hr	3.8	LB/MBF	46.5	lb/hr/kiln	VOC	8/25/2008	N
OK-0113	WEYERHAEUSER WRIGHT CITY COMPLEX			4.8	LB/MBF				7/21/2006	N
OR-0049	INTERFOR PACIFIC, INC. GILCHRIST FACILITY			1.69	LB/MBF				5/22/2006	PROPER WORK PRACTICES

Table 8 - RACT/BACT/LAER Determinations 2006 through 2016 Batch Kilns

RBLC ID	Facility Name	Unit Capacity	Emission Limit 1		Emission Limit 2		Limit Basis	Permit Date	Control
TX-0584	TEMPLE INLAND PINELAND MANUFACTURING COMPLEX	2 kilns - 156 MBF/charge	2.49	LB/MBF				8/12/2011	good operating practice and maintenance
FL-0315	NORTH FLORIDA LUMBER/BRISTOL SAW MILL	92 MMBF/yr	116.93	TPY				8/4/2009	Best operating practices: 1) minimize over-drying lumber; 2) maintain consistent moisture content for processed lumber charge; and 3) dry at the minimum temperature.
AL-0235	ALBERTVILLE SAWMILL	182.14 MBF/charge	7	LB/MBF			pinene	4/9/2008	OPERATE W/ WET BULB SET POINT DRYING SCHEDULE OF LESS THAN OR EQUAL TO 185F;DAILY AND MONTHLY KILN I/M PROCEDURES
WA-0327	SIERRA PACIFIC INDUSTRIES SKAGIT COUNTY LUMBER MILL	7 kilns - 300 MMBF/yr Batch Steam	54	TPY				1/25/2006	COMPUTERIZED STEAM MANAGEMENT SYSTEM
AR-0083	POTLATCH CORPORATION - OZAN UNIT	4 kilns - 265 MMBF/YR Batch Steam	3.5	LB/MBF				7/26/2005	PROPER OPERATION
AR-0084	POTLATCH CORPORATION - OZAN UNIT	265 MMBF/YR Batch Steam	3.5	LB/MBF	119	lb/hr		7/26/2005	
AR-0080	DELTIC TIMBER CORPORATION	5 kilns - 4@44.2 MMBF/YR 1@48.3 MMBF/yr Steam	3.5	lb/MBF				1/12/2005	N
TX-0483	TEMPLE-INLAND DIBOLL OPERATIONS	171.35 MMBF/yr Steam	30.6	lb/hr	85.3	TPY		11/1/2004	N
LA-0180	WEST FRASER -Joyce Mill	7 kilns	367.77	lb/hr				7/19/2004	PROPER KILN DESIGN AND OPERATION
SC-0085	ELLIOT SAWMILLING COMPANY	53 MMBF/hr	4.5	LB/MBF				5/23/2004	Work practices
AL-0260	THE WESTERVELT COMPANY	Boiler Modification						1/4/2011	

Appendix A – ADEM Application Forms

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

AIR DIVISION

INSTRUCTIONS FOR COMPLETION OF

FACILITY IDENTIFICATION FORM ADEM 103

This form is to be completed in duplicate for each facility operated by your firm or institution in the State of Alabama. If permit application forms are not received at every facility of a firm or institution which has more than one facility, it is still the responsibility of the owner or operator to secure application forms and submit them.

Items 1-4: Self-explanatory

Item 5: Universal Transverse Mercator Coordinates (for Alabama, N-S is between 3337.000km-3875.000km and E-W is between 362.000km-709.000km; Zone 16)

Items 6-7: Self-explanatory

Item 8: There must be at least one copy (in duplicate) of Forms ADEM 104-438. The total number of each of these will depend on the number of air contaminant sources at the facility. Submission of some of the other forms may not be necessary. This can be determined from the instructions. Each form must be completed in duplicate, but the original and copy are to be counted as one form.

Item 9: Self-explanatory

Item 10: Any facility applying for either a Synthetic Minor Operating Permit (SMOP) or a Major Operating Permit should list each pollutant and its emission rate for the facility for which the application is submitted. Also, indicate whether each pollutant is major (emissions > 100 TPY for any criteria pollutants, emissions > 10 TPY for any single HAP, or emissions > 25 TPY for any combination of HAPs). The most recent air emissions inventory done for annual operating permit fees can be substituted for Item 10, provided it shows the totals for each pollutant in the inventory. Indicate in the space that the air inventory is attached if this option is chosen.

Item 11: Self-explanatory
PSD - Prevention of Deterioration
NSPS - New Source Performance Standards
NESHAP - National Emissions Standards for Hazardous Air Pollutants
Title I - Attainment and Maintenance of NAAQS
Title IV - Acid Rain
Title VI - Stratospheric Ozone and Global Climate Protection

Item 12: Identify and list any source or activity that will be considered insignificant (emitting less than 5 TPY of any criteria pollutant, 1000 lb/yr of any air toxic, or included in the insignificant activities list previously established by the Department). Supporting documentation, including calculations, should be submitted for each activity.

Item 13: Self-explanatory

Item 14: Indicate any actual emission test of air contaminants for any operations covered in this application.

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (AIR DIVISION)

Do not Write in This Space

Facility Number | | | | - | | | | |

CONSTRUCTION/OPERATING PERMIT APPLICATION
FACILITY IDENTIFICATION FORM

1. Name of Facility, Firm, or Institution: Weyerhaeuser NR Company

Facility Physical Location Address

Street & Number: 14715 Highway 96

City: Millport County: Lamar Zip: 35576

Facility Mailing Address (If different from above)

Address or PO Box:

City: State: Zip:

Owner's Business Mailing Address

2. Owner: Weyerhaeuser NR Company

Street & Number: 14715 Highway 96 City: Millport

State: AL Zip: 35576 Telephone: (205) 596-3311

Responsible Official's Business Mailing Address

3. Responsible Official: Steve Higdon Title: Mill Manager

Street & Number: 14175 Highway 96

City: Millport State: AL Zip: 35576

Telephone Number: E-mail Address:

Plant Contact Information

4. Plant Contact: Christopher Hopf Title: Environmental Manager

Telephone Number: (205) 596-1197 E-mail Address: Christopher.Hopf@weyerhaeuser

5. Location Coordinates:

UTM 404392 E-W 3715358. N-S

Latitude/Longitude 33°34'25.08"N LAT 88° 1'48.56"W LONG

6. **Permit application is made for:**

☐ Existing source (initial application)

☒ Modification

☐ New source (to be constructed)

☐ Change of ownership

☐ Change of location

☐ Other (specify) _____

Existing source (permit renewal)

If application is being made to construct or modify, please provide the name and address of installer or contractor

KDS Windsor, PO Box 643, Arden, NC 28704

_____ Telephone (800) 274-5456

Date construction/modification to begin 2016 to be completed 2017

7. **Permit application is being made to obtain the following type permit:**

☒ Air permit

☐ Major source operating permit

☐ Synthetic minor source operating permit

☐ General permit

8. **Indicate the number of each of the following forms attached and made a part of this application: (if a form does not apply to your operation indicate "N/A" in the space opposite the form). Multiple forms may be used as required.**

N/A	ADEM 104 - INDIRECT HEATING EQUIPMENT
2	ADEM 105 - MANUFACTURING OR PROCESSING OPERATION
N/A	ADEM 106 - REFUSE HANDLING, DISPOSAL, AND INCINERATION
N/A	ADEM 107 - STATIONARY INTERNAL COMBUSTION ENGINES
N/A	ADEM 108 - LOADING, STORAGE & DISPENSING LIQUID & GASEOUS ORGANIC COMPOUNDS
N/A	ADEM 109 - VOLATILE ORGANIC COMPOUND SURFACE COATING EMISSION SOURCES
N/A	ADEM 110 - AIR POLLUTION CONTROL DEVICE
N/A	ADEM 112 - SOLVENT METAL CLEANING
N/A	ADEM 438 - CONTINUOUS EMISSION MONITORS
N/A	ADEM 437 - COMPLIANCE SCHEDULE

9. **General nature of business: (describe and list appropriate standard industrial classification (SIC) and North American Industry Classification System (NAICS) (www.naics.com) code(s)):**

Manufacturer of lumber; SIC 2421, NAICS 321113

10. **<u>For those making application for a synthetic minor or major source operating permit</u>, please summarize each pollutant emitted and the emission rate for the pollutant. Indicate those pollutants for which the facility is major.**

Regulated pollutant	Potential Emissions* (tons/year)	Major source? yes/no

***Potential emissions are either the maximum allowed by the regulations or by permit, or, if there is no regulatory limit, it is the emissions that occur from continuous operation at maximum capacity.**

11. For those applying for a major source operating permit, indicate the compliance status by program for each emission unit or source and the method used to determine compliance. Also cite the specific applicable requirement.

Emission unit or source: N/A
(description)

Emission Point No.	Pollutant[4]	Standard	Program[1]	Method used to determine compliance	Compliance Status	
					IN[2]	OUT[3]

[1]PSD, non-attainment NSR, NSPS, NESHAP (40 CFR Part 61), NESHAP (40 CFR Part 63), accidental release (112(r)),SIP regulation, Title IV, Enhanced Monitoring, Title VI, Other (specify)

[2]Attach compliance plan

[3]Attach compliance schedule (ADEM Form-437)

[4]Fugitive emissions must be included as separate entries

12. **List all insignificant activities and the basis for listing them as such (i.e., less than the insignificant activity thresholds or on the list of insignificant activities). Attach any documentation needed, such as calculations. No unit subject to an NSPS, NESHAP or MACT standard can be listed as insignificant.**

Insignificant Activity	Basis

13. **List and explain any exemptions from applicable requirements the facility is claiming:**

a. _____

b. _____

c. _____

d. _____

e. _____

f. _____

g. _____

h. _____

i. _____

14. **List below other attachments that are a part of this application(all supporting engineering calculations must be appended):**

a. **Application Narative**

b. **Appendix A – ADEM Application Forms**

c. **Appendix B – Emissions Calculations**

d. **Appendix C – RACT/BACT/LAER Clearinghouse Report**

e. _____

f. _____

g. _____

h. _____

i. _____

I CERTIFY UNDER PENALTY OF LAW THAT, BASED ON INFORMATION AND BELIEF FORMED AFTER REASONABLE INQUIRY, THE STATEMENTS AND INFORMATION CONTAINED IN THIS APPLICATION ARE TRUE, ACCURATE AND COMPLETE.

I ALSO CERTIFY THAT THE SOURCE WILL CONTINUE TO COMPLY WITH APPLICABLE REQUIREMENTS FOR WHICH IT IS IN COMPLIANCE, AND THAT THE SOURCE WILL, IN A TIMELY MANNER, MEET ALL APPLICABLE REQUIREMENTS THAT WILL BECOME EFFECTIVE DURING THE PERMIT TERM AND SUBMIT A DETAILED SCHEDULE, IF NEEDED FOR MEETING THE REQUIREMENTS.

_____

SIGNATURE OF RESPONSIBLE OFFICIAL **TITLE** **DATE**

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
AIR DIVISION

INSTRUCTIONS FOR COMPLETION OF MANUFACTURING OR PROCESSING OPERATION FORM ADEM 105

All applicable portions of this form should be completed by printing or typing. When any item is not applicable, the letters "NA" should be placed in the left margin beside the item. If the entire Form ADEM 105 is not applicable to your plant or facility, items 1 through 4 and the signature block should be completed and the words "NOT APPLICABLE" should be inserted beneath the signature block. At least one copy of this Form must be included in the group of initial permit applications for each facility or plant.

A separate copy of this Form is to be completed for each process, operation, machine or other source which has the potential for emission of contaminants to the atmosphere. Two or more pieces of equipment may be grouped as a single permit unit.

Items 1 & 2: Self-explanatory

Item 3: Identify the equipment as specific type; i.e., state "open hearth furnace", "electric arc furnace", etc., rather than the general term, "furnace". When two or more pieces of equipment are grouped as a unit, then the individual component of the unit must be identified. If the unit receives input material from, or provides input material to, another operation in your facility, the relationship should be made clear.

Item 4: Self-explanatory

Item 5: All raw materials input to the unit are to be identified, including solid fuels such as coal or coke. Exclude fuels for indirect heat exchangers; these are to be included on Form ADEM 104.

Item 6: Do not include those fuels used in indirect heat exchangers, for which Form ADEM 104 is provided.

Item 7: List all products, including intermediates used in other operations, and those which are not usable because they do not meet specifications.

Item 8: May be included as part of monitoring plan (if so, please indicate in space provided)

Item 9: If the answer to this item is "yes", the application will not be considered complete unless Form ADEM 110 is attached to Form 105.

Item 10: Each stack, vent, etc. which may emit air contaminants is to be separately identified with a number which is also used in Item 12. Stack height is that above ground level. Standard temperature is 70°F; standard pressure is 29.92 inches of Hg. Volume of gas discharged can be calculated with the gas velocity (FPS) and stack diameter (Ft). Emission points not associated with a stack or vent should be labeled as "fugitives" under stack height.

Item 11: Each air contaminant which is known or suspected to be emitted from each emission point is to be listed. The allowable emission specified in the Regulation must be stated. The Department must be assured that the owner or operator has a clear understanding of the allowable emission rate.

Item 12: If applications for more than one process are being submitted for a facility, the use of a single flow diagram for the entire facility is allowed. Use of one flow diagram is suggested for integrated operations. Points of air contaminant emissions are to be numbered to correspond with those points listed in Item 10.

Item 13: If the answer is no, then an ADEM 437 form should be attached.

Item 14: Self-explanatory

Item 15: This item is designed to determine if there are any fugitive dust problems associated with material handling of either the raw materials or finished products used in the process.

USE ADDITIONAL SHEETS IF NECESSARY

PERMIT APPLICATION
FOR
MANUFACTURING OR PROCESSING OPERATION

			-					-				

Do not write in this space

1. **Name of firm or organization:** Weyerhaeuser NR Company

2. **Briefly describe the operation of this unit or process in your facility: (separate forms are to be submitted for each type of process or for multiple units of one process type. If the unit or process receives input material from, or provides input material to, another operation, please indicate the relationship between the operations.) An application should be completed for each alternative operating scenario.**

   Operating scenario number 1

   In the sawmill area, logs are processed through equipment consisting of a Chip-N-Saw (CNS), a vertical gang saw, a board edger, and a green trimmer. Green chips from the sawmill and associated chipper are conveyed to a loading area for shipment. Green sawdust is conveyed to the fuel silo which feeds the continuous direct fired kiln (CDK). Green lumber is trimmed, sorted, and stacked, and then directed to the CDK. Dried lumber is then sent to the planer mill. After planning, the product lumber pieces are trimmed, stacked, and shipped. Planer shavings are pneumatically conveyed to truck bin for shipment.

3. **Type of unit or process (e.g., calcining kiln, cupola furnace):**

   Three continuous direct fired kilns

   Make: KDS Windsor **Model:**

   Rated process capacity (manufacturer's or designer's guaranteed maximum) in pounds/hour:

   Guaranteed at 106,000 MBF/hr based on 8400 hours of operation per kiln

   Manufactured date: **Proposed installation date:** 2017

   Original installation date (if existing):

   Reconstruction or Modification date (if applicable):

4. **Normal operating schedule:**

   Hours per day: 24 **Days per week:** 7 **Weeks per year:** 52

   Peak production season (if any):

5. Materials (feed input) used in unit or process (include solid fuel materials used, if any):

Material	Process Rate Average (lb/hr)	Maximum (lb/hr)	Quantity tons/year
Green lumber			360 MMBF/yr
Green sawdust fuel (dry)		11,500	50,500

6. Total heat input capacity of process heating equipment (exclude fuel used by indirect heating equipment previously described on Form ADEM-104): 35 MMBtu/hr

Fuel	Heat Content	Units	Max. % Sulfur	Max. % Ash	Grade No. [fuel oil only]	Supplier [used oil only]
Coal		Btu/lb				
Fuel Oil		Btu/gal				
Natural Gas		Btu/ft^3				
L. P. Gas		Btu/ft^3				
Wood	3600-4200	Btu/lb	0.01-0.04	0.5-1.5		
Other (specify)						

7. Products of process or unit:

Products	Quantity/year	Units of production
Dried lumber	360,000	MBF/yr
Planer Shavings & Dry Trim (dry)	74,000	Dry tons/yr

8. For each regulated pollutant, describe any limitations on source operation which affects emissions or any work practice standard (attach additional page if necessary):

9. Is there any emission control equipment on this emission source?

☐Yes ☒No (Where a control device exists, Form ADEM-110 must be completed and attached).

10. Air contaminant emission points: (Each point of emission should be listed separately and numbered so that it can be located on the attached flow diagram):

Emission Point	Height Above Grade (Feet)	Base Elevation (Feet)	Diameter (Feet)	Stack Gas Exit Velocity (Feet/Sec)	Volume of Gas Discharged (ACFM)	Exit Temperature (°F)
CDK-4	25	280	n/a[1]	n/a	~40,000	~150
CDKC-4	125	280	4.71	74.8	21,000	ambient
CDK-5	25	280	n/a[1]	n/a	~40,000	~150
CDKC-5	125	280	4.71	74.8	21,000	ambient
CDK-6	25	280	n/a[1]	n/a	~40,000	~150
CDKC-6	125	280	4.71	74.8	21,000	ambient

* Std temperature is 68°F - Std pressure is 29.92" in Hg.

1 – Four doors (2 at each end of kiln) at 15’2” x 8’

11. Air contaminants emitted: Basis of estimate (material balance, stack test, emission factor, etc.) must be clearly indicated on calculations appended to this form. Fugitive emissions must be included and calculations must be appended.

Emission Point	Pollutants	Potential Emissions			Regulatory Emission Limit	
		(lb/hr)	(Tons/yr)	Basis of Calculation	(lb/hr)	(units of standard)
CDK-4,5&6	PM	1.685	7.38	Test Similar Kiln	10.11	$E=1.38H^{-0.44}$
CDK-4,5&6	PM_{10}	3.180	13.93	Test Similar Kiln		
CDK-4,5&6	$PM_{2.5}$	3.180	13.93	Test Similar Kiln		
CDK-4,5&6	NOx	5.123	22.44	Batch Kiln Test		
CDK-4,5&6	CO	9.534	41.76	Batch Kiln Test		
CDK-4,5&6	$VOC_{as\ WPP1}$	64.932	284.40	BACT	75.75	4.74 lb /MBF
CDK-4,5&6	SO_2	0.875	3.83	AP-42 factor	140	4 lb/MMBTU
CDK-4,5&6	Lead	0.002	0.01	NCASI		
CDK-4,5&6	CO_2e	7,334	32,124	40 CFR Part 98		
CDK-4,5&6	Methanol	3.0143	12.6600	NCASI factor		
CDK-4,5&6	Formaldehyde	1.2800	5.3760	NCASI factor		
CDK-4,5&6	Acetaldehyde	0.6429	2.7000	NCASI factor		
CDK-4,5&6	Hydrochloric Acid	0.6650	2.9127	AP-42 factor		
CDK-4,5&6	Phenol	0.2614	1.0980	NCASI factor		
CDK-4,5&6	Acrolein	0.0857	0.3600	NCASI factor		
CDK-4,5&6	Propionaldehyde	0.0690	0.2898	NCASI factor		
CDK-4,5&6	Manganese	0.0018	0.0078	NCASI factor		
CDK-4,5&6	MIK	0.0324	0.1362	NCASI factor		
CDK-4,5&6	Benzene	0.0079	0.0330	NCASI factor		
CDK-4,5&6	Xylene	0.0029	0.0120	NCASI factor		
CDK-4,5&6	Toluene	0.0014	0.0060	NCASI factor		
CDK-4,5&6	Nickel	0.0006	0.0028	NCASI factor		
CDK-4,5&6	Arsenic	0.0001	0.0006	NCASI factor		
CDK-4,5&6	Chromium	0.0005	0.0023	NCASI factor		
CDK-4,5&6	Antimony	1.75E-05	0.0001	NCASI factor		
CDK-4,5&6	Cobalt	0.0000	0.0000	NCASI factor		
CDK-4,5&6	Cadmium	0.0002	0.0008	NCASI factor		
CDK-4,5&6	Mercury	0.0000	0.0001	NCASI factor		
CDK-4,5&6	Selenium	0.0001	0.0005	NCASI factor		
CDK-4,5&6	Beryllium	0.0000	0.0001	NCASI factor		
CDKC-4,5,6	PM	0.986	1.68	Oregon factor	10.61	$E= 3.59p^{0.62}$
CDKC-4,5,6	PM_{10}	0.936	1.60	Oregon factor		
CDKC-4,5,6	$PM_{2.5}$	0.788	1.35	Oregon factor		
CDKC-4,5,6	VOC	1.528	2.61	WeyCo factor		
PM-1	PM	5.4	7.37	Oregon factor	27.7	$E= 3.59p^{0.62}$
PM-1	PM_{10}	5.13	7.00	Oregon factor		
PM-1	$PM_{2.5}$	1.89	2.58	Oregon factor		
PM-1	VOC	3.24	4.42	WeyCo factor		

12. Using a flow diagram:

(1) Illustrate input of raw materials,

(2) Label production processes, process fuel combustion, process equipment and air pollution control equipment,

(3) Illustrate locations of air contaminant release so that emission points under item 10 can be identified.

(Attach extra pages as needed)
Process flow diagram

13. **Is this unit or process in compliance with all applicable air pollution rules and regulations?**

☒**Yes** ☐**No**

(if "no", a compliance schedule, Form ADEM-437 must be completed and attached.)

14. **Does the input material or product from this process or unit contain finely divided materials which could become airborne?**

☐**Yes** ☒**No**

15. **If "yes", is this material stored in piles or in some other facility as to make possible the creation of fugitive dust problems?**

☐**Yes** ☐**No**

List storage piles or other facility (if any):

Type of material	Particle size (diameter or screen size)	Pile size or facility (average tons)	Methods utilized to control fugitive emissions (wetted, covered, etc.)

Name of person preparing application: .....

Signature: ..... **Date:** .....

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
AIR DIVISION

INSTRUCTIONS FOR COMPLETION OF MANUFACTURING OR PROCESSING OPERATION FORM ADEM 105

All applicable portions of this form should be completed by printing or typing. When any item is not applicable, the letters "NA" should be placed in the left margin beside the item. If the entire Form ADEM 105 is not applicable to your plant or facility, items 1 through 4 and the signature block should be completed and the words "NOT APPLICABLE" should be inserted beneath the signature block. At least one copy of this Form must be included in the group of initial permit applications for each facility or plant.

A separate copy of this Form is to be completed for each process, operation, machine or other source which has the potential for emission of contaminants to the atmosphere. Two or more pieces of equipment may be grouped as a single permit unit.

Items 1 & 2: Self-explanatory

Item 3: Identify the equipment as specific type; i.e., state "open hearth furnace", "electric arc furnace", etc., rather than the general term, "furnace". When two or more pieces of equipment are grouped as a unit, then the individual component of the unit must be identified. If the unit receives input material from, or provides input material to, another operation in your facility, the relationship should be made clear.

Item 4: Self-explanatory

Item 5: All raw materials input to the unit are to be identified, including solid fuels such as coal or coke. Exclude fuels for indirect heat exchangers; these are to be included on Form ADEM 104.

Item 6: Do not include those fuels used in indirect heat exchangers, for which Form ADEM 104 is provided.

Item 7: List all products, including intermediates used in other operations, and those which are not usable because they do not meet specifications.

Item 8: May be included as part of monitoring plan (if so, please indicate in space provided)

Item 9: If the answer to this item is "yes", the application will not be considered complete unless Form ADEM 110 is attached to Form 105.

Item 10: Each stack, vent, etc. which may emit air contaminants is to be separately identified with a number which is also used in Item 12. Stack height is that above ground level. Standard temperature is 70°F; standard pressure is 29.92 inches of Hg. Volume of gas discharged can be calculated with the gas velocity (FPS) and stack diameter (Ft). Emission points not associated with a stack or vent should be labeled as "fugitives" under stack height.

Item 11: Each air contaminant which is known or suspected to be emitted from each emission point is to be listed. The allowable emission specified in the Regulation must be stated. The Department must be assured that the owner or operator has a clear understanding of the allowable emission rate.

Item 12: If applications for more than one process are being submitted for a facility, the use of a single flow diagram for the entire facility is allowed. Use of one flow diagram is suggested for integrated operations. Points of air contaminant emissions are to be numbered to correspond with those points listed in Item 10.

Item 13: If the answer is no, then an ADEM 437 form should be attached.

Item 14: Self-explanatory

Item 15: This item is designed to determine if there are any fugitive dust problems associated with material handling of either the raw materials or finished products used in the process.

USE ADDITIONAL SHEETS IF NECESSARY

PERMIT APPLICATION
FOR
MANUFACTURING OR PROCESSING OPERATION

			-					-				

Do not write in this space

1. **Name of firm or organization:** Weyerhaeuser NR Company

2. **Briefly describe the operation of this unit or process in your facility: (separate forms are to be submitted for each type of process or for multiple units of one process type. If the unit or process receives input material from, or provides input material to, another operation, please indicate the relationship between the operations.) An application should be completed for each alternative operating scenario.**

   Operating scenario number 1

   In the sawmill area, logs are processed through equipment consisting of a Chip-N-Saw (CNS), a vertical gang saw, a board edger, and a green trimmer. Green chips from the sawmill and associated chipper are mechanically conveyed to a truck shipment bin. Bark from debarker are hogged and conveyed mechanically to a truk shipment bin. Facility roads included.

3. **Type of unit or process (e.g., calcining kiln, cupola furnace):**

   Sawmill

   Make: _____ **Model:** _____

   Rated process capacity (manufacturer's or designer's guaranteed maximum) in pounds/hour:

   1,500,000 tons logs/yr

   Manufactured date: _____ **Proposed installation date:** 2017

   Original installation date (if existing): _____

   Reconstruction or Modification date (if applicable): _____

4. **Normal operating schedule:**

   Hours per day: 24 **Days per week:** 7 **Weeks per year:** 52

   Peak production season (if any): _____

5. Materials (feed input) used in unit or process (include solid fuel materials used, if any):

Material	Process Rate Average (lb/hr)	Maximum (lb/hr)	Quantity tons/year
logs			1,500,000

6. Total heat input capacity of process heating equipment (exclude fuel used by indirect heating equipment previously described on Form ADEM-104): 35 MMBtu/hr

Fuel	Heat Content	Units	Max. % Sulfur	Max. % Ash	Grade No. [fuel oil only]	Supplier [used oil only]
Coal		Btu/lb				
Fuel Oil		Btu/gal				
Natural Gas		Btu/ft^3				
L. P. Gas		Btu/ft^3				
Wood		Btu/lb				
Other (specify)						

7. Products of process or unit:

Products	Quantity/year	Units of production
Sawn green lumber	360,000	MBF/yr
Chips	258,000	Dry tons/yr
Bark	90,000	Dry tons/yr

8. For each regulated pollutant, describe any limitations on source operation which affects emissions or any work practice standard (attach additional page if necessary):

9. Is there any emission control equipment on this emission source?

☐Yes ☒No (Where a control device exists, Form ADEM-110 must be completed and attached).

10. Air contaminant emission points: (Each point of emission should be listed separately and numbered so that it can be located on the attached flow diagram):

Emission Point	Height Above Grade (Feet)	Base Elevation (Feet)	Diameter (Feet)	Stack Gas Exit Velocity (Feet/Sec)	Volume of Gas Discharged (ACFM)	Exit Temperature (°F)

* Std temperature is 68°F - Std pressure is 29.92" in Hg.

1 – Four doors (2 at each end of kiln) at 15’2” x 8’

11. Air contaminants emitted: Basis of estimate (material balance, stack test, emission factor, etc.) must be clearly indicated on calculations appended to this form. Fugitive emissions <u>must be included</u> and calculations must be appended.

Emission Point	Pollutants	Potential Emissions (lb/hr)	Potential Emissions (Tons/yr)	Potential Emissions Basis of Calculation	Regulatory Emission Limit (lb/hr)	Regulatory Emission Limit (units of standard)
Sawmill Fugitives	PM	3.15	13.8	AP-42 & NCASI factors, professional judgement	39.4	$E = 17.31P^{0.16}$
	PM10		2.6			
	PM2.5		0.9			

12. Using a flow diagram:

(1) Illustrate input of raw materials,

(2) Label production processes, process fuel combustion, process equipment and air pollution control equipment,

(3) Illustrate locations of air contaminant release so that emission points under item 10 can be identified.

(Attach extra pages as needed)
Process flow diagram

13. **Is this unit or process in compliance with all applicable air pollution rules and regulations?**

☒**Yes** ☐**No**

(if "no", a compliance schedule, Form ADEM-437 must be completed and attached.)

14. **Does the input material or product from this process or unit contain finely divided materials which could become airborne?**

☐**Yes** ☒**No**

15. **If "yes", is this material stored in piles or in some other facility as to make possible the creation of fugitive dust problems?**

☐**Yes** ☐**No**

List storage piles or other facility (if any):

Type of material	Particle size (diameter or screen size)	Pile size or facility (average tons)	Methods utilized to control fugitive emissions (wetted, covered, etc.)

Name of person preparing application: _____

Signature: _____ **Date:** _____

Appendix B – Emission Calculations

Planer Mill Shavings/Dry Trim Cyclone (PM-1)

	EF (lb/BDT)	Short Term Emissions (lb/hr)	Annual Emissions (Tons/yr)	Annual Emissions (lb/MBF)
PM	0.2	5.40	7.37	0.041
PM_{10}	0.19	5.13	7.00	0.039
$PM_{2.5}$	0.07	1.89	2.58	0.014
VOC	0.12	3.24	4.42	0.025

PM/PM $_{10}$ emission factors from Oregon MDEQ Emission Factor Documents AQ-EF02 & AQ-EF03
PM $_{2.5}$ assumed 35% of PM based on Philadelphia Mill test
Short term emissions based on 27 tons/hr residual transfer
lb/MBF based on annual residual production of 73,678 BDT/yr and 360 MMBF/yr

Continuous Direct Fired Kiln Maximum Uncontrolled Emissions

Basis: Maximum production rate 120,000 MBF/yr [Manufacturer's guarantee of 106 MMBF/yr]
35 MMBTU/hr

Emission Factors:

Pollutant	Factor	Units	Reference
PM	0.0975	lb/mmbtu	Filterable PM average of PM tests conducted at Rex Lumber, Brookhaven, MS plus 25%. Filterable PM_{10} and $PM_{2.5}$ assumed equal to filterable PM. Condensable PM assumed equal to AP-42 factor for wood fired boiler plus 40%.
PM_{10}+CPM	0.121	lb/mmbtu	
$PM_{2.5}$+CPM	0.121	lb/mmbtu	
NO_x	0.18	lb/mmbtu	Average of direct fired batch kiln tests conducted at Weyerhaeuser McComb, MS.
CO	0.322	lb/mmbtu	
$VOC_{as\ C}$	3.38	lb/MBF	Average of NCASI test data for direct fired batch kilns
Methanol	0.196	lb/MBF	Average NCASI test data for continuous direct fired kilns.
Formaldehyde	0.0735	lb/MBF	
SO_2	0.025	lb/mmbtu	AP-42 Table 1.6-2. EMISSION FACTORS FOR NOx, SO2, AND CO FROM WOOD RESIDUE COMBUSTION. Bark/bark and wet wood/wet wood-fired boiler
Lead	5.70E-05	lb/mmbtu	NCASI (B)-Technical Bulletin No. 858 Summary of Trace Metal Emissions from Wood-Fired Boilers (Wet
CO2	93.8	kg/mmbtu	Table C-1 to Subpart C of Part 98—Default CO_2 Emission Factors and High Heat Values for Various Types of Fuel
CH_4	7.20E-03	kg/mmbtu	Table C-2 to Subpart C of Part 98—Default CH4 and N2O Emission Factors for Various Types of Fuel
N_2O	3.60E-03	kg/mmbtu	

Name	CAS No.	Chemical formula	Global warming potential	Reference
Carbon dioxide	124-38-9	CO_2	1	Table A-1 to Subpart A of Part 98—Global Warming Potentials
Methane	74-82-8	CH_4	25	
Nitrous oxide	10024-97-2	N_2O	298	

Emissions:

Pollutant	lb/hr	TPY
PM	3.413	14.95
PM_{10}+CPM	4.246	18.60
$PM_{2.5}$+CPM	4.246	18.60
NO_x	6.300	27.59
CO	11.270	49.36
$VOC_{as\ WPP1}$	64.932	284.40
SO_2	0.875	3.83
Lead	0.002	0.01
CO_2	7,237.654	31,700.93
CH_4	0.556	2.43
N_2O	0.278	1.22
CO_{2e}	7,334.321	32,124.33

Calculation Basis
For pollutants with emission factors in lb/MBF, the annual emissions was obtained by multiplying the emission factor by the maximum potential production rate of 140,000 MBF/yr. Hourly emissions were determined by dividing annual emissions by 4.38 tons/yr per lb/hour
For pollutants based on mmbtu, hourly emissions were determined by multiplying by the burner heat input of 35 mmbtu/hr. Annual emissions were determined by multiplying the hourly emissions by 4.38 tons/yr per lb/hr
$VOC_{as\ WPP1}$ = 4.70 lb/MBF based on average NCASI values and 10% safety factor
CO_2e was determined by multiplying by the global warming potential

HAP Emissions:

Hazardous Air Pollutant	Factor	Units	Reference	lb/hr	TPY	Calculation Basis
Acetaldehyde	4.50E-02	lb/MBF	NCASI	0.6429	2.7000	Short term rates are based on 14.28 MBF/hr Long term rates are based on 120,000 MBF/yr For emission factors in lb/mmbtu a heat input of 35 MMBTU/hr was used.
Formaldehyde	8.96E-02	lb/MBF	NCASI	1.2800	5.3760	
Methanol	2.11E-01	lb/MBF	NCASI	3.0143	12.6600	
Phenol	1.83E-02	lb/MBF	NCASI	0.2614	1.0980	
Acrolein	6.00E-03	lb/MBF	NCASI	0.0857	0.3600	
Propionaldehyde	4.83E-03	lb/MBF	NCASI	0.0690	0.2898	
Hydrochloric Acid	1.90E-02	lb/mmbtu	AP-42 (A)	0.6650	2.9127	
Benzene	5.50E-04	lb/MBF	NCASI	0.0079	0.0330	
Toluene	1.00E-04	lb/MBF	NCASI	0.0014	0.0060	
Xylene	2.00E-04	lb/MBF	NCASI	0.0029	0.0120	
MIK	2.27E-03	lb/MBF	NCASI	0.0324	0.1362	
Antimony	5.00E-07	lb/mmbtu	NCASI (B)	1.75E-05	0.0001	
Arsenic	3.90E-06	lb/mmbtu	NCASI (B)	0.0001	0.0006	
beryllium	9.10E-07	lb/mmbtu	NCASI (B)	0.0000	0.0001	
Cadmium	5.20E-06	lb/mmbtu	NCASI (B)	0.0002	0.0008	
Chromium	1.50E-05	lb/mmbtu	NCASI (B)	0.0005	0.0023	
Cobalt	2.00E-07	lb/mmbtu	NCASI (B)	0.0000	0.0000	
Lead	5.70E-05	lb/mmbtu	NCASI (B)	0.0020	0.0087	
Nickel	1.80E-05	lb/mmbtu	NCASI (B)	0.0006	0.0028	
Manganese	5.10E-05	lb/mmbtu	NCASI (B)	0.0018	0.0078	
Mercury	5.70E-07	lb/mmbtu	NCASI (B)	0.0000	0.0001	
Selenium	3.30E-06	lb/mmbtu	NCASI (B)	0.0001	0.0005	

NCASI- NCASI Database Viewer Version 1.0.0.4. (Feb 2013) Maximum Test
NCASI (B)- Technical Bulletin No. 858 Summary of Trace Metal Emissions from Wood-Fired Boilers (Wet Scrubber)
AP-42- AP-42 Table 1.6-4 Trace Elements for combustion of wood residue
AP-42 (A) - AP-42 Table 1.6-3. Emission Factors for Speciated Organic Compounds, TOC, VOC, NOx, AND CO_2 from Wood Residue Combustion

Continuous Direct Fired Kiln Startup Uncontrolled Emissions

Basis: Startup Period 12 hours
Heat input increase 12.5% for first 8 hours and maximum burner capacity for final 4 hours of startup
Emissions equal to AP-42 factors for uncontrolled wood fired boiler
4 startups per kiln per year (144 startup hours)

Startup Emissions:

Heat Input	**MMBtu/hr**	4.375	8.75	13.125	17.5	21.875	26.25	30.625	35	35	35	35	35	**Startup**		**Normal**
Hour		1	2	3	4	5	6	7	8	9	10	11	12	**Total**	**Average**	**Operation**
Pollutant	**Emission Factor (lb/MMBtu)**	Hourly Emissions (lb/hr)												**lb/12 hrs**	**lb/hr**	**lb/hr**
PM	0.33	1.44	2.89	4.33	5.78	7.22	8.66	10.11	11.55	11.55	11.55	11.55	11.55	98.18	8.18	3.4125
PM_{10}+CPM	0.29	1.27	2.54	3.81	5.08	6.34	7.61	8.88	10.15	10.15	10.15	10.15	10.15	86.28	7.19	4.2455
$PM_{2.5}$+CPM	0.25	1.09	2.19	3.28	4.38	5.47	6.56	7.66	8.75	8.75	8.75	8.75	8.75	74.38	6.20	4.2455
NO_x	0.22	0.96	1.93	2.89	3.85	4.81	5.78	6.74	7.70	7.70	7.70	7.70	7.70	65.45	5.45	6.3
CO	0.6	2.63	5.25	7.88	10.50	13.13	15.75	18.38	21.00	21.00	21.00	21.00	21.00	178.50	14.88	11.27
VOC	0.017	0.07	0.15	0.22	0.30	0.37	0.45	0.52	0.60	0.60	0.60	0.60	0.60	5.06	0.42	64.93151
SO_2	0.025	0.11	0.22	0.33	0.44	0.55	0.66	0.77	0.88	0.88	0.88	0.88	0.88	7.44	0.62	0.875
Lead	4.80E-05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	1.19E-03	2.00E-03
CO_2	206.79	904.71	1809.41	2714.12	3618.83	4523.53	5428.24	6332.95	7237.65	7237.65	7237.65	7237.65	7237.65	61520.06	5126.67	7237.654
CH_4	1.59E-02	0.07	0.14	0.21	0.28	0.35	0.42	0.49	0.56	0.56	0.56	0.56	0.56	4.72	0.39	0.555556
N_2O	7.94E-03	0.03	0.07	0.10	0.14	0.17	0.21	0.24	0.28	0.28	0.28	0.28	0.28	2.36	0.20	0.277778
CO_{2e}	209.55	916.79	1833.58	2750.37	3667.16	4583.95	5500.74	6417.53	7334.32	7334.32	7334.32	7334.32	7334.32	62341.73	5195.14	7334.321

Excess Startup Emissions: = [144 hours]x[(Avg startup lb/hr)-(Normal Operation lb/hr)]

	Startup	**Normal**	**Excess Startup**	
Pollutant	**lb/hr**	**lb/hr**	**lb/hr**	**TPY**
PM	8.18	3.4125	4.77	0.34
PM_{10}+CPM	7.19	4.2455	2.94	0.21
$PM_{2.5}$+CPM	6.20	4.2455	1.95	0.14
CO	14.88	11.27	3.61	0.26

CDK Fuel Cyclone Maximum Uncontrolled Emissions

Basis: Sawmill operation of 90 hours per week
6 tons of fuel at 56% mc (wet basis) for CDK operating 24/7
HHV Short Leaf Pine of 9,100 Btu/lb

Emission Factors:

0.2	lb/dry ton PM	State of Oregon Department of Environmental Quality AQ-EF02. Cyclone – high efficiency
0.95	PM_{10}/PM FRACTION	State of Oregon Department of Environmental Quality AQ-EF03. Cyclone – high efficiency
0.8	$PM_{2.5}$/PM FRACTION	State of Oregon Department of Environmental Quality AQ-EF03. Cyclone – high efficiency
0.31	lb VOC/dry ton	Weyerhaeuser TV Cross Functional Team Information Bulletin

Max Cyclone throughput: 6 tons/hr x 24 hrs/day x 7 days/wk / 90 hours/week
= 11.20 tons/hr (wet basis)
= 4.93 tons/hr (dry basis)

Avg cyclone throughput: 35,000,000 Btu/hr / [(9,100 Btu/lb)(2,000 lb/ton)]
= 1.92 tons/hr (dry basis)

Emissions:

	Rate	Units	Rate	Units
PM	0.986	lb/hr	1.68	TPY
PM_{10}	0.936	lb/hr	1.60	TPY
$PM_{2.5}$	0.788	lb/hr	1.35	TPY
VOC	1.528	lb/hr	2.61	TPY

335-3-4-.04 Process Industries

$E = 3.59P^{0.62}$, where P = 11.2 tons/hr

E = 16.05 lb/hr

	PM	PM_{10}	$PM_{2.5}$
Roads	8.74	1.75	0.43
Bark and Chip Handling	3.24	0.23	0.04
Log Bucking	0.01	0.01	0.00
Debarking	1.79	0.36	0.18
Bark Hog	0.51	0.35	0.25
Total Fugitives	14.28	2.70	0.90

Item	Throughput	Units	Load	Weight	Units	No. of Loads
Bark	**144331**	tons/yr	Bark Load	23	tons	6275
Shavings	**88414**	tons/yr	Shavings Load	20	tons	4421
Chips	**456019**	tons/yr	Chips Load	25	tons	18241
%Lumber by Truck	**75%**	By Rail	25%			
Finished Lumber	**360000**	MBF/yr	Lumber Load	25	tons	17658
Logs	**1570909**	tons/yr	Logs Load	27	tons	58182
			Empty Truck	13	tons	

$E = k (sL)^{0.91} \times (W)^{1.02}$ AP-42 Paved Road Emission Factor Equation (January 2011)

e 13.2.1-1. PARTICLE SIZE MULTIPLIERS FOR PAVED ROAD EQUA			
Particle Size Multiplier, k (lb/VMT)			**Silt Loading**
PM	**PM10**	**PM2.5**	**g/m^2**
0.011	0.0022	0.00054	0.6
Silt Loading for ADT<500 was used.			

									Road Emission Factor (lb/VMT)			**Emissions (TPY)**			**Emissions (lb/hr)**		
Road	**Length (ft)**	**Truck**	**Load**	**Weight**	**No Trucks**	**Avg Weight**	**No Vehicles**	**VMT**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**PM**	**PM_{10}**	**$PM_{2.5}$**
Segment 1	1077.25	Log Trucks	Empty	13	58182	26.0	174237.1	35548.7	0.1914	0.0383	0.0094	3.4022	0.6804	0.1670	0.7768	0.1554	0.0381
			Full	40	58182												
		Chip Trucks	Empty	13	18241												
			Full	38	18241												
		Shavings Trucks	Empty	13	4421												
			Full	33	4421												
		Bark Trucks	Empty	13	6275												
			Full	36	6275												
Segment 2	558	Log Trucks	Empty	13	58182	26.1	137755.5	14558.3	0.1924	0.0385	0.0094	1.4006	0.2801	0.0688	0.3198	0.0640	0.0157
			Full	40	58182												
		Shavings Trucks	Empty	13	4421												
			Full	33	4421												
		Bark Trucks	Empty	13	6275												
			Full	36	6275												
Segment 3	533	Log Trucks	Full	40	58182	40.0	58181.8	5873.3	0.2976	0.0595	0.0146	0.8739	0.1748	0.0429	0.1995	0.0399	0.0098
Segment 4	984.5	Log Trucks	Empty	13	58182	16.0	79573.7	14837.2	0.1169	0.0234	0.0057	0.8669	0.1734	0.0426	0.1979	0.0396	0.0097
		Shavings Trucks	Empty	13	4421												
			Full	33	4421												
		Bark Trucks	Empty	13	6275												
			Full	36	6275												
Segment 5	374	Shavings Trucks	Empty	13	4421	23.9	21391.9	1515.3	0.1760	0.0352	0.0086	0.1333	0.0267	0.0065	0.0304	0.0061	0.0015
			Full	33	4421												
		Bark Trucks	Empty	13	6275												
			Full	36	6275												
Segment 6	543.5	Shavings Trucks	Full	33	4421	34.8	10695.9	1101.0	0.2582	0.0516	0.0127	0.1421	0.0284	0.0070	0.0324	0.0065	0.0016
		Bark Trucks	Full	36	6275												
Segment 7	506.9	Chip Trucks	Empty	13	18241	25.5	36481.5	3502.4	0.1880	0.0376	0.0092	0.3292	0.0658	0.0162	0.0752	0.0150	0.0037
			Full	38	18241												
Segment 8	670.1	Chip Trucks	Empty	13	20367	13.0	20367.0	2584.8	0.0946	0.0189	0.0046	0.1222	0.0244	0.0060	0.0279	0.0056	0.0014
Segment 9	1357.7	Lumber Trucks	Empty	13	17658	25.5	35316.0	9081.2	0.1880	0.0376	0.0092	0.8537	0.1707	0.0419	0.1949	0.0390	0.0096
			Full	38	17658												
Segment 10	1437.5	Lumber Trucks	Empty	13	17658	13.0	17658.0	4807.5	0.0946	0.0189	0.0046	0.2273	0.0455	0.0112	0.0519	0.0104	0.0025
Segment 11	825.6	Lumber Trucks	Full	38	17658	38.0	17658.0	2761.1	0.2824	0.0565	0.0139	0.3899	0.0780	0.0191	0.0890	0.0178	0.0044
											Totals	**8.74**	**1.75**	**0.43**	**2.00**	**0.40**	**0.10**

Shortleaf Pine Residuals Estimates

Wood Densities (lb/ft^3)							Bark Vol. as % Wood Vol.
Green Wood				Bark			
green weight	oven dried at 12% MC	oven dried	MC % oven dried	green weight	oven dried	MC % oven dried	
52	31.8	29.3	77%	35	21.8	60%	16%

Source: USDA Research Note NRS-38

CRR for mix of logs	
Wood Product	58%
Sawdust	8%
Chips	34%

Source: Forest Products Measurements and Conversion Factors, Briggs 1994. Adjusted to equal target of 4.14 tons logs/MBF

Residual Estimates BDT/yr		green ton/yr
Bark	90,207	144,331
Sawdust	60,621	107,299
Chips	257,638	456,019

Calculations Basis

Production 360,000 MBF/yr

Volume Ratio 83.33 ft^3/MBF

Log Wood Volume = (Production Capacity MBF)(83.33 ft3/MBF)/(Wood CRR)
Log Wood Volume = (360000 MBF/yr) x (83.33 ft3/MBF) / 0.58
= 51,724,138 ft^3

Bark Volume = (Log Wood Volume)(Bark Volume as % of Wood Volume)
Bark Volume = (51724138 ft3)x(0.16)
= 8,275,862.07 ft^3

Bark Weight = (Bark Volume)(Oven Dry Density)
Bark Weight = (8275862 ft3)x(21.8lb/ft3)
= 180,413,793 lb (oven dry)
= 90,207 tons (oven dry)

Estimated Log Use = [(Log Wood Volume)(Wood Density)+(Bark Volume)(Bark Density)]/2000 lb/ton
= 1,489,655 tons-logs/yr

Chips Volume = (Log Wood Volume)(Chips CRR)
Chips Volume = (51724138 ft3) (0.34)
= 17,586,206.90 ft3

Chips Weight = (Chips Volume)(Oven Dry Density)
Chips Weight = (17586207 ft3)(29.3lb/ft3)
= 515,275,862 lb (oven dry)
= 257,638 tons (oven dry)

Sawdust Volume = (Wood Volume)(Sawdust CRR)
Sawdust Volume = (51724138 ft3)(0.08)
= 4,137,931.03 ft^3

Sawdust Weight =(Sawdust Volume)(Sawdust CRR)
Sawdust Weight=(4137931 ft3)(29.3lb/ft3)
= 121,241,379 lb (oven dry)
= 60,621 tons (oven dry)

Bark and Chip Handling Emissions Estimates

Residual Type	Moisture Content	Silt Fraction %
Fresh Wood Chips	50%	0.00014%
Fresh Bark	50%	0.00180%
Hogged Bark	50%	0.00024%

Source: NCASI SPECIAL REPORT NO. 15-01

Average Total Potential Filterable PM_{10} and $PM_{2.5}$ for Chips and Bark

Residual Type	PM_{10} (lb PM_{10}/ton of Bulk Material)	$PM_{2.5}$ (lb $PM_{2.5}$/ton of Bulk Material)
Fresh Wood Chips	1.60E-04	2.80E-05
Fresh Bark	2.70E-03	4.50E-04
Hogged Bark	1.20E-03	2.20E-04

Source: NCASI SPECIAL REPORT NO. 15-01

Basis: **All potential PM/PM_{10}/$PM_{2.5}$ is released from parent material**

Residual Estimates	BDT/yr	green ton/yr
Bark	90,207	144,331
Chips	257,638	456,019

Potential: **Bark & Chip Conveying and Truck Loading**

	PM (TPY)	PM_{10} (TPY)	$PM_{2.5}$ (TPY)
Bark	2.60	0.19	0.03
Chips	0.64	0.04	0.01
Total	3.24	0.23	0.04

	Pollutant	Emission Factor		Future Potential	
			Tons Logs/yr====>>	1,489,655	Reference
Aeria	Pollutant	Factor	Units	TPY	
Log Bucking	PM	0.000013	lb/ton-log	0.01	Sawdust estimated at 0.0026 tons/ton logs
	PM_{10}	0.0000091	lb/ton-log	0.01	PM estimated as 0.005 lb/ton sawdust
	$PM_{2.5}$	0.0000065	lb/ton-log	0.00	PM_{10} assumed 70% of PM and $PM_{2.5}$ assumed 50% of PM
Log Debarking	PM	0.0024	lb/ton-log	1.79	PM estimated as 10% of AP-42 1980 factor for drum debarker
	PM_{10}	0.00048	lb/ton-log	0.36	PM_{10} assumed as 20% of PM and
	$PM_{2.5}$	0.00024	lb/ton-log	0.18	$PM_{2.5}$ assumed as 50% of PM_{10}
			Wet Tons Bark====>>	144,331	
Bark Hog	PM	0.007	lb/ton bark	0.51	
	PM_{10}	0.0049	lb/ton bark	0.35	PM assumed equal to hogged bark cyclone at another Weyerhaeuser
	$PM_{2.5}$	0.0035	lb/ton bark	0.25	facility. PM_{10} assumed 70% of PM and $PM_{2.5}$ assumed 50% of PM.

Appendix C – RACT/BACT/LAER Clearinghouse Report

COMPREHENSIVE REPORT
Report Date:01/29/2016

Facility Information

RBLC ID:	AR-0124 (draft)	**Date Determination Last Updated:**	08/26/2015
Corporate/Company Name:	UNION COUNTY LUMBER COMPANY	**Permit Number:**	2348-AOP-R0
Facility Name:	EL DORADO SAWMILL	**Permit Date:**	08/03/2015 (actual)
Facility Contact:	ROBERT HANRY 8703159397 RHANRY@COMACT.COM	**FRS Number:**	
Facility Description:	SAWMILL AFIN: 70-00032AFIN: 70-00032	**SIC Code:**	2421
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	321113
Permit URL:	HTTPS://WWW.ADEQ.STATE.AR.US/DOWNLOADS/WEBDATABASES/PERMITSONLINE/AIR/2348-AOP-R0.PDF		
EPA Region:	6	**COUNTRY:**	USA
Facility County:	UNION		
Facility State:	AR		
Facility ZIP Code:	71730		
Permit Issued By:	ARKANSAS DEPT OF ENVIRONMENTAL QUALITY (Agency Name) MR. TOM RHEAUME(Agency Contact) (501) 682-0762 rheaume@adeq.state.ar.us		
Other Agency Contact Info:	TOM RHEAUME 501-682-0762		
Permit Notes:	AFIN: 70-00032		

Affected Boundaries:

Boundary Type:	Class 1 Area State:	Boundary:	Distance:
CLASS1	AL	Sipsey	100km - 50km

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Particulate Matter (PM)	56.3000 (Tons/Year)
Volatile Organic Compounds (VOC)	599.3000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME:	LUMBER DRYING KILN SN-01
Process Type:	30.800 (Wood Lumber Kilns)
Primary Fuel:	NATURAL GAS
Throughput:	45.00 MMBTU/H
Process Notes:	SN-02 DIRECT-FIRED, MAX 18.5 MBF/HR, LOW NOX BURNERS

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 3.8000 LB/MBF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NESHAP , OPERATING PERMIT
Control Method: (N) PROPER MAINTENANCE AND OPERATION
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0220 LB/MBF
Emission Limit 2: 7.6000 LB/MMSCF
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (N) PROPER MAINTENANCE AND OPERATION AND NATURAL GAS (CLEAN FUEL)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: LUMBER DRYING KILN SN-02
Process Type: 30.800 (Wood Lumber Kilns)
Primary Fuel: NATURAL GAS
Throughput: 45.00 MMBTU/H
Process Notes: SN-02, DIRECT-FIRED, MAX 18.5 MBF/HR, LOW-NOX BURNERS

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 3.8000 LB/MBF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NESHAP , OPERATING PERMIT
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0220 LB/MBF
Emission Limit 2: 7.6000 LB/MMSCF
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: OPERATING PERMIT

Control Method: (N) PROPER MAINTENANCE AND OPERATION AND NATURAL GAS (CLEAN FUEL)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: LUMBER DRYING KILN SN-03

Process Type: 30.800 (Wood Lumber Kilns)

Primary Fuel: NATURAL GAS

Throughput: 45.00 MMBTU/H

Process Notes: SN-03, DIRECT-FIRED, MAX 18.5 MBF/HR, LOW-NOX BURNERS

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 3.8000 LB/MBF

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NESHAP , OPERATING PERMIT

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0220 LB/MBF

Emission Limit 2: 7.6000 LB/MMSCF

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: OPERATING PERMIT

Control Method: (N) PROPER MAINTENANCE AND OPERATION AND NATURAL GAS (CLEAN FUEL)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: ELEVEN OIL STORAGE TANKS SN-14

Process Type: 42.009 (Volatile Organic Liquid Storage)

Primary Fuel:

Throughput: 0

Process Notes: SN-14, VARIOUS SIZES

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.3000 LB/H

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: OPERATING PERMIT

Control Method: (N) ENCLOSED TANKS, TANKS ARE LIGHT COLOR

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: THREE DIESEL STORAGE TANKS SN-15

Process Type: 42.009 (Volatile Organic Liquid Storage)

Primary Fuel:

Throughput: 0

Process Notes: SN-15, THREE, VARIOUS SIZES

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.4000 LB/H

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: OPERATING PERMIT

Control Method: (N) TANKS ARE LIGHT COLOR

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: ONE GASOLINE STORAGE TANK SN-16
Process Type: 42.009 (Volatile Organic Liquid Storage)
Primary Fuel:
Throughput: 0
Process Notes: SN-16, 5,890 GALLONS, ONE TANK

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.0220 LB/MBF
Emission Limit 2: 7.6000 LB/MMSCF
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (N) TANKS ARE LIGHT COLOR
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: DEBARKER SN-04
Process Type: 30.999 (Other Wood Products Industry Sources)
Primary Fuel:
Throughput: 0
Process Notes: DEBARKER WITH HOOD ENCLOSURE

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0200 LB/T
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Control Method: (A) HOOD ENCLOSURE - EFFICIENCY FROM NC-DENR
Est. % Efficiency: 95.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: SAWMILL SN-05
Process Type: 30.007 (Woodworking)
Primary Fuel:
Throughput: 0
Process Notes: SAWMILL LOCATED INSIDE A BUILDING

POLLUTANT NAME: Particulate matter, total (TPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.3500 LB/T
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: OPERATING PERMIT

Control Method: (A) SAWMILL LOCATED INSIDE BUILDING

Est. % Efficiency: 90.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: PLANER MILL SN-06

Process Type: 30.999 (Other Wood Products Industry Sources)

Primary Fuel:

Throughput: 0

Process Notes:

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0040 GR/SCF

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: OPERATING PERMIT

Control Method: (B) CYCLONE + BAGHOUSE AIR FLOW RATES AND OUTLET GRAIN LOADING BASED ON VENDOR TESTING - PROPER MAINTENANCE AND OPERATION

Est. % Efficiency: 99.990

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Yes

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: YATES HOG MILL SN-07

Process Type: 30.999 (Other Wood Products Industry Sources)

Primary Fuel:

Throughput: 0

Process Notes:

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0010 GR/DSCF

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: OPERATING PERMIT

Control Method: (B) CYCLONE - AIR FLOW RATE AND OUTLET GRAIN LOADING, BASED ON STACK TEST - PROPER MAINTENANCE AND OPERATION

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Yes

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: TRUCK BIN SN-08

Process Type: 30.999 (Other Wood Products Industry Sources)

Primary Fuel:

Throughput: 0

Process Notes:

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0020 GR/DSCF

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: OPERATING PERMIT

Control Method: (B) CYCLONE - PROPER MAINTENANCE AND OPERATION

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: HAUL ROADS SN-09

Process Type: 99.150 (Unpaved Roads)

Primary Fuel:

Throughput: 0

Process Notes:

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 12.7000 LB/H

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: OPERATING PERMIT

Control Method: (P) ROAD WATERING PLAN + 0% OFF-SITE OPACITY

Est. % Efficiency: 90.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: MATERIAL PROCESSING SN-11

Process Type: 30.999 (Other Wood Products Industry Sources)

Primary Fuel:

Throughput: 0

Process Notes:

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0200 LB/T

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: OPERATING PERMIT

Control Method: (N) PROPER MAINTENANCE AND OPERATION

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: STORAGE PILES FOR BARK, SAWDUST, WOOD CHIPS SN-12

Process Type: 13.120 (Biomass (includes wood, wood waste, bagasse, and other biomass))

Primary Fuel:

Throughput: 0

Process Notes:

POLLUTANT NAME: Particulate matter, total (TPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0200 LB/T

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: OPERATING PERMIT

Control Method: (P) WATERING PILES

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: PLANER MILL WOODWASTE STORAGE BIN SN-13

Process Type: 30.999 (Other Wood Products Industry Sources)

Primary Fuel:

Throughput: 0

Process Notes:

POLLUTANT NAME:	Particulate matter, total (TPM)
CAS Number:	PM
Test Method:	Unspecified
Pollutant Group(s):	(Particulate Matter (PM))
Emission Limit 1:	0.0011 LB/T
Emission Limit 2:	
Standard Emission:	
Did factors, other then air pollution technology considerations influence the BACT decisions:	N
Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Control Method:	(P) STORAGE BIN BARRIER
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	No
Pollutant/Compliance Notes:	

Facility Information

RBLC ID:	AL-0305 (draft)	**Date Determination Last Updated:**	06/30/2015
Corporate/Company Name:	RESOLUTE FP U.S., INC.	**Permit Number:**	309-0072-X002
Facility Name:	RESOLUTE FOREST PRODUCTS - ALABAMA SAWMILL	**Permit Date:**	06/24/2015 (actual)
Facility Contact:	DAVID STEWART 256-861-8880	**FRS Number:**	
Facility Description:	Lumber Mill	**SIC Code:**	2421
Permit Type:	B: Add new process to existing facility	**NAICS Code:**	
Permit URL:			
EPA Region:	4	**COUNTRY:**	USA
Facility County:	TALLADEGA		
Facility State:	AL		
Facility ZIP Code:	35044		

Permit Issued By: ALABAMA DEPT OF ENVIRONMENTAL MGMT (Agency Name)
MR. ANTHONY SMILEY(Agency Contact) 334-271-7803 ASmiley@adem.state.al.us

Other Agency Contact Info: NAICS Code: 321113

Permit Notes:

Affected Boundaries:

Boundary Type:	Class 1 Area State:	Boundary:	Distance:
INTL BORDER		US/Canada Border	< 100 km

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	121.0000 (Tons/Year)
Nitrogen Oxides (NOx)	46.0000 (Tons/Year)
Particulate Matter (PM)	46.0000 (Tons/Year)
Sulfur Oxides (SOx)	11.0000 (Tons/Year)
Volatile Organic Compounds (VOC)	626.0000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Continuous Direct-Fired Lumber Dry Kilns with 35 mmbtu/hr Wood Fired Burner

Process Type: 30.800 (Wood Lumber Kilns)

Primary Fuel: Wood

Throughput: 108.33 mmbf/yr - each

Process Notes:

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: EPA/OAR Mthd 10

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.7300 LB/MBF ROLLING 12 MONTHS

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: OPERATING PERMIT

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Eventhough the method is No Control, proper maintenance and operating procedures.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 3.7600 LB/MBF ROLLING 12 MONTHS

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: OPERATING PERMIT

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: Emissions Limits: 3.76 lb/mbf as Terpene and Methanol and Formaldehyde rolling 12 months.

Facility Information

RBLC ID:	AR-0122 (draft)	**Date Determination**	
		Last Updated:	08/12/2015
Corporate/Company Name:	GEORGIA-PACIFIC WOOD PRODUCTS SOUTH LLC (GURDON PL	**Permit Number:**	463-AOP-R8
Facility Name:	GEORGIA-PACIFIC WOOD PRODUCTS SOUTH LLC (GURDON PLYWOOD AND	**Permit Date:**	02/06/2015 (actual)
Facility Contact:	BRIAN HICKS 8703535323	**FRS Number:**	
Facility Description:		**SIC Code:**	
Permit Type:	B: Add new process to existing facility	**NAICS Code:**	321113
Permit URL:			
EPA Region:	6	**COUNTRY:**	USA
Facility County:	CLARK		
Facility State:	AR		

Facility ZIP Code: 71743

Permit Issued By: ARKANSAS DEPT OF ENVIRONMENTAL QUALITY (Agency Name)
MR. TOM RHEAUME(Agency Contact) (501) 682-0762 rheaume@adeq.state.ar.us

Permit Notes:

Process/Pollutant Information

PROCESS NAME: SN-09 #4 LUMBER KILN

Process Type: 30.800 (Wood Lumber Kilns)

Primary Fuel: NATURAL GAS

Throughput: 130.00 MILLION BOARD FEET

Process Notes: DIRECT FIRED

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: None selected in SAE

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 3.8000 LB/ 1000 BOARD FEET

Emission Limit 2: 373.7000 T/YR

Standard Emission: 92.0000

Did factors, other then air pollution technology considerations influence the BACT decisions: Unknown

Case-by-Case Basis:

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

Facility Information

RBLC ID:	SC-0163 (draft)	**Date Determination Last Updated:**	08/25/2015
Corporate/Company Name:	KAPSTONE CHARLESTON KRAFT LLC	**Permit Number:**	0900-0017-CE
Facility Name:	KAPSTONE CHARLESTON KRAFT LLC- SUMMERVILLE	**Permit Date:**	01/20/2015 (actual)
Facility Contact:	AMY ARTMEIER 8437453250 AMY.ARTMEIER@KAPSTONEPAPER.COM	**FRS Number:**	110041047033
Facility Description:	LUMBER MILL THAT PURCHASES HARVESTED TIMBER WHICH IS PROCESSED INTO LUMBER AND PULPWOOD CHIPS.	**SIC Code:**	2421
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	321999
Permit URL:			
EPA Region:	4	**COUNTRY:**	USA
Facility County:	DORCHESTER		
Facility State:	SC		
Facility ZIP Code:	29483		
Permit Issued By:	SOUTH CAROLINA DEPT OF HEALTH & ENV CTRL, BUREAU OF AIR QUALITY (Agency Name) MR. DENNIS CAMIT(Agency Contact) (803)898-4284 camitdr@dhec.sc.gov		
Other Agency Contact Info:	OMARI THOMPSON (803) 898-4123		
Permit Notes:			

Process/Pollutant Information

PROCESS NAME: LUMBER KILNS

Process Type: 30.800 (Wood Lumber Kilns)

Primary Fuel:

Throughput: 194.83 MMBF/YR

Process Notes: INSTALLATION OF A NEW DIRECT-FIRED LUMBER DRYING KILN ALONG WITH ANCILLARY EQUIPMENT. THIS PROJECT WILL ALSO INCREASE THE DRYING CAPACITY FOR THE FACILITY FROM 118.448 MMBD-FT/YR TO 194.825 MMBD-FT/YR.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: None selected in SAE

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 225.6000 T/YR

Emission Limit 2: 3.7600 LB/MBF

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) PROPER MAINTENANCE AND OPERATION

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Facility Information

RBLC ID:	AL-0273 (draft)	**Date Determination Last Updated:**	02/23/2015
Corporate/Company Name:	WEYER HAEUSER NR COMPANY	**Permit Number:**	408-5003-X022
Facility Name:	MILLPORT WOOD PRODUCTS FACILITY	**Permit Date:**	12/30/2014 (actual)
Facility Contact:	CHRISTOPHER HOPF 205-596-1197 CHRISTOPHER.HOPF@WEYERHAEUSER.COM	**FRS Number:**	
Facility Description:	Manufactures finished, dimensional southern yellow pine lumber from logs.	**SIC Code:**	2421
Permit Type:	B: Add new process to existing facility	**NAICS Code:**	
Permit URL:			
EPA Region:	4	**COUNTRY:**	USA
Facility County:	LAMAR		
Facility State:	AL		
Facility ZIP Code:	35576-2534		
Permit Issued By:	ALABAMA DEPT OF ENVIRONMENTAL MGMT (Agency Name) MR. ANTHONY SMILEY(Agency Contact) 334-271-7803 ASmiley@adem.state.al.us		
Permit Notes:	NAICS Code: 321113		

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	-122.4000 (Tons/Year)
Nitrogen Oxides (NOx)	-22.3000 (Tons/Year)

Particulate Matter (PM)	6.9000 (Tons/Year)
Sulfur Oxides (SOx)	-3.3000 (Tons/Year)
Volatile Organic Compounds (VOC)	105.0000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Continuous direct-lumber dry kiln

Process Type: 30.800 (Wood Lumber Kilns)

Primary Fuel: Green sawdust

Throughput: 140000.00 mbf/yr

Process Notes: 140,000mbf/yr Continuous Direct-fired lumber dry kiln (CDR-4) with 35 mmbtu/hr Wood-fired burner.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 18

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 4.7000 LB MBF AS WPP 1*

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: MACT , SIP , OPERATING PERMIT

Control Method: (B) Proper maintenance & operating practice requirements. Test method information: Method 18/25.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: * (VOC as propane, determined as VOC as C x 1.225 + ((1-0.65) x Methane) + Formaldehye)

Facility Information

RBLC ID: SC-0165 (draft)

Date Determination Last Updated: 08/25/2015

Corporate/Company Name: NEW SOUTH COMPANIES, INC.

Permit Number: 1340-0029-CH-R2

Facility Name:	NEW SOUTH COMPANIES, INC. - CONWAY PLANT	**Permit Date:**	10/15/2014 (actual)
Facility Contact:	TIM PAPA 8433493463 TIM.PAPA@NEWSOUTH.CANFOR.COM	**FRS Number:**	110000740789
Facility Description:	LUMBER MILL THAT PRODUCES STRUCTURAL LUMBER FROM PINE LOGS.	**SIC Code:**	2421
Permit Type:	C: Modify process at existing facility	**NAICS Code:**	321113
Permit URL:			
EPA Region:	4	**COUNTRY:**	USA
Facility County:	HORRY		
Facility State:	SC		
Facility ZIP Code:	29526		
Permit Issued By:	SOUTH CAROLINA DEPT OF HEALTH & ENV CTRL, BUREAU OF AIR QUALITY (Agency Name) MR. DENNIS CAMIT(Agency Contact) (803)898-4284 camitdr@dhec.sc.gov		
Other Agency Contact Info:	OMARI THOMPSON (803) 898-4123		
Permit Notes:			

Process/Pollutant Information

PROCESS NAME: LUMBER KILNS

Process Type: 30.800 (Wood Lumber Kilns)

Primary Fuel:

Throughput: 295.60 MMBF/YR

Process Notes: FACILITY IS CONVERTING PREVIOUSLY PERMITTED STEAM HEATED CONTINUOUS KILN TO A DIRECT-FIRED UNIT. THIS MODIFICATION WILL PUT THE DRYING CAPACITY FOR THE FACILITY AT 295.6 MILLION BD-FT/YR.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: None selected in SAE

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 602.0000 T/YR (442 T/YR KILNS 1-5, 160 T/YR KILN 6)

Emission Limit 2: 4.2000 LB/MBF

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:	
Control Method:	(P) PROPER MAINTENANCE AND OPERATION
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	Unknown
Pollutant/Compliance Notes:	

Facility Information

RBLC ID:	FL-0343 (draft)	**Date Determination Last Updated:**	01/07/2015
Corporate/Company Name:	WEST FRASER, INC	**Permit Number:**	0310197-012-AC
Facility Name:	WHITEHOUSE LUMBER MILL	**Permit Date:**	09/09/2014 (actual)
Facility Contact:	JULIAN ROBERTS JULIAN.ROBERTS@WESTFRASER.COM	**FRS Number:**	110002524563
Facility Description:	Lumber mill, processes southern pine logs into chips, bark, and graded lumber. Includes log yard, sawmill, lumber kilns and boilers, planer mill. Kilns heated primarily with wood waste (propane as supplemental fuel).	**SIC Code:**	2421
Permit Type:	C: Modify process at existing facility	**NAICS Code:**	321113
Permit URL:	http://arm-permit2k.dep.state.fl.us/nontv/0310197.012.AC.F.ZIP		
EPA Region:	4	**COUNTRY:**	USA
Facility County:	DUVAL		
Facility State:	FL		
Facility ZIP Code:	32220		
Permit Issued By:	FLORIDA DEPT. OF ENVIRONMENTAL PROTECTION (Agency Name) MR. JEFF KOERNER(Agency Contact) (850)921-9000 Jeff.Koerner@dep.state.fl.us		
Permit Notes:	Technical evaluation at http://arm-permit2k.dep.state.fl.us/nontv/0310197.012.AC.D.ZIP Permit entails removing existing batch lumber drying kilns with burners, and replacing with two continuous dual path kilns. Each new kiln has capacity of 15 thousand board ft/hr. New kilns fired with wood shavings (supplemented with propane). Total production capacity increases from 110 to 170 million board ft/yr.		

Affected Boundaries:

Boundary Type:	Class 1 Area State:	Boundary:	Distance:
CLASS1	FL	Chassahowitzka	100km - 50km
CLASS1	GA	Okefenokee	< 100 km
CLASS1	FL	Saint Marks	100km - 50km
CLASS1	GA	Wolf Island	100km - 50km

Facility-wide **Pollutant Name:** **Facility-wide Emissions Increase:**

Emissions:	Carbon Monoxide	62.0000 (Tons/Year)
	Nitrogen Oxides (NOx)	24.0000 (Tons/Year)
	Particulate Matter (PM)	22.0000 (Tons/Year)
	Sulfur Oxides (SOx)	8.8000 (Tons/Year)
	Volatile Organic Compounds (VOC)	319.0000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Direct-Fired Continuous Kilns

Process Type: 30.800 (Wood Lumber Kilns)

Primary Fuel: Wood waste

Throughput: 40.00 MMBTU/hr

Process Notes: 40 MMBTU/hr heat input per kiln, primarily dry shavings Production capacity 15 thousand board ft/hr per kiln Two kilns

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 3.7600 LB/THOUSAND BOARD FT

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) Proper Maintenance and Operating Procedures: • Minimize over-drying the lumber. • Maintain consistent moisture content for the processing lumber charge. • Dry the lumber at the minimum temperature. • Develop a written Operation and Maintenance (O&M) plan identifying the above practices and the operation and maintenance requirements from the kiln manufacturer. • Record and monitor the total monthly amount and 12-month annual total of wood dried in each kiln (board-feet). • Record the calculated monthly and 12-month annual total emissions of VOC to demonstrate compliance with the process and emissions limits.

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: 3.76 lb VOC per thousand board feet limit Based on emissions factors, records, and proper maintenance and operation

Facility Information

RBLC ID:	SC-0164 (draft)	**Date Determination Last Updated:**	08/25/2015
Corporate/Company Name:	SIMPSON LUMBER COMPANY, LLC	**Permit Number:**	1140-0008-CH
Facility Name:	SIMPSON LUMBER COMPANY, LLC	**Permit Date:**	06/20/2014 (actual)
Facility Contact:	SHIRLEY COLLENTON 8435207229 SCOLLEN@SIMPSON.COM	**FRS Number:**	110040922712
Facility Description:	SIMPSON LUMBER OPERATES A LUMBER MILL OUTSIDE OF GEORGETOWN, SC AND PRODUCES FINISHED LUMBER OUT OF LOGGED SOUTHERN YELLOW PINE. THE FOLLOWING OPERATIONS TAKE PLACE AT THE FACILITY: SAWMILL OPERATIONS, STEAM GENERATION, LUMBER DRYING AND PLANER MILL OPERATIONS.	**SIC Code:**	2421
Permit Type:	D: Both B (Add new process to existing facility) &C (Modify process at existing facility)	**NAICS Code:**	321113
Permit URL:			
EPA Region:	4	**COUNTRY:**	USA
Facility County:	GEORGETOWN		
Facility State:	SC		
Facility ZIP Code:	29440		
Permit Issued By:	SOUTH CAROLINA DEPT OF HEALTH & ENV CTRL, BUREAU OF AIR QUALITY (Agency Name) MR. DENNIS CAMIT(Agency Contact) (803)898-4284 camitdr@dhec.sc.gov		
Other Agency Contact Info:	OMARI THOMPSON (803) 898-4123		
Permit Notes:			

Process/Pollutant Information

PROCESS NAME:	LUMBER KILNS
Process Type:	30.800 (Wood Lumber Kilns)
Primary Fuel:	
Throughput:	166.00 MMBF/YR

Process Notes: FACILITY IS GOING TO CONSTRUCT NEW DUAL PATH DIRECT-FIRED LUMBER KILN. FACILITY IS ALSO GOING TO CONVERT PREVIOUSLY PERMITTED STEAM HEATED CONTINOUS KILN TO A DIRECT-FIRED UNIT. THIS MODIFICATION WILL PUT THE DRYING CAPACITY FOR THE FACILITY AT 166 MMBD-FT/YR.

POLLUTANT NAME:	Volatile Organic Compounds (VOC)
CAS Number:	VOC
Test Method:	None selected in SAE
Pollutant Group(s):	(Volatile Organic Compounds (VOC))
Emission Limit 1:	156.0000 T/YR
Emission Limit 2:	3.7600 LB/MBF
Standard Emission:	
Did factors, other then air pollution technology considerations influence the BACT decisions:	N
Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Control Method:	(P) PROPER OPERATION AND MAINTENANCE
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	Unknown
Pollutant/Compliance Notes:	

Facility Information

RBLC ID:	FL-0340 (final)	**Date Determination Last Updated:**	01/06/2015
Corporate/Company Name:	GILMAN BUILDING PRODUCTS	**Permit Number:**	1230033-012-AC
Facility Name:	PERRY MILL	**Permit Date:**	04/01/2014 (actual)
Facility Contact:	CULLEN ADAIR CULLENADAIR@GILLMAN.COM	**FRS Number:**	110041048522
Facility Description:	Processes southern pine logs into chips, bark, and lumber. Includes two direct-fired drying kilns. Total capacity is 150 MBF/yr. This includes the capacity of the new unit, which is 90 MBF/yr.	**SIC Code:**	242
Permit Type:	D: Both B (Add new process to existing facility) &C (Modify process at existing facility)	**NAICS Code:**	321113
Permit URL:	http://arm-permit2k.dep.state.fl.us/nontv/1230033.012.AC.F.ZIP		
EPA Region:	4	**COUNTRY:**	USA

Facility County: TAYLOR

Facility State: FL

Facility ZIP Code: 32348

Permit Issued By: FLORIDA DEPT. OF ENVIRONMENTAL PROTECTION (Agency Name)
MR. JEFF KOERNER(Agency Contact) (850)921-9000 Jeff.Koerner@dep.state.fl.us

Permit Notes: Permit entails adding one new direct-fired lumber drying kiln and retiring two old indirect-fired drying kilns.

Affected Boundaries:

Boundary Type:	Class 1 Area State:	Boundary:	Distance:
CLASS1	FL	Chassahowitzka	100km - 50km
CLASS1	GA	Okefenokee	100km - 50km
CLASS1	FL	Saint Marks	< 100 km

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	-20.1000 (Tons/Year)
Nitrogen Oxides (NOx)	-13.1000 (Tons/Year)
Particulate Matter (PM)	-14.9000 (Tons/Year)
Sulfur Oxides (SOx)	4.4000 (Tons/Year)
Volatile Organic Compounds (VOC)	60.8000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Direct-fired lumber drying kiln

Process Type: 30.800 (Wood Lumber Kilns)

Primary Fuel: Waste wood

Throughput: 90.00 million board ft/yr

Process Notes: Drying capacity of new kiln is 90 million board feet of lumber per year.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 3.5000 LB/THOUSAND BOARD FT

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method:	(P) At a minimum, the permittee shall operate the kiln in accordance with the following best operating practices (BMP). a. Minimize over-drying the lumber; b. Maintain consistent moisture content for the processing lumber charge; and c. Dry at the minimum temperature. The permittee shall develop and operate in accordance with a written plan to implement the above BMP and any others required by the kiln manufacturer. Ninety days before the initial startup of the kiln, the permitted shall submit to the Compliance Authority the BMP plan. The Title V air operation permit shall include the submitted BMP plan.
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	Unknown
Pollutant/Compliance Notes:	VOC released from wood as it dries. No add-on controls, just best operating practices.

Facility Information

RBLC ID:	AL-0257 (final)	**Date Determination Last Updated:**	02/09/2015
Corporate/Company Name:	WEST FRASER, INC.	**Permit Number:**	206-5004-X005
Facility Name:	WEST FRASER-OPELIKA LUMBER MILL	**Permit Date:**	11/01/2013 (actual)
Facility Contact:	JIM MCMILLAN 334-749-6281 JIM.MCMILLAN@WESTFRASER.COM	**FRS Number:**	110003033155
Facility Description:	SAWMILL	**SIC Code:**	2421
Permit Type:	B: Add new process to existing facility	**NAICS Code:**	321113
Permit URL:			
EPA Region:	4	**COUNTRY:**	USA
Facility County:	LEE		
Facility State:	AL		
Facility ZIP Code:	36801		
Permit Issued By:	ALABAMA DEPT OF ENVIRONMENTAL MGMT (Agency Name) MR. ANTHONY SMILEY(Agency Contact) 334-271-7803 ASmiley@adem.state.al.us		
Permit Notes:	NONE NAICS CODE: 321113		
Facility-wide Emissions:	**Pollutant Name:** Volatile Organic Compounds (VOC)	**Facility-wide Emissions Increase:** 329.0000 (Tons/Year)	

Process/Pollutant Information

PROCESS NAME:	Two(2) 87.5 MMBF/YR Continuous kilns with a 35 MMBtu/hr direct-fired wood burner
Process Type:	30.800 (Wood Lumber Kilns)

Primary Fuel:	Wood Shavings
Throughput:	175.00 MMBF/YR
Process Notes:	

POLLUTANT NAME:	Volatile Organic Compounds (VOC)
CAS Number:	VOC
Test Method:	Unspecified
Pollutant Group(s):	(Volatile Organic Compounds (VOC))
Emission Limit 1:	3.7600 LB/MBF
Emission Limit 2:	175.0000 K/12 MONTHS
Standard Emission:	
Did factors, other then air pollution technology considerations influence the BACT decisions:	N
Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	SIP , OPERATING PERMIT
Control Method:	(N)
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	No
Pollutant/Compliance Notes:	

Facility Information

RBLC ID:	AR-0123 (draft)	**Date Determination Last Updated:**	08/12/2015
Corporate/Company Name:	DELTIC TIMBER CORPORATION	**Permit Number:**	697-AOP-R13
Facility Name:	DELTIC TIMBER CORPORATION WALDO	**Permit Date:**	10/18/2013 (actual)
Facility Contact:	JIM PHILLIPS 8708816425 JIM_PHILLIPS@DELTIC.COM	**FRS Number:**	110017420487
Facility Description:	DELTIC WILL CONSTRUCT ONE NEW CONTINUOUS STEAM HEATED KILN AND MODIFY TWO EXISTING STEAM HEATED BATCH KILNS TO BECOME CONTINUOUS STEAM HEATED KILNS. LUMBER PRODUCTION WILL INCREASE FROM 215 MMBF/YR TO 285 MMBF/YR.	**SIC Code:**	2421
Permit Type:	D: Both B (Add new process to existing facility) &C (Modify process at existing facility)	**NAICS Code:**	321113

Permit URL:

EPA Region: 6 **COUNTRY:** USA

Facility County: COLUMBIA

Facility State: AR

Facility ZIP Code: 71770

Permit Issued By: ARKANSAS DEPT OF ENVIRONMENTAL QUALITY (Agency Name)
MR. TOM RHEAUME(Agency Contact) (501) 682-0762 rheaume@adeq.state.ar.us

Permit Notes: DELTIC WILL CONSTRUCT ONE NEW CONTINUOUS STEAM HEATED KILN AND MODIFY TWO EXISTING STEAM HEATED BATCH KILNS TO BECOME CONTINUOUS STEAM HEATED KILNS. LUMBER PRODUCTION WILL INCREASE FROM 215 MMBF/YR TO 285 MMBF/YR.

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Volatile Organic Compounds (VOC)	559.4000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: KILN NO. 3

Process Type: 30.800 (Wood Lumber Kilns)

Primary Fuel:

Throughput: 0

Process Notes: 7.7 MBF/HR STEAM HEATED CONTINUOUS KILN SOUTHERN YELLOW PINE

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25A

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 27.0000 LB/H

Emission Limit 2:

Standard Emission: 3.5000 LB/1000 BF

Did factors, other then air pollution technology considerations influence the BACT decisions: Unknown

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N) PROPER KILN OPERATION

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: KILN NO. 4
Process Type: 30.800 (Wood Lumber Kilns)
Primary Fuel:
Throughput: 0
Process Notes: 13.2 MBF/HR STEAM HEATED CONTINUOUS KILN SOUTHERN YELLOW PINE

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: EPA/OAR Mthd 25A
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 46.2000 LB/H
Emission Limit 2:
Standard Emission: 3.5000 LB/1000 BF
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: KILN NO. 5
Process Type: 30.800 (Wood Lumber Kilns)
Primary Fuel:

Throughput: 0

Process Notes: 7.7 MBF/HR STEAM HEATED CONTINUOUS KILN SOUTHERN YELLOW PINE

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25A

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 27.0000 LB/H

Emission Limit 2:

Standard Emission: 3.5000 LB/1000 BF

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: WOOD-FIRED BOILER #1

Process Type: 13.120 (Biomass (includes wood, wood waste, bagasse, and other biomass))

Primary Fuel: WOOD RESIDUE

Throughput: 60.00 MMBTU/H

Process Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25A

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 4.2000 LB/H

Emission Limit 2: 18.4000 T/YR

Standard Emission: 0.0700 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , NESHAP

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: WOOD-FIRED BOILER #2

Process Type: 13.120 (Biomass (includes wood, wood waste, bagasse, and other biomass))

Primary Fuel: WOOD RESIDUE

Throughput: 60.00 MMBTU/H

Process Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25A

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 4.2000 LB/H

Emission Limit 2: 18.4000 T/YR

Standard Emission: 0.0700 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NSPS , NESHAP

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: WOOD-FIRED BOILER #3
Process Type: 13.120 (Biomass (includes wood, wood waste, bagasse, and other biomass))
Primary Fuel: WOOD RESIDUE
Throughput: 60.00 MMBTU/H
Process Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: EPA/OAR Mthd 25A
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 4.2000 LB/H
Emission Limit 2: 18.4000 T/YR
Standard Emission: 0.0700 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS , NESHAP
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Facility Information

RBLC ID: AL-0259 (final)
Date Determination Last Updated: 02/09/2015
Corporate/Company Name: THE WESTERVELT COMPANY
Permit Number: 406-5003-X016
Facility Name: THE WESTERVELT COMPANY
Permit Date: 08/21/2013 (actual)

Facility Contact:	KEITH DOLLAR 205-562-5475 KDOLLAR@WESTERVELT.COM	**FRS Number:**	110017414626
Facility Description:	Sawmill	**SIC Code:**	2421
Permit Type:	C: Modify process at existing facility	**NAICS Code:**	321113
Permit URL:			
EPA Region:	4	**COUNTRY:**	USA
Facility County:	HALE		
Facility State:	AL		
Facility ZIP Code:	35474		
Permit Issued By:	ALABAMA DEPT OF ENVIRONMENTAL MGMT (Agency Name) MR. ANTHONY SMILEY(Agency Contact) 334-271-7803 ASmiley@adem.state.al.us		
Permit Notes:	NAICS Code: 32113		
Facility-wide Emissions:	**Pollutant Name:** Volatile Organic Compounds (VOC)	**Facility-wide Emissions Increase:** 167.8500 (Tons/Year)	

Process/Pollutant Information

PROCESS NAME:	Three (3) 93 MMBF/Y Continous, Dual path, indirect fired kilns
Process Type:	30.800 (Wood Lumber Kilns)
Primary Fuel:	Steam (Indirect heat)
Throughput:	0
Process Notes:	

POLLUTANT NAME:	Volatile Organic Compounds (VOC)
CAS Number:	VOC
Test Method:	Unspecified
Pollutant Group(s):	(Volatile Organic Compounds (VOC))
Emission Limit 1:	4.5700 LB/MMBF
Emission Limit 2:	
Standard Emission:	
Did factors, other then air pollution technology considerations influence the BACT decisions:	U
Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Control Method:	(N)
Est. % Efficiency:	

Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	Unknown
Pollutant/Compliance Notes:	Emission limit is for each kiln

Facility Information

RBLC ID:	SC-0162 (draft)	**Date Determination Last Updated:**	08/25/2015
Corporate/Company Name:	NEW SOUTH LUMBER COMPANY, INC.	**Permit Number:**	0820-0045-CJ
Facility Name:	NEW SOUTH LUMBER COMPANY, INC. DARLINGTON PLANT	**Permit Date:**	06/18/2013 (actual)
Facility Contact:	WADFORD, BENNIE 8034242811 BENNIE.WADFORD@NEWSOUTH.CANFOR.COM	**FRS Number:**	
Facility Description:	THE FACILITY IS A LUMBER MILL THAT PRODUCES STRUCTURAL LUMBER FROM PINE LOGS.	**SIC Code:**	2421
Permit Type:	D: Both B (Add new process to existing facility) &C (Modify process at existing facility)	**NAICS Code:**	321113
Permit URL:			
EPA Region:	4	**COUNTRY:**	USA
Facility County:	DARLINGTON		
Facility State:	SC		
Facility ZIP Code:	29532		
Permit Issued By:	SOUTH CAROLINA DEPT OF HEALTH & ENV CTRL, BUREAU OF AIR QUALITY (Agency Name) MR. DENNIS CAMIT(Agency Contact) (803)898-4284 camitdr@dhec.sc.gov		
Other Agency Contact Info:	ELIZABETH BASIL - 803-898-4126		
Permit Notes:			

Process/Pollutant Information

PROCESS NAME:	DKN1
Process Type:	30.800 (Wood Lumber Kilns)
Primary Fuel:	STEAM HEATED
Throughput:	60.00 MMBF/YR
Process Notes:	CONTINUOUS KILN

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 343.9800 T/YR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis:

Other Applicable Requirements: MACT

Control Method: (P) PROPER OPERATION AND MAINTENANCE

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: INCLUDES KILNS 1-4

Process/Pollutant Information

PROCESS NAME: DKN4

Process Type: 30.800 (Wood Lumber Kilns)

Primary Fuel: STEAM HEATED

Throughput: 60.00 MMBF/YR

Process Notes: CONTINUOUS KILN

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 343.9800 T/YR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis:

Other Applicable Requirements: MACT

Control Method: (P) MAINTENACE AND OPERATING PRACTICES

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes: LIMIT INCLUDES KINS 1 -4 COMBINED

Process/Pollutant Information

PROCESS NAME: DKN5

Process Type: 30.800 (Wood Lumber Kilns)

Primary Fuel: WOOD WASTE

Throughput: 75.00 MMBF/YR

Process Notes: DIRECT FIRED CONTINUOUS KILN

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 141.0000 T/YR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis:

Other Applicable Requirements: MACT

Control Method: (P) PROPER MAINTENANCE AND OPERATION

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

Facility Information

RBLC ID:	SC-0151 (draft)	**Date Determination Last Updated:**	08/29/2013
Corporate/Company Name:	WEST FRASER TIMBER CO. LTD	**Permit Number:**	1780-0007-CG
Facility Name:	WEST FRASER - NEWBERRY LUMBER MILL	**Permit Date:**	04/30/2013 (actual)
Facility Contact:	KEITH NELSON 8033211227 KEITH.NELSON@WESTFRASER.COM	**FRS Number:**	110013287987
Facility Description:	WEST FRASER OWNS AND OPERATES A LUMBER SAWMILL THAT PRODUCES FINISHED, DIMENSIONED LUMBER FROM LOGS OF SOUTHERN YELLOW PINE. FACILITY SUBMITTED AN APPLICATION TO REPLACE THE THREE EXISTING BOILERS AND THREE EXISTING BATCH, STEAM HEATED LUMBER KILNS WITH TWO NEW 35 MILLION BTU/HR DUAL PATH, DIRECT FIRED, CONTINUOUS LIMBER KILNS - 15 THOUSAND BF/HR, EACH. PRODUCTION IS EXPECTED TO INCREASE FROM 154 MILLION BF/YR TO 200 MILLION BF/YR. UPGRADES TO THE PLANER MILL WILL ALSO TAKE PLACE AS PART OF THE PERMIT.	**SIC Code:**	2421
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	321113
Permit URL:			
EPA Region:	4	**COUNTRY:**	USA
Facility County:	NEWBERRY		
Facility State:	SC		
Facility ZIP Code:	29108		
Permit Issued By:	SOUTH CAROLINA DEPT OF HEALTH & ENV CTRL, BUREAU OF AIR QUALITY (Agency Name) MR. DENNIS CAMIT(Agency Contact) (803)898-4284 camitdr@dhec.sc.gov		
Other Agency Contact Info:	KATHARINE BUCKNER BUCKNEKK@DHEC.SC.GOV 803-898-4123		
Permit Notes:	FACILITY SUBMITTED AN APPLICATION TO REPLACE THE THREE EXISTING BOILERS AND THREE EXISTING BATCH, STEAM HEATED LUMBER KILNS WITH TWO NEW 35 MILLION BTU/HR DUAL PATH, DIRECT FIRED, CONTINUOUS LIMBER KILNS - 15 THOUSAND BF/HR, EACH. PRODUCTION IS EXPECTED TO INCREASE FROM 154 MILLION BF/YR TO 200 MILLION BF/YR. UPGRADES TO THE PLANER MILL WILL ALSO TAKE PLACE AS PART OF THE PERMIT.		

Process/Pollutant Information

PROCESS NAME:	TWO - 35 MMBTU/H DUAL PATH, DIRECT FIRED, CONTINUOUS LUMBER KILNS, 15 THOUSAND BF/H, EACH
Process Type:	30.800 (Wood Lumber Kilns)
Primary Fuel:	SAWDUST

Throughput: 0

Process Notes:

POLLUTANT NAME:	Volatile Organic Compounds (VOC)
CAS Number:	VOC
Test Method:	Unspecified
Pollutant Group(s):	(Volatile Organic Compounds (VOC))
Emission Limit 1:	3.7600 LB/MBF
Emission Limit 2:	376.0000 T/YR
Standard Emission:	
Did factors, other then air pollution technology considerations influence the BACT decisions:	N
Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Control Method:	(P) PROPER OPERATION AND GOOD OPERATING PRACTICES
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	No
Pollutant/Compliance Notes:	THE VOC LIMITS ARE TOTAL VOC, NOT ON AN "AS CARBON" BASIS. FACILITY WILL BE REQUIRED TO TEST ONE KILN TO VERIFY THE VOC EMISSION FACTOR USED.

Facility Information

RBLC ID:	AL-0258 (final)	**Date Determination Last Updated:**	02/10/2015
Corporate/Company Name:	WEST FRASER, INC.	**Permit Number:**	403-5005-X010
Facility Name:	WEST FRASER, INC. - MAPLESVILE MILL	**Permit Date:**	04/15/2013 (actual)
Facility Contact:	DAVE MIMS 334-366-1366 DALE.MIMS@WESTFRASER.COM	**FRS Number:**	110054818701
Facility Description:	Sawmill	**SIC Code:**	2421
Permit Type:	B: Add new process to existing facility	**NAICS Code:**	321113
Permit URL:			
EPA Region:	4	**COUNTRY:**	USA
Facility County:	CHILTON		
Facility State:	AL		

Facility ZIP Code: 36750

Permit Issued By: ALABAMA DEPT OF ENVIRONMENTAL MGMT (Agency Name)
MR. ANTHONY SMILEY(Agency Contact) 334-271-7803 ASmiley@adem.state.al.us

Permit Notes: NAICS Code: 321113

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	-711.4300 (Tons/Year)
Nitrogen Oxides (NOx)	-50.3300 (Tons/Year)
Particulate Matter (PM)	-44.1300 (Tons/Year)
Sulfur Oxides (SOx)	-1.2400 (Tons/Year)
Volatile Organic Compounds (VOC)	164.9100 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Two(2) 100 MMBF/Y Continuous direct fired kiln

Process Type: 30.800 (Wood Lumber Kilns)

Primary Fuel: Wood Residuals

Throughput: 200.00 MMBF/YR

Process Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 3.7600 LB/MBF

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: SIP , OPERATING PERMIT

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: Emissions limit is for each kiln. Combined emissions limit is 376 tpy based on maximum capacity of 200MMBF/Y.

Facility Information

RBLC ID:	SC-0149 (final)	**Date Determination Last Updated:**	08/27/2014
Corporate/Company Name:	KLAUSNER HOLDING USA, INC	**Permit Number:**	1860-0128-CA
Facility Name:	KLAUSNER HOLDING USA, INC	**Permit Date:**	01/03/2013 (actual)
Facility Contact:	SABINE MERKLE 8436269600 SABINE.MERKLE@KLAUSNER-GROUP.COM	**FRS Number:**	not available
Facility Description:	700 MILLION BOARD FOOT PER YEAR LUMBER MILL	**SIC Code:**	2421
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	321113
Permit URL:			
EPA Region:	4	**COUNTRY:**	USA
Facility County:	ORANGEBURG		
Facility State:	SC		
Facility ZIP Code:	29133		
Permit Issued By:	SOUTH CAROLINA DEPT OF HEALTH & ENV CTRL, BUREAU OF AIR QUALITY (Agency Name) MR. DENNIS CAMIT(Agency Contact) (803)898-4284 camitdr@dhec.sc.gov		
Other Agency Contact Info:	PERMIT WRITER: JO ANNA CUNNNINGHAM (803) 898-4123		
Permit Notes:			

Process/Pollutant Information

PROCESS NAME:	BIOMASS BOILER EU001
Process Type:	12.120 (Biomass (includes wood, wood waste, bagasse, and other biomass))
Primary Fuel:	WET BARK, WOOD
Throughput:	120.00 MMBTU/H
Process Notes:	

POLLUTANT NAME:	Particulate matter, filterable (FPM)
CAS Number:	PM
Test Method:	Unspecified
Pollutant Group(s):	(Particulate Matter (PM))
Emission Limit 1:	0.0032 LB/MMBTU 3-HOUR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: NSPS , MACT

Control Method: (A) ESP

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: METHOD 5 FOR FILTERABLE PM

POLLUTANT NAME: Particulate matter, fugitive

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1: 0.0320 LB/MMBTU 3-HOUR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: NSPS , MACT

Control Method: (A) ESP

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: TOTAL PM (FILTERABLE PLUS CONDENSABLE). METHOD 5 FOR FILTERABLE PM AND METHOD 202 FOR CONDENSABLE PM. Note from RBLC Reviewer: Pollutant entered is no longer a valid pollutant (to general) it was changed to "Particulate Matter, Fugitive".

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0320 LB/MMBTU 3-HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: NSPS , MACT

Control Method: (A) ESP

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: TOTAL PM (FILTERABLE PLUS CONDENSABLE). METHOD 5 FOR FILTERABLE PM AND METHOD 202 FOR CONDENSABLE PM.

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0320 LB/MMBTU 3-HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: NSPS , MACT

Control Method: (A) ESP

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: TOTAL PM (FILTERABLE PLUS CONDENSABLE). METHOD 5 FOR FILTERABLE PM AND METHOD 202 FOR CONDENSIBLE PM.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.1400 LB/MMBTU 3-HOUR

Emission Limit 2: 16.8000 LB/H 1-HOUR

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: NSPS , MACT

Control Method: (A) SNCR

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: METHOD 7, 7A - 7E

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.4000 LB/MMBTU 3-HOUR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: NSPS , MACT

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.0170 LB/MMBTU 3-HOUR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: NSPS , MACT

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Methane

CAS Number: 74-82-8

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG) , Organic Compounds (all) , Organic Non-HAP Compounds)

Emission Limit 1: 37.1000 T/YR 12-MONTH ROLLING SUM

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: NSPS , MACT

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrous Oxide (N2O)

CAS Number: 10024-97-2

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG) , InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 4.9000 T/YR 12-MONTH ROLLING SUM

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: NSPS , MACT

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: BIOMASS BOILER EU002

Process Type: 13.120 (Biomass (includes wood, wood waste, bagasse, and other biomass))

Primary Fuel: WET BARK, WOOD

Throughput: 120.00 MMBTU/H

Process Notes:

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0320 LB/MMBTU

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: NSPS , MACT

Control Method: (A) ESP

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: TOTAL PM (FILTERABLE PLUS CONDENSABLE). METHOD 5 FOR FILTERABLE PM AND METHOD 202 FOR CONDENSABLE PM.

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0320 LB/MMBTU 3-HOUR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: NSPS , MACT

Control Method: (A) ESP

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: TOTAL PM (FILTERABLE PLUS CONDENSABLE). METHOD 5 FOR FILTERABLE PM AND METHOD 202 FOR CONDENSIBLE PM.

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.1400 LB/MMBTU 3-HOUR
Emission Limit 2: 16.8000 LB/H 1-HOUR
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: OTHER CASE-BY-CASE
Other Applicable Requirements: NSPS
Control Method: (A) SNCR
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: METHOD 7, 7A-7E

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.4000 LB/MMBTU 3-HOUR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: OTHER CASE-BY-CASE
Other Applicable Requirements: NSPS , MACT
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC

Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.0170 LB/MMBTU 3-HOUR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: OTHER CASE-BY-CASE
Other Applicable Requirements: NSPS , MACT
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Methane
CAS Number: 74-82-8
Test Method: Unspecified
Pollutant Group(s): (Greenhouse Gasses (GHG) , Organic Compounds (all) , Organic Non-HAP Compounds)
Emission Limit 1: 37.1000 T/YR 12-MONTH ROLLING SUM
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: OTHER CASE-BY-CASE
Other Applicable Requirements: NSPS , MACT
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrous Oxide (N2O)

CAS Number: 10024-97-2

Test Method: Unspecified

Pollutant Group(s): (Greenhouse Gasses (GHG) , InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 4.9000 T/YR 12-MONTH ROLLING SUM

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: NSPS , MACT

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0032 LB/MMBTU 3-HOUR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: NSPS , MACT

Control Method: (A) ESP

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: METHOD 5 FOR FILTERABLE PM

POLLUTANT NAME: Particulate matter, fugitive

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1: 0.0320 LB/MMBTU 3-HOUR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: NSPS , MACT

Control Method: (A) ESP

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: TOTAL PM (FILTERABLE PLUS CONDENSABLE). METHOD 5 FOR FILTERALBE PM AND METHOD 202 FOR CONDENSABLE PM. Note from RBLC Reviewer: Pollutant entered is no longer a valid pollutant (to general) it was changed to "Particulate Matter, Fugitive".

Process/Pollutant Information

PROCESS NAME: NATURAL GAS BOILER EU003

Process Type: 11.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: NATURAL GAS

Throughput: 46.00 MMBTU/H

Process Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.0360 LB/MMBTU 3-HOUR

Emission Limit 2: 1.6600 LB/H 1-HOUR

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: NSPS , MACT

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.0390 LB/MMBTU 3-HOUR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: NSPS

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.0030 LB/MMBTU 3-HOUR AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: NSPS , MACT

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, fugitive

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1: 0.0050 LB/MMBTU 3-HOUR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: NSPS , MACT

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: TOTAL PM (FILTERABLE PLUS CONDENSABLE). METHOD 5 FOR FILTERABLE PM AND METHOD 202 FOR CONDENSABLE PM. Note from RBLC Reviewer: Pollutant entered is no longer a valid pollutant (to general) it was changed to "Particulate Matter, Fugitive".

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0020 LB/MMBTU 3-HOUR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: OTHER CASE-BY-CASE
Other Applicable Requirements: NSPS , MACT
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: METHOD 5 FOR FILTERABLE PM

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0050 LB/MMBTU 3-HOUR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: OTHER CASE-BY-CASE
Other Applicable Requirements: NSPS , MACT
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: TOTAL PM (FILTERABLE PLUS CONDENSABLE). METHOD 5 FOR FILTERABLE PM AND METHOD 202 FOR CONDENSABLE PM.

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0050 LB/MMBTU 3-HOUR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: NSPS , MACT

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: TOTAL PM (FILTERABLE PLUS CONDENSABLE). METHOD 5 FOR FILTERABLE PM AND METHOD 202 FOR CONDENSABLE PM.

Process/Pollutant Information

PROCESS NAME: NATURAL GAS BOILER EU004

Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))

Primary Fuel: NATURAL GAS

Throughput: 46.00 MMBTU/H

Process Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 0.0360 LB/MMBTU 3-HOUR

Emission Limit 2: 1.6600 LB/H 1-HOUR

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE
Other Applicable Requirements: NSPS , MACT
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0390 LB/MMBTU 3-HOUR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: OTHER CASE-BY-CASE
Other Applicable Requirements: NSPS , MACT
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.0030 LB/MMBTU 3-HOUR
Emission Limit 2:
Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: NSPS , MACT

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, fugitive

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1: 0.0050 LB/MMBTU 3-HOUR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: NSPS , MACT

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: TOTAL PM (FILTERABLE PLUS CONDENSABLE). METHOD 5 FOR FILTERABLE PM AND METHOD 202 FOR CONDENSABLE PM. Note from RBLC Reviewer: Pollutant entered is no longer a valid pollutant (to general) it was changed to "Particulate Matter, Fugitive".

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0020 LB/MMBTU 3-HOUR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: NSPS , MACT

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: METHOD 5 FOR FILTERABLE PM

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0050 LB/MMBTU 3-HOUR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: NSPS , MACT

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: TOTAL PM (FILTERABLE PLUS CONDENSABLE). METHOD 5 FOR FILTERABLE PM AND METHOD 202 FOR CONDENSABLE PM.

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)

CAS Number: PM

Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0050 LB/MMBTU
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: OTHER CASE-BY-CASE
Other Applicable Requirements: NSPS , MACT
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: TOTAL PM (FILTERABLE PLUS CONDENSABLE). METHOD 5 FOR FILTERABLE PM AND METHOD 202 FOR CONDENSABLE PM.

Process/Pollutant Information

PROCESS NAME: NATURAL GAS BOILER EU005
Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))
Primary Fuel: NATURAL GAS
Throughput: 46.00 MMBTU/H
Process Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0360 LB/MMBTU 3-HOUR
Emission Limit 2: 1.6600 LB/H 1-HOUR
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: NSPS , MACT

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 0.0390 LB/MMBTU 3-HOUR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: NSPS , MACT

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.0030 LB/MMBTU 3-HOUR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: NSPS , MACT

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, fugitive

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1: 0.0050 LB/MMBTU 3-HOUR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: NSPS , MACT

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: TOTAL PM (FILTERABLE PLUS CONDENSABLE). METHOD 5 FOR FILTERABLE PM AND METHOD 202 FOR CONDENSABLE PM. Note from RBLC Reviewer: Pollutant entered is no longer a valid pollutant (to general) it was changed to "Particulate Matter, Fugitive".

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0020 LB/MMBTU 3-HOUR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: NSPS , MACT

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: METHOD 5 FOR FILTERABLE PM

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0050 LB/MMBTU 3-HOUR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: NSPS , MACT

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: TOTAL PM (FILTERABLE PLUS CONDENSABLE). METHOD 5 FOR FILTERABLE PM AND METHOD 202 FOR CONDENSABLE PM.

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0050 LB/MMBTU 3-HOUR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: OTHER CASE-BY-CASE
Other Applicable Requirements: NSPS , MACT
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: TOTAL PM (FILTERABLE PLUS CONDENSABLE). METHOD 5 FOR FILTERABLE PM AND METHOD 202 FOR CONDENSABLE PM.

Process/Pollutant Information

PROCESS NAME: NATURAL GAS BOILER EU006
Process Type: 13.310 (Natural Gas (includes propane and liquefied petroleum gas))
Primary Fuel: NATURAL GAS
Throughput: 46.00 MMBTU/H
Process Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)
CAS Number: 10102
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))
Emission Limit 1: 0.0360 LB/MMBTU 3-HOUR
Emission Limit 2: 1.6600 LB/H 1-HOUR
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: OTHER CASE-BY-CASE
Other Applicable Requirements: NSPS , MACT

Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 0.0390 LB/MMBTU 3-HOUR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: OTHER CASE-BY-CASE
Other Applicable Requirements: NSPS , MACT
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.0030 LB/MMBTU 3-HOUR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: NSPS , MACT

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, fugitive

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s):

Emission Limit 1: 0.0050 LB/MMBTU 3-HOUR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: NSPS , MACT

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: TOTAL PM (FILTERABLE PLUS CONDENSABLE). METHOD 5 FOR FILTERABLE PM AND METHOD 202 FOR CONDENSABLE PM. Note from RBLC Reviewer: Pollutant entered is no longer a valid pollutant (to general) it was changed to "Particulate Matter, Fugitive".

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0020 LB/MMBTU 3-HOUR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: NSPS , MACT

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: METHOD 5 FOR FILTERABLE PM

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0050 LB/MMBTU 3-HOUR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: NSPS , MACT

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: TOTAL PM (FILTERABLE PLUS CONDENSABLE). METHOD 5 FOR FILTERABLE PM AND METHOD 202 FOR CONDENSABLE PM.

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0050 LB/MMBTU 3-HOUR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: NSPS , MACT

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: TOTAL PM (FILTERABLE PLUS CONDENSABLE). METHOD 5 FOR FILTERABLE PM AND METHOD 202 FOR CONDENSABLE PM.

Process/Pollutant Information

PROCESS NAME: LUMBER DRYING KILNS EU007

Process Type: 30.800 (Wood Lumber Kilns)

Primary Fuel:

Throughput: 700.00 MILLION BOARD FOOT PER YEAR

Process Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 3.5000 LB/MBF

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: MACT

Control Method: (N)

Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, fugitive
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s):
Emission Limit 1: 0.0220 LB/MBF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: OTHER CASE-BY-CASE
Other Applicable Requirements: MACT
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: Note from RBLC Reviewer: Pollutant entered is no longer a valid pollutant (to general) it was changed to "Particulate Matter, Fugitive".

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0130 LB/MBF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: MACT

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0040 LB/MBF

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements: MACT

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: PLANER MILL EU008

Process Type: 30.540 (Board Product Finishing. (e.g. sanders, saws and trimmers))

Primary Fuel:

Throughput: 0

Process Notes:

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0040 GR/DSCF 3-HOUR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements:

Control Method: (A) BAGHOUSE

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: METHOD 5 FOR FILTERABLE PM

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0040 GR/DSCF 3-HOUR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements:

Control Method: (A) BAGHOUSE

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: METHOD 5 FOR FILTERABLE PM

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0040 GR/DSCF 3-HOUR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements:

Control Method: (A) BAGHOUSE

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: DRY SHAVING STORAGE SILO EU009

Process Type: 30.999 (Other Wood Products Industry Sources)

Primary Fuel:

Throughput: 0

Process Notes: SILO FOR STORAGE OF DRY SHAVINGS

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0040 GR/DSCF 3-HOUR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements:

Control Method: (A) BAGHOUSE

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: METHOD 5 FOR FILTERABLE PM

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0040 GR/DSCF 3-HOUR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements:

Control Method: (A) BAGHOUSE

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: METHOD 5 FOR FILTERABLE PM

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0040 GR/DSCF 3-HOUR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements:

Control Method: (A) BAGHOUSE

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: METHOD 5 FOR FILTERABLE PM

Process/Pollutant Information

PROCESS NAME: SORTER LINE TRIMMERS EXTRACTION SYSTEM EU011

Process Type: 30.540 (Board Product Finishing. (e.g. sanders, saws and trimmers))

Primary Fuel:

Throughput: 0

Process Notes:

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0050 GR/DSCF 3-HOUR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements:

Control Method: (A) BAGHOUSE

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes: METHOD 5 FOR FILTERABLE PM

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0050 GR/DSCF 3-HOUR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: OTHER CASE-BY-CASE
Other Applicable Requirements:
Control Method: (A) BAGHOUSE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: METHOD 5 FOR FILTERABLE PM

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0050 GR/DSCF 3-HOUR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: OTHER CASE-BY-CASE
Other Applicable Requirements:
Control Method: (A) BAGHOUSE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: METHOD 5 FOR FILTERABLE PM

Process/Pollutant Information

PROCESS NAME: FLY ASH STORAGE SILO EU012
Process Type: 99.120 (Ash Storage, Handling, Disposal)
Primary Fuel:
Throughput: 0
Process Notes:

POLLUTANT NAME: Particulate matter, filterable (FPM)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0050 GR/DSCF 3-HOUR
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: OTHER CASE-BY-CASE
Other Applicable Requirements:
Control Method: (A) BAGHOUSE
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: METHOD 5 FOR FILTERABLE PM

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0050 GR/DSCF 3-HOUR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements:

Control Method: (A) BAGHOUSE

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: METHOD 5 FOR FILTERABLE PM

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0050 GR/DSCF 3-HOUR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements:

Control Method: (A) BAGHOUSE

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: METHOD 5 FOR FILTERABLE PM

Process/Pollutant Information

PROCESS NAME: COLORS, INKS, LACQUERS EU013

Process Type: 30.006 (Wood Treatment)

Primary Fuel:

Throughput: 0

Process Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 0.0300 LB/MBF 12-MONTH ROLLING AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: DRY SHAVINGS STORAGE SILO EU010

Process Type: 30.999 (Other Wood Products Industry Sources)

Primary Fuel:

Throughput: 0

Process Notes:

POLLUTANT NAME: Particulate matter, filterable (FPM)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0040 GR/DSCF 3-HOUR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements:

Control Method: (A) BAGHOUSE

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: METHOD 5 FOR FILTERABLE PM

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0040 GR/DSCF 3-HOUR

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE

Other Applicable Requirements:

Control Method: (A) BAGHOUSE

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: METHOD 5 FOR FILTERABLE PM

POLLUTANT NAME: Particulate matter, filterable < 2.5 µ (FPM2.5)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1:	0.0040 GR/DSCF 3-HOUR
Emission Limit 2:	
Standard Emission:	
Did factors, other then air pollution technology considerations influence the BACT decisions:	U
Case-by-Case Basis:	OTHER CASE-BY-CASE
Other Applicable Requirements:	
Control Method:	(A) BAGHOUSE
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	Unknown
Pollutant/Compliance Notes:	METHOD 5 FOR FILTERABLE PM

Facility Information

RBLC ID:	SC-0135 (final)	**Date Determination Last Updated:**	04/01/2015
Corporate/Company Name:	NEW SOUTH COMPANIES, INC.	**Permit Number:**	1340-0029-CH
Facility Name:	NEW SOUTH COMPANIES, INC. - CONWAY PLANT	**Permit Date:**	09/24/2012 (actual)
Facility Contact:	TIM PAPA 8433493463 TIM.PAPA@NEWSOUTH.CANFOR.COM	**FRS Number:**	110000740789
Facility Description:	LUMBER MILL THAT PRODUCES STRUCTURAL LUMBER FROM PINE LOGS.	**SIC Code:**	2421
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	11
Permit URL:			
EPA Region:	4	**COUNTRY:**	USA
Facility County:	HORRY		
Facility State:	SC		
Facility ZIP Code:	29526		
Permit Issued By:	SOUTH CAROLINA DEPT OF HEALTH & ENV CTRL, BUREAU OF AIR QUALITY (Agency Name) MR. DENNIS CAMIT(Agency Contact) (803)898-4284 camitdr@dhec.sc.gov		
Other Agency Contact Info:	HETAL PATEL (803) 898-4123		
Permit Notes:			

Process/Pollutant Information

PROCESS NAME: LUMBER KILNS

Process Type: 30.800 (Wood Lumber Kilns)

Primary Fuel:

Throughput: 380.56 MMBD-FT/YR

Process Notes: FACILITY IS GOING TO INSTALL TWO STEAM HEATED CONTINUOUS KILNS (EACH RATED AT 85 MILLION BD-FT/YR), MODIFY TWO EXISTING KILNS. THIS PROJECT WILL ALLOW FACILITY TO INCREASE DRYING CAPACITY FROM 173.2 MILLION BD-FT/YR TO 380.56 MILLION BD-FT/YR.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 799.1800 T/YR

Emission Limit 2: 4.2000 LB/MBF AS TOTAL VOC

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: Unknown

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) PROPER MAINTENANCE AND OPERATION

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

Facility Information

RBLC ID: SC-0136 (final)

Date Determination Last Updated: 08/27/2014

Corporate/Company Name: SIMPSON LUMBER COMPANY, LLC

Permit Number: 1140-0008-CG

Facility Name:	SIMPSON LUMBER COMPANY, LLC	**Permit Date:**	08/29/2012 (actual)
Facility Contact:	SHIRLEY COLLENTON 8435207229 SCOLLEN@SIMPSON.COM	**FRS Number:**	110040922712
Facility Description:	SIMPSON LUMBER OPERATES A LUMBER MILL OUTSIDE OF GEORGETOWN, SC AND PRODUCES FINISHED LUMBER OUT OF LOGGED SOUTHERN YELLOW PINE. THE FOLLOWING OPERATIONS TAKE PLACE AT THE FACILITY: SAWMILL OPERATIONS, STEAM GENERATION, LUMBER DRYING AND PLANER MILL OPERATIONS. INSTALLATION OF A NEW DIRECT-FIRED LUMBER DRYING KILN, NEW SHAVINGS HOG AND INCREASES IN OPERATION FROM THE SAWMILL AND PLANER MILL.	**SIC Code:**	2421
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	321113
Permit URL:			
EPA Region:	4	**COUNTRY:**	USA
Facility County:	GEORGETOWN		
Facility State:	SC		
Facility ZIP Code:	29440		
Permit Issued By:	SOUTH CAROLINA DEPT OF HEALTH & ENV CTRL, BUREAU OF AIR QUALITY (Agency Name) MR. DENNIS CAMIT(Agency Contact) (803)898-4284 camitdr@dhec.sc.gov		
Other Agency Contact Info:	JAMEL BOATRIGHT, (803) 898-4123		
Permit Notes:	INSTALLATION OF A NEW DIRECT-FIRED LUMBER DRYING KILN, NEW SHAVINGS HOG AND INCREASES IN OPERATION FROM THE SAWMILL AND PLANER MILL.		

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	18.0000 (Tons/Year)
Nitrogen Oxides (NOx)	8.0000 (Tons/Year)
Particulate Matter (PM)	17.0000 (Tons/Year)
Sulfur Oxides (SOx)	2.0000 (Tons/Year)
Volatile Organic Compounds (VOC)	104.0000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME:	DIRECT-FIRED LUMBER DRYING KILN NO. 4
Process Type:	30.800 (Wood Lumber Kilns)
Primary Fuel:	DRY WOOD WASTE
Throughput:	34.00 MMBTU/H
Process Notes:	MAXIMUM THROUGHPUT OF THE KILN IS 54.7 MMBF/YR

POLLUTANT NAME:	Volatile Organic Compounds (VOC)
CAS Number:	VOC

Test Method:	Unspecified
Pollutant Group(s):	(Volatile Organic Compounds (VOC))
Emission Limit 1:	104.0000 T/YR
Emission Limit 2:	3.8000 LB/MBF
Standard Emission:	

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Control Method:	(P) WORK PRACTICE STANDARDS
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	Unknown
Pollutant/Compliance Notes:	

Facility Information

RBLC ID:	GA-0146 (final)	**Date Determination Last Updated:**	08/01/2012
Corporate/Company Name:	SIMPSON LUMBER CO.	**Permit Number:**	2421-103-0004-V-04-1
Facility Name:	SIMPSON LUMBER CO, LLC MELDRIM OPERATIONS	**Permit Date:**	04/25/2012 (actual)
Facility Contact:	LINDA BRYAN 9127482219 LBRYAN@SIMPSON.COM	**FRS Number:**	0110002438997
Facility Description:	LUMBER MILL	**SIC Code:**	2421
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	423310
Permit URL:			
EPA Region:	4	**COUNTRY:**	USA
Facility County:	EFFINGHAM		
Facility State:	GA		
Facility ZIP Code:	31318		
Permit Issued By:	GEORGIA DEPARTMENT OF NATURAL RESOURCES (Agency Name) MR. ERIC CORNWELL(Agency Contact) (404) 363-7020 Eric.Cornwell@dnr.state.ga.us		
Permit Notes:			

Process/Pollutant Information

PROCESS NAME: KILN 3
Process Type: 30.800 (Wood Lumber Kilns)
Primary Fuel: WASTE WOOD
Throughput: 65000000.00 BF/YR
Process Notes: CONTINUOUS LUMBER KILN - DIRECT FIRED

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 3.8300 LB/MBF DAILY
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: N
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: MACT , SIP , OPERATING PERMIT
Control Method: (P) PROPER MAINTENANCE AND OPERATION
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: No
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: KILN 4
Process Type: 30.800 (Wood Lumber Kilns)
Primary Fuel: WASTE WOOD
Throughput: 73000000.00 BF/YR
Process Notes: BATCH LUMBER KILN - DIRECT FIRED

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number:	VOC
Test Method:	Unspecified
Pollutant Group(s):	(Volatile Organic Compounds (VOC))
Emission Limit 1:	3.9300 LB/MBF DAILY
Emission Limit 2:	
Standard Emission:	
Did factors, other then air pollution technology considerations influence the BACT decisions:	N
Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	MACT , SIP , OPERATING PERMIT
Control Method:	(P) PROPER MAINTENANCE AND OPERATION
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	No
Pollutant/Compliance Notes:	

Facility Information

RBLC ID:	TX-0607 (final)	**Date Determination Last Updated:**	04/03/2012
Corporate/Company Name:	WEST FRASER, INC.	**Permit Number:**	PSDTX892M1
Facility Name:	LUMBER MILL	**Permit Date:**	12/15/2011 (actual)
Facility Contact:	PHILLIP HOUSE (903) 628-2506 PHILLIP.HOUSE@WESTFRASER.COM	**FRS Number:**	110012702851
Facility Description:	Two new continuous kilns and new saw line	**SIC Code:**	5211
Permit Type:	D: Both B (Add new process to existing facility) &C (Modify process at existing facility)	**NAICS Code:**	321113
Permit URL:			
EPA Region:	6	**COUNTRY:**	USA
Facility County:	BOWIE		
Facility State:	TX		
Facility ZIP Code:	75570		
Permit Issued By:	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) (Agency Name) MR. JOHNNY VERMILLION(Agency Contact) (512) 239-1292 John.Vermillion@tceq.texas.gov		
Permit Notes:			

Affected Boundaries: **Boundary Type:** **Class 1 Area State:** **Boundary:** **Distance:**

	CLASS1	AR	Caney Creek 100km - 50km

Facility-wide Emissions:	Pollutant Name:	Facility-wide Emissions Increase:
	Volatile Organic Compounds (VOC)	166.5300 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: Continuous lumber kilns (2)

Process Type: 30.800 (Wood Lumber Kilns)

Primary Fuel: wood

Throughput: 275.00 MMBF/YR

Process Notes: Proper operation of the kilns (e.g., drying to the appropriate moisture content)

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25A

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 3.5000 LB/MBF

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: MACT

Control Method: (P) proper temperature and process management; drying to appropriate moisture content

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Facility Information

RBLC ID: LA-0252 (final)

Date Determination Last Updated: 12/12/2011

Corporate/Company Name:	WEST FRASER TIMBER COMPANY, LTD	**Permit Number:**	PSD-LA-701(M1)
Facility Name:	JOYCE MILL	**Permit Date:**	08/16/2011 (actual)
Facility Contact:	GARY MILHOLLEN 318-648-3300 GARY.MILHOLLEN@WESTFRASER.COM	**FRS Number:**	110006524939
Facility Description:	PSD modification/consolidation for a sawmill. Convert 3 batch kilns to continuous dual path kilns. Revise VOC BACT from as-carbon to as-VOC. Consolidate PSD-LA-679 and PSD-LA-701	**SIC Code:**	2421
Permit Type:	C: Modify process at existing facility	**NAICS Code:**	321113
Permit URL:			
EPA Region:	6	**COUNTRY:**	USA
Facility County:	WINN		
Facility State:	LA		
Facility ZIP Code:	71440		
Permit Issued By:	LOUISIANA DEPARTMENT OF ENV QUALITY (Agency Name) MR. BRYAN D. JOHNSTON(Agency Contact) (225)219-3450 BRYAN.JOHNSTON@LA.GOV		
Other Agency Contact Info:	permit writer:dan nguyen (225) 219-3181		
Permit Notes:			

Process/Pollutant Information

PROCESS NAME:	Kipper Boiler No. 1 and No. 2
Process Type:	13.120 (Biomass (includes wood, wood waste, bagasse, and other biomass))
Primary Fuel:	wood residue
Throughput:	58.30 MMBTU/H each
Process Notes:	

POLLUTANT NAME:	Carbon Monoxide
CAS Number:	630-08-0
Test Method:	EPA/OAR Mthd 10
Pollutant Group(s):	(InOrganic Compounds)
Emission Limit 1:	105.5200 LB/H (NOT CHANGED FROM PSD-LA-679)
Emission Limit 2:	
Standard Emission:	
Did factors, other then air pollution technology considerations influence the BACT decisions:	U
Case-by-Case Basis:	BACT-PSD

Other Applicable Requirements: N/A
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: McBurney Boiler No. 4
Process Type: 12.120 (Biomass (includes wood, wood waste, bagasse, and other biomass))
Primary Fuel: wood residue
Throughput: 154.20 MMBTU/H
Process Notes:

POLLUTANT NAME: Carbon Monoxide
CAS Number: 630-08-0
Test Method: EPA/OAR Mthd 10
Pollutant Group(s): (InOrganic Compounds)
Emission Limit 1: 279.1000 LB/H (NOT CHANGED FRO PSD-LA-679)
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: N/A
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME:	Lumber kilns
Process Type:	30.800 (Wood Lumber Kilns)
Primary Fuel:	
Throughput:	300.00 million board feet/yr
Process Notes:	

POLLUTANT NAME:	Volatile Organic Compounds (VOC)
CAS Number:	VOC
Test Method:	Unspecified
Pollutant Group(s):	(Volatile Organic Compounds (VOC))
Emission Limit 1:	930.0000 T/YR
Emission Limit 2:	
Standard Emission:	6.2000 LB/MBF (AS-VOC)

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	N/A
Control Method:	(P) properly design and operation
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	Unknown
Pollutant/Compliance Notes:	

Facility Information

RBLC ID:	TX-0584 (final)	**Date Determination Last Updated:**	09/14/2011
Corporate/Company Name:	TIN INC	**Permit Number:**	1037/PSDTX924M2
Facility Name:	TEMPLE INLAND PINELAND MANUFACTURING COMPLEX	**Permit Date:**	08/12/2011 (actual)
Facility Contact:	PATRICK MILLER 936-829-1427 PATMILLER@TEMPLEINLAND.COM	**FRS Number:**	110035091922
Facility Description:	lumber mill	**SIC Code:**	2421
Permit Type:	C: Modify process at existing facility	**NAICS Code:**	321212

Permit URL:

EPA Region: 6 **COUNTRY:** USA

Facility County: SABINE

Facility State: TX

Facility ZIP Code: 75968

Permit Issued By: TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) (Agency Name)
MR. JOHNNY VERMILLION(Agency Contact) (512) 239-1292 John.Vermillion@tceq.texas.gov

Permit Notes:

Affected Boundaries:

Boundary Type:	Class 1 Area State:	Boundary:	Distance:
CLASS1	AR	Caney Creek	> 250 km

Process/Pollutant Information

PROCESS NAME: Dry studmill kilns 1 and 2

Process Type: 30.800 (Wood Lumber Kilns)

Primary Fuel: wood

Throughput: 156000.00 boardfeet per charge

Process Notes: Studmill dry kiln no. 1 being replaced

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: EPA/OAR Mthd 25

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 2.4900 LB VOC/1000 BOARDFEE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements: NESHAP , OPERATING PERMIT

Control Method: (N) good operating practice and maintenance

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Facility Information

RBLC ID:	AL-0260 (final)	**Date Determination Last Updated:**	01/08/2014
Corporate/Company Name:	THE WESTERVELT COMPANY	**Permit Number:**	406-5003-X014
Facility Name:	THE WESTERVELT COMPANY	**Permit Date:**	01/04/2011 (actual)
Facility Contact:	KEITH DOLLAR 205-562-5475 KDOLLAR@WESTERVELT.COM	**FRS Number:**	110017414626
Facility Description:	Sawmill	**SIC Code:**	2421
Permit Type:	C: Modify process at existing facility	**NAICS Code:**	321113
Permit URL:			
EPA Region:	4	**COUNTRY:**	USA
Facility County:	HALE		
Facility State:	AL		
Facility ZIP Code:	35474		
Permit Issued By:	ALABAMA DEPT OF ENVIRONMENTAL MGMT (Agency Name) MR. ANTHONY SMILEY(Agency Contact) 334-271-7803 ASmiley@adem.state.al.us		
Permit Notes:	NAICS Code: 321113		

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	226.7700 (Tons/Year)
Nitrogen Oxides (NOx)	39.9600 (Tons/Year)
Particulate Matter (PM)	40.6900 (Tons/Year)
Sulfur Oxides (SOx)	25.0700 (Tons/Year)
Volatile Organic Compounds (VOC)	17.1300 (Tons/Year)

Process/Pollutant Information

PROCESS NAME:	Two (2) 125 MMBtu/Hr. Wood-fired Boilers
Process Type:	30.800 (Wood Lumber Kilns)
Primary Fuel:	Wood Residuals
Throughput:	125.00 MMBTU/H each
Process Notes:	

POLLUTANT NAME:	Volatile Organic Compounds (VOC)
CAS Number:	VOC

Test Method:	Unspecified
Pollutant Group(s):	(Volatile Organic Compounds (VOC))
Emission Limit 1:	0.5000 LB/MMBTU
Emission Limit 2:	0.5000 LB/MMBTU
Standard Emission:	
Did factors, other then air pollution technology considerations influence the BACT decisions:	U
Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS
Control Method:	(N)
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	Unknown
Pollutant/Compliance Notes:	

Facility Information

RBLC ID:	AR-0102 (draft)	**Date Determination Last Updated:**	11/09/2015
Corporate/Company Name:		**Permit Number:**	456-AOP-R4
Facility Name:	ANTHONY TIMBERLANDS, INC.	**Permit Date:**	09/16/2009 (actual)
Facility Contact:	STEVEN ANTHONY, PRESIDENT 8706873611 SANTHONY@WINDSTREAM.NET	**FRS Number:**	0510300035
Facility Description:	SAWMILL WITH FOUR WOOD FIRED BOILERS, FIVE INDIRECT HEATED KILNS, AND TWO PLANNER MILLS. THIS FACILITY IS PERMITTED TO PRODUCE A MAXIMUM 200 MILLION BOARD FEET PER YEAR OF DRIED LUMBER.	**SIC Code:**	242
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	113210
Permit URL:			
EPA Region:	6	**COUNTRY:**	USA
Facility County:	OUACHITA		
Facility State:	AR		
Facility ZIP Code:	71720		

Permit Issued By: ARKANSAS DEPT OF ENVIRONMENTAL QUALITY (Agency Name)
MR. TOM RHEAUME(Agency Contact) (501) 682-0762 rheaume@adeq.state.ar.us

Permit Notes: ADDING THREE NEW INDIRECT-FIRED KILNS, ONE NEW PLANER MILL, AND INCREASING KILN DRIED LUMBER THROUGHPUT FROM 135 MMBF/YR TO 200 MMBF/YR.

Affected Boundaries:

Boundary Type:	Class 1 Area State:	Boundary:	Distance:
CLASS1	AR	Caney Creek	100km - 50km
INTL BORDER		US/Canada Border	< 100 km

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	416.2000 (Tons/Year)
Nitrogen Oxides (NOx)	44.5000 (Tons/Year)
Particulate Matter (PM)	69.4000 (Tons/Year)
Volatile Organic Compounds (VOC)	144.3000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: PLANER MILL #2

Process Type: 30.999 (Other Wood Products Industry Sources)

Primary Fuel: NONE

Throughput: 200.00 MMBF/YR

Process Notes: PLANER MILL #2 IS EQUIPPED WITH A CYCLONE WHICH IS USED TO TO TRANSFER WOOD SHAVINGS (BOILER FUEL) TO THE FOUR BOILERS LOCATED AT THE FACILITY. THE TOTAL THROUGHPUT FOR PLANER MILL #1 AND PLANER MILL #2 IS 200 MMBF/YR OF LUMBER.

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.1390 LB/H

Emission Limit 2: 0.2800 T/YR

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: Y

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: NONE OF THE AVAILABLE CONTROL TECHNOLOGIES FOR PM OR PM10 WERE ECONOMICALLY FEASIBLE. THE PLANER MILL IS EQUIPPED WITH A CYCLONE. HOWEVER, THE CYCLONE IS USED TO TRANSFER SHAVINGS AS FUEL TO THE BOILERS.

Process/Pollutant Information

PROCESS NAME: KILN #3 INDIRECT-FIRED

Process Type: 30.800 (Wood Lumber Kilns)

Primary Fuel: NONE

Throughput: 200.00 MMBF/YR

Process Notes: TOTAL THROUGHPUT FOR THE KILNS IS 200 MMBF/YR.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 3.5000 LB/MBF

Emission Limit 2: 350.0000 T/YR

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: KILN #4 INDIRECT-FIRED

Process Type: 30.800 (Wood Lumber Kilns)

Primary Fuel: NONE

Throughput: 200.00 MMBF/YR

Process Notes: TOTAL THROUGHPUT FOR THE KILNS IS 200 MMBF/YR.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 3.5000 LB/MBF

Emission Limit 2: 350.0000 T/YR

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: KILN #5 INDIRECT-FIRED

Process Type: 30.800 (Wood Lumber Kilns)

Primary Fuel: NONE

Throughput: 200.00 MMBF/YR

Process Notes: TOTAL THROUGHPUT FOR THE KILNS IS 200 MMBR/YR.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1:	3.5000 LB/MBF
Emission Limit 2:	350.0000 T/YR
Standard Emission:	
Did factors, other then air pollution technology considerations influence the BACT decisions:	N
Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Control Method:	(N)
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	Unknown
Pollutant/Compliance Notes:	

Facility Information

RBLC ID:	FL-0315 (final)	**Date Determination Last Updated:**	10/05/2010
Corporate/Company Name:	NORTH FLORIDA LUMBER	**Permit Number:**	0770007-014-AC (PSD-FL-407)
Facility Name:	NORTH FLORIDA LUMBER/BRISTOL SAW MILL	**Permit Date:**	08/04/2009 (actual)
Facility Contact:	KENNY SPARKS SPARKS 850-643-2238 KSPARKS@REXNFL.COM	**FRS Number:**	UNKNOWN
Facility Description:	The existing facility consists of: a log debarker; saw mill; planer mill; four steam heated lumber drying kiln; three waste wood-fired boilers; and waste wood handling and storage operations.	**SIC Code:**	2421
Permit Type:	C: Modify process at existing facility	**NAICS Code:**	321113
Permit URL:			
EPA Region:	4	**COUNTRY:**	USA
Facility County:	LIBERTY		
Facility State:	FL		
Facility ZIP Code:	32321		
Permit Issued By:	FLORIDA DEPT. OF ENVIRONMENTAL PROTECTION (Agency Name) MR. JEFF KOERNER(Agency Contact) (850)921-9000 Jeff.Koerner@dep.state.fl.us		

Other Agency Contact Info:	Jeff Koerner, P.E. New Source Review Section Florida DEP Phone 850-921-9536 Jeff.koerner@dep.state.fl.us
Permit Notes:	

Facility-wide Emissions:	**Pollutant Name:** Volatile Organic Compounds (VOC)	**Facility-wide Emissions Increase:** 116.9300 (Tons/Year)

Process/Pollutant Information

PROCESS NAME:	Wood lumber kiln
Process Type:	30.800 (Wood Lumber Kilns)
Primary Fuel:	steam heated
Throughput:	92000000.00 board-f lumber/yr
Process Notes:	

POLLUTANT NAME:	Volatile Organic Compounds (VOC)
CAS Number:	VOC
Test Method:	Unspecified
Pollutant Group(s):	(Volatile Organic Compounds (VOC))
Emission Limit 1:	116.9300 T/YR
Emission Limit 2:	
Standard Emission:	

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NESHAP
Control Method:	(P) Best operating practices: 1) minimize over-drying lumber; 2) maintain consistent moisture content for processed lumber charge; and 3) dry at the minimum temperature.
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	Unknown
Pollutant/Compliance Notes:	This is the maximum annual emissions expected for BACT best operating practices.

Facility Information

RBLC ID:	SC-0138 (final)	**Date Determination Last Updated:**	08/27/2014
Corporate/Company Name:	ELLIOTT SAWMILLING COMPANY	**Permit Number:**	1280-0004-CK
Facility Name:	ELLIOTT SAWMILLING COMPANY	**Permit Date:**	04/14/2009 (actual)
Facility Contact:	R.V. ELLIOT 8436253331 ROBERTE@ESAW.BIZ	**FRS Number:**	110020016061
Facility Description:	MANUFACTURES ROUGH AND DRESSED YELLOW PINE LUMBER. LUMBER PRODUCTION CONSISTS OF FOUR BASIC STEPS; 1) DEBARKING, 2) SAWING, 3) DRYING, AND 4) PLANNING. INSTALLATION OF A FIFTH DRYING KILN WITH A DRYING CAPACITY OF 53 MM BD FT/YR RESULTING IN INCREASED THROUGHPUT FOR THE DEBARKERS, GREEN LOG CUTTERS, GREEN SAWMILL, CHIPPER/CYCLONE, CHIPPER MILL, AND PLANER MILL.	**SIC Code:**	2421
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	321113
Permit URL:			
EPA Region:	4	**COUNTRY:**	USA
Facility County:	HAMPTON		
Facility State:	SC		
Facility ZIP Code:	29918		
Permit Issued By:	SOUTH CAROLINA DEPT OF HEALTH & ENV CTRL, BUREAU OF AIR QUALITY (Agency Name) MR. DENNIS CAMIT(Agency Contact) (803)898-4284 camitdr@dhec.sc.gov		
Other Agency Contact Info:	JAMEL BOATRIGHT, (803) 898-4123		
Permit Notes:	INSTALLATION OF A FIFTH DRYING KILN WITH A DRYING CAPACITY OF 53 MM BD FT/YR RESULTING IN INCREASED THROUGHPUT FOR THE DEBARKERS, GREEN LOG CUTTERS, GREEN SAWMILL, CHIPPER/CYCLONE, CHIPPER MILL, AND PLANER MILL.		

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	91.9800 (Tons/Year)
Nitrogen Oxides (NOx)	30.6600 (Tons/Year)
Particulate Matter (PM)	50.1800 (Tons/Year)
Sulfur Oxides (SOx)	3.8300 (Tons/Year)
Volatile Organic Compounds (VOC)	119.0000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME:	DIRECT FIRED LUMBER DRYING KILN NO.5
Process Type:	30.800 (Wood Lumber Kilns)

Primary Fuel:	SAWDUST
Throughput:	35.00 MMBTU/H
Process Notes:	MAXIMUM THROUGHPUT OF 53 MMBF/YR

POLLUTANT NAME:	Volatile Organic Compounds (VOC)
CAS Number:	VOC
Test Method:	Unspecified
Pollutant Group(s):	(Volatile Organic Compounds (VOC))
Emission Limit 1:	119.0000 T/YR
Emission Limit 2:	4.5000 LB/MBF
Standard Emission:	

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Control Method:	(P) WORK PRACTICE STANDARDS
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	Unknown
Pollutant/Compliance Notes:	

Facility Information

RBLC ID:	AR-0101 (final)	**Date Determination Last Updated:**	09/29/2009
Corporate/Company Name:	BIBLER BROTHERS LUMBER COMPANY	**Permit Number:**	1628-AOP-R5
Facility Name:	BIBLER BROTHERS LUMBER COMPANY	**Permit Date:**	08/25/2008 (actual)
Facility Contact:	TERRY FREEMAN 4799684986 TRFREEMAN@BIBLERLUMBER.COM	**FRS Number:**	UNKNOWN
Facility Description:	LUMBER MILL	**SIC Code:**	242
Permit Type:	B: Add new process to existing facility	**NAICS Code:**	321113
Permit URL:			
EPA Region:	6	**COUNTRY:**	USA
Facility County:	POPE COUNTY		
Facility State:	AR		

Facility ZIP Code: 72801

Permit Issued By: ARKANSAS DEPT OF ENVIRONMENTAL QUALITY (Agency Name)
MR. TOM RHEAUME(Agency Contact) (501) 682-0762 rheaume@adeq.state.ar.us

Permit Notes:

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Volatile Organic Compounds (VOC)	390.9000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: SN-07G AND SN-13G CONTINOUS OPERATING KILNS

Process Type: 30.800 (Wood Lumber Kilns)

Primary Fuel: WOOD RESIDUE

Throughput: 25.00 MMBTU/H

Process Notes: TWO DIRECT FIRED KILNS EACH PROCESS LUMBER AT A RATE OF 12.1 THOUSAND BOARD FEET/HR.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 3.8000 LB/MBF VOC

Emission Limit 2: 46.5000 LB VOC/H/KILN

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: Unknown

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: No

Pollutant/Compliance Notes:

Facility Information

RBLC ID:	AL-0235 (final)	**Date Determination Last Updated:**	04/29/2008
Corporate/Company Name:	BOWATER (ALABAMA) INC. FOREST PRODUCT DIVISION	**Permit Number:**	711-S001-X004
Facility Name:	ALBERTVILLE SAWMILL	**Permit Date:**	04/09/2008 (estimated)
Facility Contact:	RANDY LILES, MILL ENGINEER 2568642317 RANDY.LILES@ABITIBIBOWATER.COM	**FRS Number:**	010950S001
Facility Description:	SOUTHERN YELLOW PINE SAWMILL. IT MANUFACTURES FINISHED, DRIED DIMENSIONAL LUMBER FROM LOGS. EMISSION UNITS INCLUDED A 99MMBTU /HR WWB, TWO LUMBER DRY KILN, AND SEVERAL PNEUMATIC WOOD WASTE TRANSFER SYSTEMS WITH CYCLONES.	**SIC Code:**	2421
Permit Type:	C: Modify process at existing facility	**NAICS Code:**	321113
Permit URL:			
EPA Region:	4	**COUNTRY:**	USA
Facility County:	MARSHALL		
Facility State:	AL		
Facility ZIP Code:	35950		
Permit Issued By:	ALABAMA DEPT OF ENVIRONMENTAL MGMT (Agency Name) MR. ANTHONY SMILEY(Agency Contact) 334-271-7803 ASmiley@adem.state.al.us		
Permit Notes:			

Affected Boundaries:

Boundary Type:	Class 1 Area State:	Boundary:	Distance:
CLASS1	GA	Cohutta	100km - 50km
CLASS1	AL	Sipsey	100km - 50km

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	14.5000 (Tons/Year)
Nitrogen Oxides (NOx)	4.6000 (Tons/Year)
Particulate Matter (PM)	10.1000 (Tons/Year)
Sulfur Oxides (SOx)	2.3000 (Tons/Year)
Volatile Organic Compounds (VOC)	243.5000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME:	TWO 182.14 MBF, STEAM-HEADED LUMBER DRY KILNS (NORTH & SOUTH - K100/K101)
Process Type:	30.800 (Wood Lumber Kilns)
Primary Fuel:	
Throughput:	182.14 MBF
Process Notes:	PROPOSED 182.14 MBF / CHARGE (EA.); EXISTING 150 MBF / CHARGE (EA.)

POLLUTANT NAME:	Volatile Organic Compounds (VOC)
CAS Number:	VOC
Test Method:	Unspecified
Pollutant Group(s):	(Volatile Organic Compounds (VOC))
Emission Limit 1:	7.0000 LB/MBF KILN CHARGE CYCLONE (PINENE)
Emission Limit 2:	
Standard Emission:	

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	MACT , SIP , OPERATING PERMIT
Control Method:	(P) OPERATE W/ WET BULB SET POINT DRYING SCHEDULE OF LESS THAN OR EQUAL TO 185F; DAILY AND MONTHLY KILN I/M PROCEDURES
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	Unknown
Pollutant/Compliance Notes:	

Facility Information

RBLC ID:	SC-0155 (final)	**Date Determination Last Updated:**	08/27/2014
Corporate/Company Name:	NEW SOUTH LUMBER, INC.	**Permit Number:**	1380-0025-CG
Facility Name:	NEW SOUTH LUMBER, INC. - CAMDEN PLANT	**Permit Date:**	11/01/2006 (actual)
Facility Contact:	BENNIE WADFORD 8034242811 BENNIE.WADFORD@NEWSOUTH.CANFOR.COM	**FRS Number:**	110000351869
Facility Description:	NEW SOUTH-CAMDEN PROCESSES RAW SOUTHERN PINE LOGS INTO PLANED PINE LUMBER, TREATED PINE LUMBER, AND WOOD CHIPS/PINE SHAVINGS. PINE LOGS ARE DELIVERED TO THE PLANT AND STORED OUTSIDE. THE SAWMILL TRANSFORMS, THROUGH DEBARKING AND ROUGH SAWING, THE PINE LOGS INTO GREEN ROUGH-CUT LUMBER. SCRAPS FROM THIS PROCESS, WHICH INCLUDE BARK, SAWDUST, AND PARTIAL LUMBER PIECES, ARE SENT EITHER TO THE WOOD WASTE BOILER FUEL HOUSE OR TO CHIPPERS. THE CHIPPERS TRANSFORM SCRAP WOOD INTO SALEABLE WOOD CHIPS.	**SIC Code:**	2421
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	321113

Permit URL:

EPA Region: 4 **COUNTRY:** USA

Facility County: KERSHAW

Facility State: SC

Facility ZIP Code: 29032

Permit Issued By: SOUTH CAROLINA DEPT OF HEALTH & ENV CTRL, BUREAU OF AIR QUALITY (Agency Name)
MR. DENNIS CAMIT(Agency Contact) (803)898-4284 camitdr@dhec.sc.gov

Other Agency Contact Info: TAWANNA F. REID
(803) 898-4123

Permit Notes:

Process/Pollutant Information

PROCESS NAME: WOOD PRODUCTS INDUSTRIES

Process Type: 30.800 (Wood Lumber Kilns)

Primary Fuel: VIRGIN WOOD WASTE

Throughput: 0

Process Notes: THE FACILITY PLANS TO MODIFY THE BOILER (CG-01, UNIT ID 01) AND STEAM DELIVERY SYSTEM TO THE KILNS (CG-02, UNIT ID 02) IN ORDER TO IMPROVE STEAM UTILIZATION AND EFFICIENCY. THE WOOD WASTE BOILER AND THE LUMBER DRYING KILNS ARE SUBJECT TO PSD REVIEW FOR VOCS.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1:

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes: TO DEMONSTRATE COMPLIANCE FOR BACT/LAER FOR VOCS THE FACILITY SHALL IMPLEMENT WORK PRACTICE STANDARDS FOR THE WOOD-DRYING KILN OPERATION.

Facility Information

RBLC ID:	OK-0113 (final)	**Date Determination Last Updated:**	01/27/2009
Corporate/Company Name:	WEYERHAEUSER	**Permit Number:**	99-052-C (M-2) PSD
Facility Name:	WRIGHT CITY COMPLEX	**Permit Date:**	07/21/2006 (actual)
Facility Contact:		**FRS Number:**	110012844716
Facility Description:	LUMBER SAWMILL	**SIC Code:**	242
Permit Type:	U: Unspecified	**NAICS Code:**	321113
Permit URL:			
EPA Region:	6	**COUNTRY:**	USA
Facility County:	MCCURTAIN		
Facility State:	OK		
Facility ZIP Code:			

Permit Issued By: OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (Agency Name)
MR. LEE WARDEN(Agency Contact) (405)702-4182 LEE.WARDEN@DEQ.OK.GOV

Permit Notes:

Affected Boundaries:

Boundary Type:	Class 1 Area State:	Boundary:	Distance:
CLASS1	AR	Caney Creek	< 100 km

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Volatile Organic Compounds (VOC)	79.2000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: LUMBER KILNS

Process Type: 30.800 (Wood Lumber Kilns)

Primary Fuel:

Throughput:

Process Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 4.8000 LB/MBF
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes: MULTIPLE VENTS/OPENINGS

Process/Pollutant Information

PROCESS NAME: PLANER MILL
Process Type: 30.999 (Other Wood Products Industry Sources)
Primary Fuel:
Throughput:
Process Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: SEE NOTE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:	
Control Method:	(N) BEST MANAGEMENT PRACTICES
Est. % Efficiency:	
Cost Effectiveness:	0 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	Unknown
Pollutant/Compliance Notes:	NO EMISSION LIMITS AVAILABLE

Facility Information

RBLC ID:	OR-0049 (final)	**Date Determination Last Updated:**	08/30/2011
Corporate/Company Name:	INTERFOR PACIFIC, INC.	**Permit Number:**	18-0035
Facility Name:	GILCHRIST FACILITY	**Permit Date:**	05/22/2006 (actual)
Facility Contact:	5414333315 BLAKE.JOHNSGARD@INTERFOR.COM	**FRS Number:**	110001655414
Facility Description:	SAWMILL REPLACING OLD LUMBER DYRING KILNS WITH NEW LUMBER DRYING KILNS	**SIC Code:**	2421
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	321113
Permit URL:			
EPA Region:	10	**COUNTRY:**	USA
Facility County:	KLAMATH		
Facility State:	OR		
Facility ZIP Code:			
Permit Issued By:	OREGON DEPT OF ENVIRONMENTAL QUALITY (Agency Name) JILL INAHARA(Agency Contact) (503) 229-5001 inahara.jill@deq.state.or.us		
Other Agency Contact Info:	MARK FISHER FISHER.MARK@DEQ.STATE.OR.US 541-633-2022		
Permit Notes:	REPLACING OLD LUMBER DYRING KILNS WITH NEW LUMBER DRYING KILNS		
Facility-wide Emissions:	**Pollutant Name:** Volatile Organic Compounds (VOC)	**Facility-wide Emissions Increase:** 202.0000 (Tons/Year)	

Process/Pollutant Information

PROCESS NAME: LUMBER DRY KILNS

Process Type: 30.800 (Wood Lumber Kilns)

Primary Fuel:

Throughput: 0

Process Notes: REPLACING OLD KILNS WITH 3 NEW DOUBLE TRACK AND 4 SINGLE TRACK KILNS

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 1.6900 LB/MBF

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) PROPER WORK PRACTICES

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Facility Information

RBLC ID:	SC-0137 (final)	**Date Determination Last Updated:**	06/11/2014
Corporate/Company Name:	ELLIOTT SAWMILLING COMPANY	**Permit Number:**	1280-0004-CI
Facility Name:	ELLIOTT SAWMILLING COMPANY	**Permit Date:**	03/06/2006 (actual)
Facility Contact:	R.V. ELLIOTT 8436253331 ROBERTE@ESAW.BIZ	**FRS Number:**	110020016061

Facility Description:	MANUFACTURES ROUGH AND DRESSED YELLOW PINE LUMBER. LUMBER PRODUCTION CONSISTS OF FOUR BASIC STEPS; 1) DEBARKING, 2) SAWING, 3) DRYING, AND 4) PLANNING. EXPANSION OF THE LUMBER PRODUCTION OF KILN NO.4 FROM 16.6 MILLION BD-FT/YR TO ITS CAPACITY OF 53 MILLION BD-FT/YR.	**SIC Code:**	2421
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	321113
Permit URL:			
EPA Region:	4	**COUNTRY:**	USA
Facility County:	HAMPTON		
Facility State:	SC		
Facility ZIP Code:	29918		
Permit Issued By:	SOUTH CAROLINA DEPT OF HEALTH & ENV CTRL, BUREAU OF AIR QUALITY (Agency Name) MR. DENNIS CAMIT(Agency Contact) (803)898-4284 camitdr@dhec.sc.gov		
Other Agency Contact Info:	JAMEL BOATRIGHT, (803) 898-4123		
Permit Notes:	EXPANSION OF THE LUMBER PRODUCTION OF KILN NO.4 FROM 16.6 MILLION BD-FT/YR TO ITS CAPACITY OF 53 MILLION BD-FT/YR.		

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	92.0000 (Tons/Year)
Nitrogen Oxides (NOx)	33.7000 (Tons/Year)
Particulate Matter (PM)	18.7000 (Tons/Year)
Sulfur Oxides (SOx)	3.9400 (Tons/Year)
Volatile Organic Compounds (VOC)	123.5000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME:	DIRECT-FIRED LUMBER-DRYING KILN NO. 4
Process Type:	30.800 (Wood Lumber Kilns)
Primary Fuel:	SAWDUST
Throughput:	35.00 MMBTU/H
Process Notes:	MAXIMUM THROUGHPUT OF KILN IS 53 MMBF/YR

POLLUTANT NAME:	Volatile Organic Compounds (VOC)
CAS Number:	VOC
Test Method:	Unspecified
Pollutant Group(s):	(Volatile Organic Compounds (VOC))
Emission Limit 1:	122.0000 T/YR
Emission Limit 2:	4.5000 LB/MBF

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: N

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) WORK PRACTICE STANDARDS

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Facility Information

RBLC ID:	WA-0327 (final)	**Date Determination Last Updated:**	06/11/2009
Corporate/Company Name:	SIERRA PACIFIC INDUSTRIES	**Permit Number:**	PSD 05-04
Facility Name:	SKAGIT COUNTY LUMBER MILL	**Permit Date:**	01/25/2006 (actual)
Facility Contact:	BOB ELLERY 5303788179 BELLERY@SPI-IND.COM	**FRS Number:**	5303700057
Facility Description:	FACILITY IS DESIGNED TO PRODUCE ABOUT 300 MILLION BOARD FEET OF LUMBER ANNUALLY AND RUN A 430 MMBTU/HR WASTE-WOOD-FIRED BOILER AS A 30 MW COGENERATION UNIT.	**SIC Code:**	0831
Permit Type:	A: New/Greenfield Facility	**NAICS Code:**	113210
Permit URL:			
EPA Region:	10	**COUNTRY:**	USA
Facility County:	SKAGIT		
Facility State:	WA		
Facility ZIP Code:	98273		
Permit Issued By:	WASHINGTON STATE DEPARTMENT OF ECOLOGY (ECY); AIR QUALITY PROGRAM (Agency Name) MR. MARC CROOKS(Agency Contact) (360)407-6803 marc.crooks@ecy.wa.gov		
Permit Notes:			

Affected Boundaries:

Boundary Type:	Class 1 Area State:	Boundary:	Distance:
CLASS1	WA	Alpine Lakes	100km - 50km
CLASS1	WA	Glacier Peak	< 100 km

CLASS1	WA	Goat Rocks	100km - 50km
CLASS1	WA	Mount Rainier NP	100km - 50km
CLASS1	WA	North Cascades NP	< 100 km
CLASS1	WA	Olympic NP	< 100 km
CLASS1	WA	Pasayten	100km - 50km
INTL BORDER		US/Canada Border	< 100 km

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	659.0000 (Tons/Year)
Nitrogen Oxides (NOx)	188.0000 (Tons/Year)
Particulate Matter (PM)	54.0000 (Tons/Year)
Sulfur Oxides (SOx)	47.0000 (Tons/Year)
Volatile Organic Compounds (VOC)	99.0000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: WOOD-FIRED COGENERATION UNIT

Process Type: 11.120 (Biomass (includes wood, wood waste, bagasse, and other biomass))

Primary Fuel: BARK & WASTE WOOD

Throughput: 430.00 mmBtu/H

Process Notes:

POLLUTANT NAME: Carbon Monoxide

CAS Number: 630-08-0

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds)

Emission Limit 1: 400.0000 LB/H

Emission Limit 2: 659.0000 T/YR 12 MONTH ROLLING AVERAGE

Standard Emission: 0.3500 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Nitrogen Oxides (NOx)

CAS Number: 10102

Test Method: Unspecified

Pollutant Group(s): (InOrganic Compounds , Oxides of Nitrogen (NOx) , Particulate Matter (PM))

Emission Limit 1: 56.0000 LB/H CALENDAR DAY

Emission Limit 2: 0.1300 LB/MMBTU CALENDAR DAY

Standard Emission: 0.1300 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) SELECTIVE NONCATALYTIC REDUCTION (SNCR)

Est. % Efficiency: 48.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 0.0200 LB/MMBTU 24-HOUR

Emission Limit 2: 37.7000 T/YR 12-MONTH ROLLING AVERAGE

Standard Emission: 0.0200 LB/MMBTU

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (A) ELECTROSTATIC PRECIPITATOR

Est. % Efficiency: 99.000

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Sulfur Dioxide (SO2)
CAS Number: 7446-09-5
Test Method: Unspecified
Pollutant Group(s): (InOrganic Compounds , Oxides of Sulfur (SOx))
Emission Limit 1: 0.0250 LB/MMBTU 3-HOUR
Emission Limit 2: 47.1000 T/YR 12-MONTH ROLLING AVERAGE
Standard Emission: 0.0250 LB/MMBTU
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 0.0190 LB/MMBTU ONR-HOUR
Emission Limit 2: 35.8000 T/YR 12-MONTH ROLLING AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (N)
Est. % Efficiency:
Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: PLANER MILL BAG HOUSE
Process Type: 30.999 (Other Wood Products Industry Sources)
Primary Fuel:
Throughput: 48000.00 DSCFM
Process Notes:

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)
CAS Number: PM
Test Method: Unspecified
Pollutant Group(s): (Particulate Matter (PM))
Emission Limit 1: 0.0050 GR/DSCF ONE-HOUR
Emission Limit 2: 9.4000 T/YR TWELVE MONTH ROLLING AVERAGE
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (A) BAG HOUSE
Est. % Efficiency: 99.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: 7. DRY KILNS
Process Type: 30.800 (Wood Lumber Kilns)

Primary Fuel:

Throughput: 300.00 MM BOARD F/YR

Process Notes:

POLLUTANT NAME: Particulate matter, filterable < 10 µ (FPM10)

CAS Number: PM

Test Method: Unspecified

Pollutant Group(s): (Particulate Matter (PM))

Emission Limit 1: 4.0000 T/YR 12 MONTH ROLLING AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (N)

Est. % Efficiency:

Cost Effectiveness: 0 $/ton

Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

Pollutant Group(s): (Volatile Organic Compounds (VOC))

Emission Limit 1: 54.0000 T/YR 12 MONTH ROLLING AVERAGE

Emission Limit 2:

Standard Emission:

Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:

Control Method: (P) COMPUTERIZED STEAM MANAGEMENT SYSTEM

Est. % Efficiency:

Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: ANTI-MOLD SPRAY SYSTEM
Process Type: 30.999 (Other Wood Products Industry Sources)
Primary Fuel:
Throughput: 300.00 MM F/YR
Process Notes:

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 9.0000 T/YR ROLLING TWELVE AVERAGE
Emission Limit 2:
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Control Method: (P) DRIP-FREE DESIGN
Est. % Efficiency:
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Weyerhaeuser

14715 Highway 96
Millport, Alabama 35576

Certified Mail No. 7013 1090 0001 7701 3974

May 6, 2016

MAY 2016
RECEIVED
ADEM
AIR DIVISION

Mr. Jeff Strickland
Alabama Department of Environmental Management
1400 Coliseum Blvd.
Montgomery, AL 36110-2059

RE: Weyerhaeuser NR Company, Millport Facility
Facility # 408-S003
PSD Air Permit Application
Response to Comments

Dear Mr. Strickland:

Weyerhaeuser NR Company appreciated the opportunity to meet with you on April 5 to discuss the permit application for the Millport Mill modernization. This letter is intended to address the comments that were raised during the meeting. The response is grouped below as presented in the meeting.

PM PSD Applicability

Weyerhaeuser presented in the application the potential to emit based upon emission factors and the production throughput for the proposed facility modernization. ADEM has noted that the process weight allowable is an applicable standard that must be used as the Potential-to-Emit (PTE) initially to determine PSD applicability for PM for the fuel silo cyclone, planer mill cyclone and continuous direct fired kilns. As recognized by Weyerhaeuser, in order to avoid PSD review, Weyerhaeuser must propose PM limits to restrict the emissions from the process.

Since the April 5th meeting, a change has been made to the planer process and the planer mill will be constructed with a cyclone to handle material from a reject chipper in addition to the cyclone which will be handling the planer shavings. Both of these cyclones will discharge to a conveyor and the material transferred to a truck loading bin. The dry trim hog will be discharged directly to the conveyor and will not use a pneumatic transfer system. The process flow block diagram has been updated to include these changes and is included as an attachment to this letter.

Weyerhaeuser has evaluated the PTE using the process weight allowable, as requested by ADEM, and included the above mentioned changes to the process. The net increase in the PM PTE using the process weight rate is summarized in the following table. In using this rate as the allowable, the project would exceed the PM Prevention of Significant Deterioration (PSD) significant emission rate (SER). Weyerhaeuser is requesting that limits be set to the calculated emission rates, also included in the table below.

Process	Maximum Throughput (tph)	PWR Allowable PM Emissions (lb/hr)	Potential Annual PM Emissions at PWR Allowable (TPY)	Requested PM Limit (lb/hr)
Planer Shavings (PM-1)	39.6	31.2	136.7	5.0
Reject Chips (PM-2)				
CDK #4	6	10.9	47.8	10.2
CDK #5	6	10.9	47.8	
CDK #6	6	10.9	82.0	
Fuel Cyclone	14.4	18.7	77.5	1.4

At the requested limits and considering continuous operation the project will avoid PSD review for PM.

Does the proposed chipper have a screen deck cyclone?
As mentioned in the meeting, the proposed chipper does not have a screen deck cyclone.

The application, other than the Form 103, need signatures.
New forms reflecting the process change are enclosed and contain signatures.

Need Form 110 for the fuel silo cyclones and the planer mill cyclone.
A Form 110 is enclosed for all of the proposed cyclones.

How would emissions be minimized from the proposed sawmill, i.e. covered conveyors, etc?
The conveyors transporting the wood residuals will be covered conveyors. If visible emissions are detected reaching the property line, Weyerhaeuser will employ wetting of the material to minimize the emissions.

Need to propose emission monitoring.
Weyerhaeuser proposes to conduct weekly visual observations and take corrective action if greater than normal emissions are observed. Additionally, Weyerhaeuser proposes to track the monthly production rate and the 12-month rolling total of the production rate to demonstrate compliance with the annual emission rates.

Design Changes
Since the April 5 meeting, changes have been made to the burner size for the second and third CDKs to be installed. These kilns will be installed with a 40 MMBTU/hr burner, the burner for the first CDK will remain 35 MMBTU/hr. The maximum throughput provided by the manufacture is 117 MMBF/yr for the kiln with the 35 MMBTU/hr burner and 134 MMBF/yr for the kilns with 40 MMBTU/hr burners. The final mill throughput capacity will be 385 MMBF/yr.

Updated emission calculations reflecting the change in burner size, process weight and requested limits are enclosed. Additional calculation sheets were required for the excess startup emissions and operation of the kilns with 40 MMBTU burners. The updated netting analysis is also included. This netting analysis includes the requested PM limits and also removes the sawmill and road fugitives from the netting. As indicated by ADEM, fugitive emissions are not required to be included in the netting analysis as the facility is not one of the 28 source categories. As discussed with ADEM, "safety factors" have been removed from the emission factors for the kiln emission calculations to be more reflective of the actual net increase in emissions.

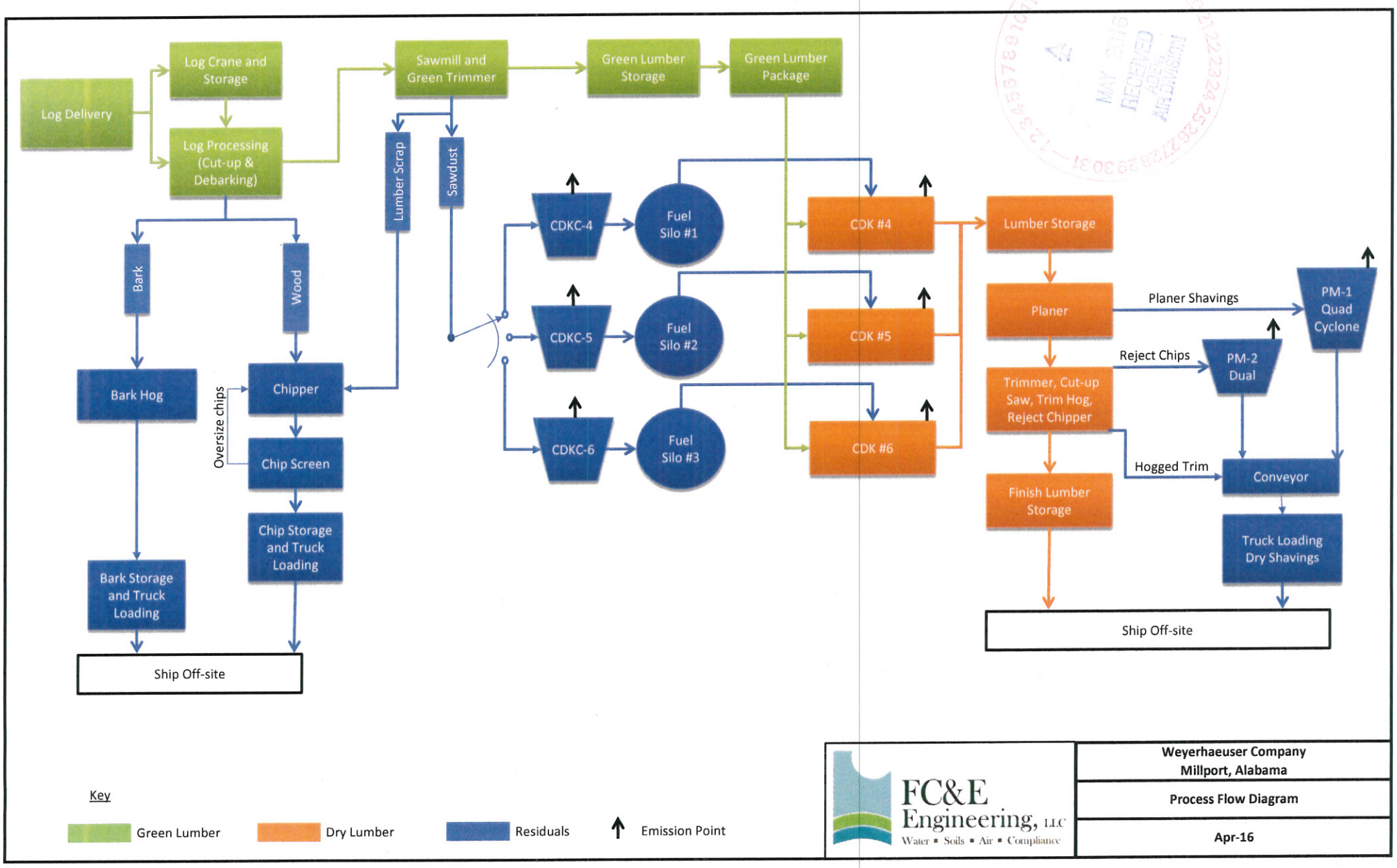
If you have any additional questions or questions on the enclosed material, please contact Chris Hopf at (205) 596-1197 or Bruce Ferguson with FC&E Engineering at (601) 824-1860.

I certify under penalty of law that, based on information and belief formed after reasonable inquiry, the statements and information contained in this application are true, accurate and complete

Sincerely,

Steve Higdon
Plant Manager

Enclosures


Log Delivery
Log Crane and Storage
Log Processing (Cut-up & Debarking)
Sawmill and Green Trimmer
Green Lumber Storage
Green Lumber Package
Lumber Scrap
Sawdust
Bark
Wood
Bark Hog
Chipper
Oversize chips
Chip Screen
Chip Storage and Truck Loading
Bark Storage and Truck Loading
Ship Off-site
CDKC-4
CDKC-5
CDKC-6
Fuel Silo #1
Fuel Silo #2
Fuel Silo #3
CDK #4
CDK #5
CDK #6
Lumber Storage
Planer
Planer Shavings
PM-1 Quad Cyclone
Reject Chips
PM-2 Dual
Trimmer, Cut-up Saw, Trim Hog, Reject Chipper
Hogged Trim
Conveyor
Finish Lumber Storage
Truck Loading Dry Shavings
Ship Off-site
Key
Green Lumber
Dry Lumber
Residuals
Emission Point
FC&E Engineering, LLC
Water ▪ Soils ▪ Air ▪ Compliance
Weyerhaeuser Company
Millport, Alabama
Process Flow Diagram
Apr-16

Planer Mill Shavings Cyclone, Reject Chipper Cyclone, Dry Trim Hog

Basis: Maximum planer throughput of 115 MBF/hr
Maximum planer shavings production of 22.6 wet-tons/hr
Maximum dry trim production of 4.9 wet-tons/hr
Reject Cyclone max transfer 17 tons/hr
20% moisture content based on dry weight

Hourly Residual Production:	Planer shavings =	22.6	wet-tons/hr	=	18.83 BDT/hr	
	Trim blocks =	4.9	wet-tons/hr	=	4.08 BDT/hr	
	Rejects=	17	wet-tons/hr	=	14.17 BDT/hr	
	Total =	44.5	wet-tons/hr		37.08 BDT/hr	
Annual Residual Production:	Planer shavings =	78,769	wet-tons/yr	65,641		91,430.100
	Trim blocks =	15,784	wet-tons/yr	13,154		
	Rejects=	11,885	wet-tons/yr	9,904		

335-3-4-.04 Process Industries

PWR E=17.31P$^{0.16}$, where P=44.5 E= 31.75

Unrestricted emissions at the PWR of 31.75 lb/hr would cause a net increase of PM emissions above the PSD SER. PM lb/hr limits are requested as specified in the emission estimates below.

Emissions:

Planer Shavings Cyclone (PM-1)

	Emission Factor (lb/BDT)	Short Term Residual Rate BDT/hr	Short Term Emissions (lb/hr)	Annual Residual Rate BDT/yr	Annual Emissions (Tons/yr)	Reference
PM	0.2	18.83	3.77	65,641	16.50	Annual PM emission rate assumes operation at short term rate for 8760 hours per year. PM/PM_{10}
PM_{10}	0.19	18.83	3.58	65,641	6.24	emission factors from Oregon MDEQ Emission Factor Documents AQ-EF02 & AQ-EF03
$PM_{2.5}$	0.08	18.83	1.58	65,641	2.76	$PM_{2.5}$ assumed 42% of PM based on Philadelphia Mill test highest run
VOC	0.12	18.83	2.26	65,641	3.94	VOC emission factor from Weyerhaeuser TV Bulletin

Short term emissions based on wet 22.6 tons/hr (18.8 BDT/hr) residual transfer of planer shavings at max planer speed of 115 MBF/hr
VOC, PM_{10} & $PM_{2.5}$ annual emissions based on maximum annual planer shavings production for 385,000 MBF/yr. PM annual emissions based on lb/hr rate at 8760 hrs/yr.

Dry Trim Hog (Fugitive)

Pollutant	Emission Factor (lb/BDT)	Short Term Residual Rate BDT/hr	Short Term Emissions (lb/hr)	Annual Residual Rate BDT/yr	Annual Emissions (Tons/yr)	Reference
PM	0.0015	4.10	0.0062	13,154	0.0099	PM/PM_{10}/$PM_{2.5}$ emissions estimated using emission factors for drop of dry material from May 8, 2014
PM_{10}	0.0007	4.10	0.0029	13,154	0.0046	EPA Memo, "Particulate Matter Potential to Emit Emission factors for Activities at Sawmills, Exluding
$PM_{2.5}$	0.0001	4.10	0.0004	13,154	0.0007	Boilers, Located in Pacific Northwest Indian Country"
VOC	0.12	4.10	0.4920	13,154	0.7892	VOC emission factor from Weyerhaeuser TV Bulletin

Short term emissions based on wet 4.9 tons/hr (4.1 BDT/hr) residual transfer total of planer shavings and dry trim at max planer speed of 115 MBF/hr
Annual emissions based on annual dry trim production rate for 385,000 MBF/yr

Reject Chipper Cyclone (PM-2)

Pollutant	Short Term Emissions (lb/hr)	Annual Emissions (Tons/yr)	Reference
PM	0.68	2.98	PM estimated on cyclone performance data efficiency of 99.999% at 17 wet-tons/hr plus 100% safety factor.
PM_{10}	0.65	2.83	PM_{10} estimated as 95% of PM based on Oregon AQ EF-03
$PM_{2.5}$	0.29	1.25	$PM_{2.5}$ assumed 42% of PM based on Philadelphia Mill test highest run
VOC	1.70	7.45	VOC emissions based on emission factor from Weyerhaeuser TV Bulletin of 0.12 lb/BDT.

Short term emissions based on design inlet loading of 17 ton/hr and cyclone efficiency of 99.999% plus 100% saftety factor

Annual emissions based on continuous opertation. The annual reject material is estimated at approximately 3% of production equating to approximately 9,900 BDT/yr of reject chips.

Total (Shavings, Trim & Rejects)

Pollutant	Short Term Emissions (lb/hr)	Annual Emissions (Tons/yr)
PM	4.5	19.49
PM_{10}	4.2	9.07
$PM_{2.5}$	1.9	4.01
VOC	4.5	12.17

Continuous Direct Fired Kiln Maximum Uncontrolled Emissions (40 MMBTU/hr burners)

Basis: Maximum production rate 134,000 MBF/yr [Manufacturer's guarantee of 121 MMBF/yr]
40 MMBTU/hr
Max fuel consumption up to 6 tons/hr not to exceed 56% MC

Emission Factors:

Pollutant	Factor	Units	Reference
PM	0.078	lb/mmbtu	Filterable PM average of PM tests conducted at Rex Lumber, Brookhaven, MS
PM_{10}+CPM	0.095	lb/mmbtu	Filterable PM_{10} and $PM_{2.5}$ assumed equal to filterable PM.
$PM_{2.5}$+CPM	0.095	lb/mmbtu	Condensable PM assumed equal to AP-42 factor for wood fired boiler.
NO_x	0.18	lb/mmbtu	Average of direct fired batch kiln tests conducted at Weyerhaeuser McComb, MS.
CO	0.322	lb/mmbtu	
$VOC_{as\ C}$	3.38	lb/MBF	Average of NCASI test data for direct fired batch kilns
Methanol	0.196	lb/MBF	Average NCASI test data for continuous direct fired kilns.
Formaldehyde	0.0735	lb/MBF	
SO_2	0.025	lb/mmbtu	AP-42 Table 1.6-2. EMISSION FACTORS FOR NOx, SO2, AND CO FROM WOOD RESIDUE COMBUSTION. Bark/bark and wet wood/wet wood-fired boiler
Lead	5.70E-05	lb/mmbtu	NCASI (B)-Technical Bulletin No. 858 Summary of Trace Metal Emissions from Wood-Fired Boilers (Wet
CO2	93.8	kg/mmbtu	Table C-1 to Subpart C of Part 98—Default CO_2 Emission Factors and High Heat Values for Various Types of Fuel
CH_4	7.20E-03	kg/mmbtu	Table C-2 to Subpart C of Part 98—Default CH4 and N2O Emission Factors for Various Types of Fuel
N_2O	3.60E-03	kg/mmbtu	

Name	CAS No.	Chemical formula	Global warming potential	Reference
Carbon dioxide	124-38-9	CO_2	1	Table A-1 to Subpart A of Part 98—Global Warming Potentials
Methane	74-82-8	CH_4	25	
Nitrous oxide	10024-97-2	N_2O	298	

5-3-4-.04 Process Industries: E = 3.59P^0.62, where P = 6 tons/hr

=10.9 lb/hr

Unrestricted emissions at the process weight allowable would equate to 48 TPY and would cause the project to exceed the PSD significant emission rate of 25 TPY. The applicant is requesting a PM limit in lb/hr as listed in the emissions section above.

Emissions:

Pollutant	lb/hr	TPY
PM	3.120	13.67
PM_{10}+CPM	3.800	16.64
$PM_{2.5}$+CPM	3.800	16.64
NO_x	7.200	31.54
CO	12.880	56.41
$VOC_{as\ WPP1}$	74.130	324.69
SO_2	1.000	4.38
Lead	0.002	0.01
CO_2	8,271.605	36,229.63
CH_4	0.635	2.78
N_2O	0.317	1.39
CO_{2e}	8,382.081	36,713.52

Calculation Basis
For pollutants with emission factors in lb/MBF, the annual emissions was obtained by multiplying the emission factor by the maximum potential production rate of 137,000 MBF/yr. Hourly emissions were determined by dividing annual emissions by 4.38 tons/yr per lb/hour
For pollutants based on mmbtu, hourly emissions were determined by multiplying by the burner heat input of 40 mmbtu/hr. Annual emissions were determined by multiplying the hourly emissions by 4.38 tons/yr per lb/hr
$VOC_{as\ WPP1}$ = 4.70 lb/MBF based on average NCASI values and 10% safety factor
CO_2e was determined by multiplying by the global warming potential

HAP Emissions:

Hazardous Air Pollutant	Factor	Units	Reference	lb/hr	TPY	Calculation Basis
Acetaldehyde	4.50E-02	lb/MBF	NCASI	0.7339	3.0825	Short term rates are based on 15.95 MBF/hr Long term rates are based on 137,000 MBF/yr For emission factors in lb/mmbtu a heat input of 40 MMBTU/hr was used.
Formaldehyde	8.96E-02	lb/MBF	NCASI	1.4613	6.1376	
Methanol	2.11E-01	lb/MBF	NCASI	3.4413	14.4535	
Phenol	1.83E-02	lb/MBF	NCASI	0.2985	1.2536	
Acrolein	6.00E-03	lb/MBF	NCASI	0.0979	0.4110	
Propionaldehyde	4.83E-03	lb/MBF	NCASI	0.0788	0.3309	
Hydrochloric Acid	1.90E-02	lb/mmbtu	AP-42 (A)	0.7600	3.3288	
Benzene	5.50E-04	lb/MBF	NCASI	0.0090	0.0377	
Toluene	1.00E-04	lb/MBF	NCASI	0.0016	0.0069	
Xylene	2.00E-04	lb/MBF	NCASI	0.0033	0.0137	
MIK	2.27E-03	lb/MBF	NCASI	0.0370	0.1555	
Antimony	5.00E-07	lb/mmbtu	NCASI (B)	2.00E-05	0.0001	
Arsenic	3.90E-06	lb/mmbtu	NCASI (B)	0.0002	0.0007	
beryllium	9.10E-07	lb/mmbtu	NCASI (B)	0.0000	0.0002	
Cadmium	5.20E-06	lb/mmbtu	NCASI (B)	0.0002	0.0009	
Chromium	1.50E-05	lb/mmbtu	NCASI (B)	0.0006	0.0026	
Cobalt	2.00E-07	lb/mmbtu	NCASI (B)	0.0000	0.0000	
Lead	5.70E-05	lb/mmbtu	NCASI (B)	0.0023	0.0100	
Nickel	1.80E-05	lb/mmbtu	NCASI (B)	0.0007	0.0032	
Manganese	5.10E-05	lb/mmbtu	NCASI (B)	0.0020	0.0089	
Mercury	5.70E-07	lb/mmbtu	NCASI (B)	0.0000	0.0001	
Selenium	3.30E-06	lb/mmbtu	NCASI (B)	0.0001	0.0006	

NCASI- NCASI Database Viewer Version 1.0.0.4. (Feb 2013) Maximum Test
NCASI (B)- Technical Bulletin No. 858 Summary of Trace Metal Emissions from Wood-Fired Boilers (Wet Scrubber)
AP-42- AP-42 Table 1.6-4 Trace Elements for combustion of wood residue
AP-42 (A) - AP-42 Table 1.6-3. Emission Factors for Speciated Organic Compounds, TOC, VOC, NOx, AND CO_2 from Wood Residue Combustion

Continuous Direct Fired Kiln Maximum Uncontrolled Emissions

Basis: Maximum production rate 117,000 MBF/yr [Manufacturer's guarantee of 106 MMBF/yr]
35 MMBTU/hr
Max fuel consumption up to 6 tons/hr not to exceed 56% MC

Emission Factors:

Pollutant	Factor	Units	Reference
PM	0.078	lb/mmbtu	Filterable PM average of PM tests conducted at Rex Lumber, Brookhaven, MS
PM_{10}+CPM	0.095	lb/mmbtu	Filterable PM_{10} and $PM_{2.5}$ assumed equal to filterable PM.
$PM_{2.5}$+CPM	0.095	lb/mmbtu	Condensable PM assumed equal to AP-42 factor for wood fired boiler.
NO_x	0.18	lb/mmbtu	Average of direct fired batch kiln tests conducted at Weyerhaeuser McComb, MS.
CO	0.322	lb/mmbtu	
$VOC_{as\ C}$	3.38	lb/MBF	Average of NCASI test data for direct fired batch kilns
Methanol	0.196	lb/MBF	Average NCASI test data for continuous direct fired kilns.
Formaldehyde	0.0735	lb/MBF	
SO_2	0.025	lb/mmbtu	AP-42 Table 1.6-2. EMISSION FACTORS FOR NOx, SO2, AND CO FROM WOOD RESIDUE COMBUSTION. Bark/bark and wet wood/wet wood-fired boiler
Lead	5.70E-05	lb/mmbtu	NCASI (B)-Technical Bulletin No. 858 Summary of Trace Metal Emissions from Wood-Fired Boilers (Wet
CO2	93.8	kg/mmbtu	Table C-1 to Subpart C of Part 98—Default CO_2 Emission Factors and High Heat Values for Various Types of Fuel
CH_4	7.20E-03	kg/mmbtu	Table C-2 to Subpart C of Part 98—Default CH4 and N2O Emission Factors for Various Types of Fuel
N_2O	3.60E-03	kg/mmbtu	

Name	CAS No.	Chemical formula	Global warming potential	Reference
Carbon dioxide	124-38-9	CO_2	1	Table A-1 to Subpart A of Part 98—Global Warming Potentials
Methane	74-82-8	CH_4	25	
Nitrous oxide	10024-97-2	N_2O	298	

3-3-4-.04 Process Industries: E = 3.59P^0.62, where P = 6 tons/hr

=10.9 lb/hr

Unrestricted emissions at the process weight allowable would equate to 48 TPY and would cause the project to exceed the PSD significant emission rate of 25 TPY. The applicant is requesting a PM limit in lb/hr as listed in the emissions section above.

Emissions:

Pollutant	lb/hr	TPY
PM	2.730	11.96
PM_{10}+CPM	3.325	14.56
$PM_{2.5}$+CPM	3.325	14.56
NO_x	6.300	27.59
CO	11.270	49.36
$VOC_{as\ WPP1}$	64.932	284.40
SO_2	0.875	3.83
Lead	0.002	0.01
CO_2	7,237.654	31,700.93
CH_4	0.556	2.43
N_2O	0.278	1.22
CO_{2e}	7,334.321	32,124.33

Calculation Basis
For pollutants with emission factors in lb/MBF, the annual emissions was obtained by multiplying the emission factor by the maximum potential production rate of 140,000 MBF/yr. Hourly emissions were determined by dividing annual emissions by 4.38 tons/yr per lb/hour
For pollutants based on mmbtu, hourly emissions were determined by multiplying by the burner heat input of 35 mmbtu/hr. Annual emissions were determined by multiplying the hourly emissions by 4.38 tons/yr per lb/hr
$VOC_{as\ WPP1}$ = 4.70 lb/MBF based on average NCASI values and 10% safety factor
CO_2e was determined by multiplying by the global warming potential

HAP Emissions:

Hazardous Air Pollutant	Factor	Units	Reference	lb/hr	TPY	Calculation Basis
Acetaldehyde	4.50E-02	lb/MBF	NCASI	0.6429	2.7000	Short term rates are based on 14.28 MBF/hr Long term rates are based on 120,000 MBF/yr For emission factors in lb/mmbtu a heat input of 35 MMBTU/hr was used.
Formaldehyde	8.96E-02	lb/MBF	NCASI	1.2800	5.3760	
Methanol	2.11E-01	lb/MBF	NCASI	3.0143	12.6600	
Phenol	1.83E-02	lb/MBF	NCASI	0.2614	1.0980	
Acrolein	6.00E-03	lb/MBF	NCASI	0.0857	0.3600	
Propionaldehyde	4.83E-03	lb/MBF	NCASI	0.0690	0.2898	
Hydrochloric Acid	1.90E-02	lb/mmbtu	AP-42 (A)	0.6650	2.9127	
Benzene	5.50E-04	lb/MBF	NCASI	0.0079	0.0330	
Toluene	1.00E-04	lb/MBF	NCASI	0.0014	0.0060	
Xylene	2.00E-04	lb/MBF	NCASI	0.0029	0.0120	
MIK	2.27E-03	lb/MBF	NCASI	0.0324	0.1362	
Antimony	5.00E-07	lb/mmbtu	NCASI (B)	1.75E-05	0.0001	
Arsenic	3.90E-06	lb/mmbtu	NCASI (B)	0.0001	0.0006	
beryllium	9.10E-07	lb/mmbtu	NCASI (B)	0.0000	0.0001	
Cadmium	5.20E-06	lb/mmbtu	NCASI (B)	0.0002	0.0008	
Chromium	1.50E-05	lb/mmbtu	NCASI (B)	0.0005	0.0023	
Cobalt	2.00E-07	lb/mmbtu	NCASI (B)	0.0000	0.0000	
Lead	5.70E-05	lb/mmbtu	NCASI (B)	0.0020	0.0087	
Nickel	1.80E-05	lb/mmbtu	NCASI (B)	0.0006	0.0028	
Manganese	5.10E-05	lb/mmbtu	NCASI (B)	0.0018	0.0078	
Mercury	5.70E-07	lb/mmbtu	NCASI (B)	0.0000	0.0001	
Selenium	3.30E-06	lb/mmbtu	NCASI (B)	0.0001	0.0005	

NCASI- NCASI Database Viewer Version 1.0.0.4. (Feb 2013) Maximum Test
NCASI (B)- Technical Bulletin No. 858 Summary of Trace Metal Emissions from Wood-Fired Boilers (Wet Scrubber)
AP-42- AP-42 Table 1.6-4 Trace Elements for combustion of wood residue
AP-42 (A) - AP-42 Table 1.6-3. Emission Factors for Speciated Organic Compounds, TOC, VOC, NOx, AND CO_2 from Wood Residue Combustion

Continuous Direct Fired Kiln Startup Uncontrolled Emissions

Basis: Startup Period 12 hours
Heat input increase 12.5% for first 8 hours and maximum burner capacity for final 4 hours of startup
Emissions equal to AP-42 factors for uncontrolled wood fired boiler
4 startups per kiln per year (144 startup hours)

Startup Emissions:

Heat Input	MMBtu/hr	5	10	15	20	25	30	35	40	40	40	40	40	Startup		Normal
Hour		1	2	3	4	5	6	7	8	9	10	11	12	Total	Average	Operation
Pollutant	Emission Factor (lb/MMBtu)	Hourly Emissions (lb/hr)												lb/12 hrs	lb/hr	lb/hr
PM	0.33	1.65	3.30	4.95	6.60	8.25	9.90	11.55	13.20	13.20	13.20	13.20	13.20	112.20	9.35	3.4125
PM_{10}+CPM	0.29	1.45	2.90	4.35	5.80	7.25	8.70	10.15	11.60	11.60	11.60	11.60	11.60	98.60	8.22	4.2455
$PM_{2.5}$+CPM	0.25	1.25	2.50	3.75	5.00	6.25	7.50	8.75	10.00	10.00	10.00	10.00	10.00	85.00	7.08	4.2455
NO_x	0.22	1.10	2.20	3.30	4.40	5.50	6.60	7.70	8.80	8.80	8.80	8.80	8.80	74.80	6.23	6.3
CO	0.6	3.00	6.00	9.00	12.00	15.00	18.00	21.00	24.00	24.00	24.00	24.00	24.00	204.00	17.00	11.27
VOC	0.017	0.09	0.17	0.26	0.34	0.43	0.51	0.60	0.68	0.68	0.68	0.68	0.68	5.78	0.48	64.93151
SO_2	0.025	0.13	0.25	0.38	0.50	0.63	0.75	0.88	1.00	1.00	1.00	1.00	1.00	8.50	0.71	0.875
Lead	4.80E-05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	1.36E-03	2.00E-03
CO_2	206.79	1033.95	2067.90	3101.85	4135.80	5169.75	6203.70	7237.65	8271.60	8271.60	8271.60	8271.60	8271.60	70308.64	5859.05	7237.654
CH_4	1.59E-02	0.08	0.16	0.24	0.32	0.40	0.48	0.56	0.63	0.63	0.63	0.63	0.63	5.40	0.45	0.555556
N_2O	7.94E-03	0.04	0.08	0.12	0.16	0.20	0.24	0.28	0.32	0.32	0.32	0.32	0.32	2.70	0.22	0.277778
CO_{2e}	209.55	1047.76	2095.52	3143.28	4191.04	5238.80	6286.56	7334.32	8382.08	8382.08	8382.08	8382.08	8382.08	71247.69	5937.31	7334.321

Excess Startup Emissions: = [144 hours]x[(Avg startup lb/hr)-(Normal Operation lb/hr)]

	Startup	Normal	Excess Startup	
Pollutant	lb/hr	lb/hr	lb/hr	TPY
PM	9.35	3.12	6.23	0.45
PM_{10}+CPM	8.22	3.8	4.42	0.32
$PM_{2.5}$+CPM	7.08	3.8	3.28	0.24
CO	17.00	12.88	4.12	0.30

Continuous Direct Fired Kiln Startup Uncontrolled Emissions

Basis: Startup Period 12 hours
Heat input increase 12.5% for first 8 hours and maximum burner capacity for final 4 hours of startup
Emissions equal to AP-42 factors for uncontrolled wood fired boiler
4 startups per kiln per year (144 startup hours)

Startup Emissions:

Heat Input	MMBtu/hr	4.375	8.75	13.125	17.5	21.875	26.25	30.625	35	35	35	35	35	Startup		Normal
Hour		1	2	3	4	5	6	7	8	9	10	11	12	Total	Average	Operation
Pollutant	Emission Factor (lb/MMBtu)	Hourly Emissions (lb/hr)												lb/12 hrs	lb/hr	lb/hr
PM	0.33	1.44	2.89	4.33	5.78	7.22	8.66	10.11	11.55	11.55	11.55	11.55	11.55	98.18	8.18	3.4125
PM_{10}+CPM	0.29	1.27	2.54	3.81	5.08	6.34	7.61	8.88	10.15	10.15	10.15	10.15	10.15	86.28	7.19	4.2455
$PM_{2.5}$+CPM	0.25	1.09	2.19	3.28	4.38	5.47	6.56	7.66	8.75	8.75	8.75	8.75	8.75	74.38	6.20	4.2455
NO_x	0.22	0.96	1.93	2.89	3.85	4.81	5.78	6.74	7.70	7.70	7.70	7.70	7.70	65.45	5.45	6.3
CO	0.6	2.63	5.25	7.88	10.50	13.13	15.75	18.38	21.00	21.00	21.00	21.00	21.00	178.50	14.88	11.27
VOC	0.017	0.07	0.15	0.22	0.30	0.37	0.45	0.52	0.60	0.60	0.60	0.60	0.60	5.06	0.42	64.93151
SO_2	0.025	0.11	0.22	0.33	0.44	0.55	0.66	0.77	0.88	0.88	0.88	0.88	0.88	7.44	0.62	0.875
Lead	4.80E-05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	1.19E-03	2.00E-03
CO_2	206.79	904.71	1809.41	2714.12	3618.83	4523.53	5428.24	6332.95	7237.65	7237.65	7237.65	7237.65	7237.65	61520.06	5126.67	7237.654
CH_4	1.59E-02	0.07	0.14	0.21	0.28	0.35	0.42	0.49	0.56	0.56	0.56	0.56	0.56	4.72	0.39	0.555556
N_2O	7.94E-03	0.03	0.07	0.10	0.14	0.17	0.21	0.24	0.28	0.28	0.28	0.28	0.28	2.36	0.20	0.277778
CO_{2e}	209.55	916.79	1833.58	2750.37	3667.16	4583.95	5500.74	6417.53	7334.32	7334.32	7334.32	7334.32	7334.32	62341.73	5195.14	7334.321

Excess Startup Emissions: = [144 hours]x[(Avg startup lb/hr)-(Normal Operation lb/hr)]

	Startup	Normal	Excess Startup	
Pollutant	lb/hr	lb/hr	lb/hr	TPY
PM	8.18	2.73	5.45	0.39
PM_{10}+CPM	7.19	3.325	3.86	0.28
$PM_{2.5}$+CPM	6.20	3.325	2.87	0.21
CO	14.88	11.27	3.61	0.26

CDK Fuel Cyclone Maximum Uncontrolled Emissions

Basis: Only one fuel cyclone can be operational at any given time
56% Moisture content wet basis
14000 ACFM

Emission Factors:

0.2	lb/dry ton PM	State of Oregon Department of Environmental Quality AQ-EF02. Cyclone – high efficiency
0.95	PM_{10}/PM FRACTION	State of Oregon Department of Environmental Quality AQ-EF03. Cyclone – high efficiency
0.8	$PM_{2.5}$/PM FRACTION	State of Oregon Department of Environmental Quality AQ-EF03. Cyclone – high efficiency
0.31	lb VOC/dry ton	Weyerhaeuser TV Cross Functional Team Information Bulletin

Cyclone throughput: [(1 burners)(35,000,000 Btu/burner-hr)+(2 burners)(40,000,000 Btu/burner-hr)] / [(9,100 Btu/lb)(2,000 lb/ton)]
= 6.32 tons/hr (dry basis)
= 14.36 tons/hr (wet basis at 56% MC)

335-3-4-.04 Process Industries

E = 3.59P0.62, where P = 14.36 tons/hr

E = 18.7 lb/hr

Unrestricted PM emissions at the process weight allowable would equate to 77 TPY and would cause the project to exceed the PSD PM significant emission rate of 25 TPY.
The applicant is requesting a PM limit in lb/hr as listed in the emissions section below.

Emissions:

	Rate	Units	Rate	Units	Note
PM	1.26	lb/hr	5.54	TPY	Hourly and annual emissions based on emission factors and cyclone throughput noted aboved and continuous operation.
PM_{10}	1.20	lb/hr	5.26	TPY	
$PM_{2.5}$	1.01	lb/hr	4.43	TPY	
VOC	1.96	lb/hr	8.58	TPY	

Table 4 - PSD Applicability Calculations

	Pollutant	Emission Factor		Reference	(A) Future Potential (TPY)	(B) Baseline Emissions (TPY)	(C) Project Emissions Increase (TPY)	(A-B) Net Emissions Increase (TPY)
		Plantwide Production Rate (MBF) =====>>			385,000	106,470	278,530	278,530
3-CDKs		CDK Throughput (MBF)=======>>			385,000	0	385,000	385,000
		Annual Heat Input (MMBTU/YR) =======>>			1,007,400	0	1,007,400	1,007,400
	CO	0.322	lb/MMBTU	NCASI	162.2	0.0	162.2	162.2
	NO_x	0.18	lb/MMBTU	NCASI	90.7	0.0	90.7	90.7
	SO_2	0.025	lb/MMBTU	AP-42	12.6	0.0	12.6	12.6
	PM	10.24	lb/hr	Requested Limit	44.9	0.0	44.9	44.9
	PM_{10}	0.0950	lb/MMBTU	See Calculations	47.9	0.0	47.9	47.9
	$PM_{2.5}$	0.0950	lb/MMBTU	See Calculations	47.9	0.0	47.9	47.9
	VOC	4.70	lb/MBF	NCASI	904.8	0.0	904.8	904.8
	CO_2	206.79	lb/MMBTU	Part 98	104,160.2	0.0	104,160.2	104,160.2
	CO_2e (CH_4)	0.40	lb/MMBTU	Part 98	199.9	0.0	199.9	199.9
	CO_2e (N_2O)	2.37	lb/MMBTU	Part 98	1191.3	0.0	1191.3	1191.3
3-CDKs Excess Startup Emissions	CO	See Emissions Calculations			0.85	0.0	0.9	0.9
	PM				1.29	0.0	1.3	1.3
	PM_{10}				0.91	0.0	0.9	0.9
	$PM_{2.5}$				0.68	0.0	0.7	0.7
3-CDK Cyclones	PM	1.4	lb/hr	Requested Limit	6.13	0.0	6.13	6.13
	PM_{10}	0.19	lb/BDT	AQ-EF03	5.26	0.0	5.26	5.26
	$PM_{2.5}$	0.16	lb/BDT	AQ-EF03	4.43	0.0	4.43	4.43
	VOC	0.31	lb/BDT	WeyCO TV	8.58	0.0	8.58	8.58
Planer/Trim Hog/Reject Cyclone	PM	See Emissions Calculations			21.9	0.0	21.90	21.90
	PM_{10}				9.07	0.0	9.07	9.07
	$PM_{2.5}$				4.01	0.0	4.01	4.01
	VOC				12.17	0.0	12.17	12.17
002, 003 & 008 (Kilns)		Steam Kilns Throughput (MBF)=======>>			0	106,470		-106,470
	PM	0.066	lb/MBF	6	0.0	3.5		-3.5
	PM_{10}	0.066	lb/MBF	1	0.0	3.5		-3.5
	$PM_{2.5}$	0.066	lb/MBF	1	0.0	3.5		-3.5
	VOC	4.700	lb/MBF	NCASI	0.0	250.2		-250.2
001 (No. 1 Boiler 125 MMBTU/HR)		Annual Heat Input (MMBTU/YR) =======>>			0	648,190		-648,190
	CO	0.6	lb/MMBTU	AP-42	0.0	194.5		-194.5
	NO_x	0.17	lb/MMBTU	1	0.0	55.1		-55.1
	SO_2	0.025	lb/MMBTU	AP-42	0.0	8.1		-8.1
	PM	0.145	lb/MMBTU	Stack Test	0.0	47.0		-47.0
	PM_{10}	0.159	lb/MMBTU	Stack Test	0.0	51.6		-51.6
	$PM_{2.5}$	0.159	lb/MMBTU	Stack Test	0.0	51.6		-51.6
	VOC	0.017	lb/MMBTU	AP-42	0.0	5.5		-5.5
	CO_2	206.79	lb/MMBTU	7	0.0	67,019.7		-67,019.7
	CO_2e (CH_4)	0.40	lb/MMBTU	8	0.0	128.6		-128.6
	CO_2e (N_2O)	2.37	lb/MMBTU	8	0.0	766.5		-766.5
004-Dry lumber planer with cyclone	PM	0.0079	lb/MBF	4	0.00	0.42		-0.42
	PM_{10}	0.0075	lb/MBF	1	0.00	0.40		-0.40
	$PM_{2.5}$	0.0017	lb/MBF	1	0.00	0.09		-0.09
	VOC	0.12	lb/MBF	1	0.00	6.39		-6.39
005-Dry lumber trimmer with cyclone	PM	0.014	lb/MBF	4	0.00	0.73		-0.73
	PM_{10}	0.013	lb/MBF	1	0.00	0.69		-0.69
	$PM_{2.5}$	0.0030	lb/MBF	1	0.00	0.16		-0.16
	VOC	0.0046	lb/MBF	1	0.00	0.24		-0.24
006-Green lumber chip-nsaw, vertical gang saw, board edger process with truck loadout cyclone and sawdust fuel cyclone	PM	0.001	lb/MBF	4	0.00	0.04		-0.04
	PM_{10}	0.0008	lb/MBF	1	0.00	0.04		-0.04
	$PM_{2.5}$	0.0002	lb/MBF	1	0.00	0.01		-0.01
	VOC	0.051	lb/MBF	1	0.00	2.71		-2.71
007-Rechipper and conveying system with cyclone	PM	0.00069	lb/MBF	4	0.00	0.04		-0.04
	PM_{10}	0.000657	lb/MBF	5	0.00	0.03		-0.03
	$PM_{2.5}$	0.000152	lb/MBF	5	0.00	0.01		-0.01
	VOC	0.00657	lb/MBF	5	0.00	0.35		-0.35
Totals				CO	163.0	194.5	163.0	-31.4
				NO_x	90.7	55.1	90.7	35.6
				SO_2	12.6	8.1	12.6	4.5
				PM	74.2	51.7	74.2	22.4
				PM_{10}	63.1	56.2	63.1	6.8
				$PM_{2.5}$	57.0	55.3	57.0	1.6
				VOC	925.5	265.4	925.5	660.1
				CO_2	104,160.2	67,019.7	104,160.2	37,140.5
				CO_2e (CH_4)	199.9	128.6	199.9	71.3
				CO_2e (N_2O)	1191.3	766.5	1191.3	424.8

Item	Throughput	Units	Load	Weight	Units	No. of Loads
Bark	**154354**	tons/yr	Bark Load	23	tons	6711
Shavings	**94554**	tons/yr	Shavings Load	20	tons	4728
Chips	**487687**	tons/yr	Chips Load	25	tons	19507
%Lumber by Truck	**75%**	By Rail	25%			
Finished Lumber	**360000**	MBF/yr	Lumber Load	25	tons	17658
Logs	**1570909**	tons/yr	Logs Load	27	tons	58182
			Empty Truck	13	tons	

$E = k\,(sL)^{0.91} \times (W)^{1.02}$ AP-42 Paved Road Emission Factor Equation (January 2011)

13.2.1-1. PARTICLE SIZE MULTIPLIERS FOR PAVED ROAD EQUA			
Particle Size Multiplier, k (lb/VMT)			**Silt Loading**
PM	**PM10**	**PM2.5**	**g/m^2**
0.011	0.0022	0.00054	0.6
Silt Loading for ADT<500 was used.			

									Road Emission Factor (lb/VMT)			**Emissions (TPY)**			**Emissions (lb/hr)**		
Road	**Length (ft)**	**Truck**	**Load**	**Weight**	**No Trucks**	**Avg Weight**	**No Vehicles**	**VMT**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**PM**	**PM_{10}**	**$PM_{2.5}$**
Segment 1	1077.25	Log Trucks	Empty	13	58182	26.0	178256.1	36368.6	0.1914	0.0383	0.0094	3.4807	0.6961	0.1709	0.7947	0.1589	0.0390
			Full	40	58182												
		Chip Trucks	Empty	13	19507												
			Full	38	19507												
		Shavings Trucks	Empty	13	4728												
			Full	33	4728												
		Bark Trucks	Empty	13	6711												
			Full	36	6711												
Segment 2	558	Log Trucks	Empty	13	58182	26.1	139241.1	14715.3	0.1924	0.0385	0.0094	1.4157	0.2831	0.0695	0.3232	0.0646	0.0159
			Full	40	58182												
		Shavings Trucks	Empty	13	4728												
			Full	33	4728												
		Bark Trucks	Empty	13	6711												
			Full	36	6711												
Segment 3	533	Log Trucks	Full	40	58182	40.0	58181.8	5873.3	0.2976	0.0595	0.0146	0.8739	0.1748	0.0429	0.1995	0.0399	0.0098
Segment 4	984.5	Log Trucks	Empty	13	58182	16.0	81059.3	15114.2	0.1169	0.0234	0.0057	0.8831	0.1766	0.0434	0.2016	0.0403	0.0099
		Shavings Trucks	Empty	13	4728												
			Full	33	4728												
		Bark Trucks	Empty	13	6711												
			Full	36	6711												
Segment 5	374	Shavings Trucks	Empty	13	4728	23.9	22877.4	1620.5	0.1760	0.0352	0.0086	0.1426	0.0285	0.0070	0.0326	0.0065	0.0016
			Full	33	4728												
		Bark Trucks	Empty	13	6711												
			Full	36	6711												
Segment 6	543.5	Shavings Trucks	Full	33	4728	34.8	11438.7	1177.5	0.2582	0.0516	0.0127	0.1520	0.0304	0.0075	0.0347	0.0069	0.0017
		Bark Trucks	Full	36	6711												
Segment 7	506.9	Chip Trucks	Empty	13	19507	25.5	39015.0	3745.6	0.1880	0.0376	0.0092	0.3521	0.0704	0.0173	0.0804	0.0161	0.0039
			Full	38	19507												
Segment 8	670.1	Chip Trucks	Empty	13	20367	13.0	20367.0	2584.8	0.0946	0.0189	0.0046	0.1222	0.0244	0.0060	0.0279	0.0056	0.0014
Segment 9	1357.7	Lumber Trucks	Empty	13	17658	25.5	35316.0	9081.2	0.1880	0.0376	0.0092	0.8537	0.1707	0.0419	0.1949	0.0390	0.0096
			Full	38	17658												
Segment 10	1437.5	Lumber Trucks	Empty	13	17658	13.0	17658.0	4807.5	0.0946	0.0189	0.0046	0.2273	0.0455	0.0112	0.0519	0.0104	0.0025
Segment 11	825.6	Lumber Trucks	Full	38	17658	38.0	17658.0	2761.1	0.2824	0.0565	0.0139	0.3899	0.0780	0.0191	0.0890	0.0178	0.0044
											Totals	**8.89**	**1.78**	**0.44**	**2.03**	**0.41**	**0.10**

Shortleaf Pine Residuals Estimates

Wood Densities (lb/ft^3)							
Green Wood				Bark			
green weight	oven dried at 12% MC	oven dried	MC % oven dried	green weight	oven dried	MC % oven dried	Bark Vol. as % Wood Vol.
52	31.8	29.3	77%	35	21.8	60%	16%

Source: USDA Research Note NRS-38

CRR for mix of logs	
Wood Product	58%
Sawdust	8%
Chips	34%

Source: Forest Products Measurements and Conversion Factors, Briggs 1994. Adjusted to equal target of 4.14 tons logs/MBF

Residual Estimates BDT/yr		green ton/yr
Bark	96,471	154,354
Sawdust	64,830	114,750
Chips	275,529	487,687

Calculations Basis

Production 385,000 MBF/yr

Volume Ratio 83.33 ft^3/MBF

Log Wood Volume = (Production Capacity MBF)(83.33 ft3/MBF)/(Wood CRR)
Log Wood Volume = (385000 MBF/yr) x (83.33 ft3/MBF) / 0.58
= 55,316,092 ft^3

Bark Volume = (Log Wood Volume)(Bark Volume as % of Wood Volume)
Bark Volume = (55316092 ft3)x(0.16)
= 8,850,574.71 ft^3

Bark Weight = (Bark Volume)(Oven Dry Density)
Bark Weight = (8850575 ft3)x(21.8lb/ft3)
= 192,942,529 lb (oven dry)
= 96,471 tons (oven dry)

Estimated Log Use = [(Log Wood Volume)(Wood Density)+(Bark Volume)(Bark Density)]/2000 lb/ton
= 1,593,103 tons-logs/yr

Chips Volume = (Log Wood Volume)(Chips CRR)
Chips Volume = (55316092 ft3) (0.34)
= 18,807,471.26 ft3

Chips Weight = (Chips Volume)(Oven Dry Density)
Chips Weight = (18807471 ft3)(29.3lb/ft3)
= 551,058,908 lb (oven dry)
= 275,529 tons (oven dry)

Sawdust Volume = (Wood Volume)(Sawdust CRR)
Sawdust Volume = (55316092 ft3)(0.08)
= 4,425,287.36 ft^3

Sawdust Weight =(Sawdust Volume)(Sawdust CRR)
Sawdust Weight=(4425287 ft3)(29.3lb/ft3)
= 129,660,920 lb (oven dry)
= 64,830 tons (oven dry)

Bark and Chip Handling Emissions Estimates

Residual Type	Moisture Content	Silt Fraction %
Fresh Wood Chips	50%	0.00014%
Fresh Bark	50%	0.00180%
Hogged Bark	50%	0.00024%

Source: NCASI SPECIAL REPORT NO. 15-01

Average Total Potential Filterable PM_{10} and $PM_{2.5}$ for Chips and Bark

Residual Type	PM_{10} (lb PM_{10}/ton of Bulk Material)	$PM_{2.5}$ (lb $PM_{2.5}$/ton of Bulk Material)
Fresh Wood Chips	1.60E-04	2.80E-05
Fresh Bark	2.70E-03	4.50E-04
Hogged Bark	1.20E-03	2.20E-04

Source: NCASI SPECIAL REPORT NO. 15-01

Basis: **All potential $PM/PM_{10}/PM_{2.5}$ is released from parent material**

Residual Estimates	BDT/yr	green ton/yr
Bark	96,471	154,354
Chips	275,529	487,687

Potential: **Bark & Chip Conveying and Truck Loading**

	PM (TPY)	PM_{10} (TPY)	$PM_{2.5}$ (TPY)
Bark	2.78	0.21	0.03
Chips	0.68	0.04	0.01
Total	3.46	0.25	0.04

	Pollutant	Emission Factor		Future Potential	
			Tons Logs/yr====>>	1,593,103	Reference
Aeria	Pollutant	Factor	Units	TPY	
Log Bucking	PM	0.000013	lb/ton-log	0.01	Sawdust estimated at 0.0026 tons/ton logs
	PM_{10}	0.0000091	lb/ton-log	0.01	PM estimated as 0.005 lb/ton sawdust
	$PM_{2.5}$	0.0000065	lb/ton-log	0.01	PM_{10} assumed 70% of PM and $PM_{2.5}$ assumed 50% of PM
Log Debarking	PM	0.0024	lb/ton-log	1.91	PM estimated as 10% of AP-42 1980 factor for drum debarker
	PM_{10}	0.00048	lb/ton-log	0.38	PM_{10} assumed as 20% of PM and
	$PM_{2.5}$	0.00024	lb/ton-log	0.19	$PM_{2.5}$ assumed as 50% of PM_{10}
			Wet Tons Bark====>>	154,354	
Bark Hog	PM	0.007	lb/ton bark	0.54	
	PM_{10}	0.0049	lb/ton bark	0.38	PM assumed equal to hogged bark cyclone at another Weyerhaeuser
	$PM_{2.5}$	0.0035	lb/ton bark	0.27	facility. PM_{10} assumed 70% of PM and $PM_{2.5}$ assumed 50% of PM.

PERMIT APPLICATION

FOR

AIR POLLUTION CONTROL DEVICE

☐☐☐ - ☐☐☐☐ - ☐☐☐☐

Do not write in this space

1. **Name of firm or organization** Weyerhaeuser NR Company, Millport Mill
2. **Type of pollution control device: (if more than one, check each; however, separate forms are to be submitted for each specific device.)**

☐ Settling chamber ☐ Electrostatic precipitator

☐ Afterburner ☐ Baghouse

☒ Cyclone ☐ Multiclone

☐ Absorber ☐ Adsorber

☐ Condenser ☐ Wet Suppression

Wet scrubber (kind): _____

Stage 1 - Vapor balance (type) _____

Other (describe): _____

3. **Control device manufacturer's information:**

Name of manufacturer Windsor Model no. HE1300 or simular

4. **Emission source to which device is installed or is to be installed:**

Inherent process equipment for the pneumatic transfer of wet sawdust fuel

5. **Emission parameters:**

	Pollutant #1	Pollutant #2	Pollutant #3
Pollutants removed	PM		
Mass emission rate (#/hr)			
Uncontrolled(1)	1.26		
Designed			
Manufacturer's guaranteed			
Mass emission rate (units of the Standard)			
Required by regulation	1.4*		
Manufacturer's guaranteed			
Removal efficiency (%)			
Designed	0.2 lb/BDT		
Manufacturer's guaranteed			

(1) The cyclone is inherent process equipment and is not used for control purposes. The emission from the cyclone are, therefore, uncontrolled emissions. Emissions are based on State of Oregon DEQ EF-02 & EF-03 emission factors for a high efficiency cyclone

*Requested limit to reduce allowable below the process weight rate.

6. Gas conditions:

	Inlet	Intermediate Locations	Outlet
Volume (SDCFM, 68°f, 29.92" hg)			
(ACFM, existing conditions)	12-14,000cfm		12-14,000cfm
Temperature (°F)	Ambient		Ambient
Velocity (ft/sec)	36		36
Percent moisture	~2-3%		~2-3%

Pressure drop across device: 4.0 (inches H_20)

7. Stack dimensions:

Height above grade ~90 (feet)

Inside diameter at exit 2.13 (feet)

Base Elevation ~281 (feet)

8. Draw a flow diagram which includes gas exit from process, each control device, location of by-pass, fan or blower, each emission point, exits for collected pollutants, and location of sampling ports.

9. Enclosed are:

☐ Blueprints

☒ Manufacturer's literature

☐ Emissions test of existing installation

☐ Particle size distribution report

☐ Size-efficiency curves

☐ Fan curves

☐ Other

10. If the pollution control device is of unusual design, please provide a sketch of the device.

11. List below the important operating parameters for the device. (For example: air/cloth ratio and fabric type, weight, and weave for baghouse; throat velocity and water use rate for a venturi scrubber; etc.)

12. By-pass (if any) is to be used when:

Only one of the three fuel cyclones is operational at any given time

13. Disposal of collected air pollutants:

	Solid waste	Solid waste	Liquid waste	Liquid waste
Volume	55,300 BDT/yr			
Composition	Wood Residual			
Is waste hazardous?	No			
Method of disposal	CDK Fuel			
Final destination	CDK Fuel			

If collected air pollutants are recycled, describe:

Name of person preparing application Bruce Ferguson, FC&E Engineering

Signature Bruce Ferguson Date 4/18/2016

Windsor™

Setting the standards

VinoEco - Vietnam
HE 2150 - two off

Craigpine
HE 2200

Windsor will purpose design the optimum system for your requirements

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F: +64 04 237 4722
E: windsor.sales@windsor.co.nz

CYCLONE SEPERATORS

HE 2500 & HE 3500

VinoEco - Vietnam
HE 2850

Nelson Pine Industries

A Windsor cyclone is your choice because

1. Windsor cyclones and the appropriate options and accessories are engineered to suit your specific needs.
2. Windsor cyclones are of robust quality construction and finish. All Windsor products are supported by a nationwide service and maintenance organisation

Cyclones are Centrifugal Seperators

The dust laden gas flow enters the cyclone tangentially creating an internal gas vortex. Under the action of centrifugal force the dust is thrown to the wall of the cyclone. The dust slides down the wall and out of the cyclone base. The gas flow is turned in the cone section and exhausts through the inner tube at the air outlet.

Vortex velocity is critical

The greater the velocity the greater the centrifugal force and separating effect. However a critical (saltation) velocity exists at which the gas flow has sufficient energy to re-entrain separated dust. Thus a peak cyclone efficiency is reached at a particular vortex velocity dependant on particle size, shape and density. At higher vortex velocities the re-entrainment effect out weighs the increase in separation effect.

The Standard Windsor range

Windsor has developed a standard range of cyclones which cover most applications.

Model WD
A compact cyclone with good efficiency at medium pressure drop. Particularly suitable for low density dusts.

Model HE
A high efficiency medium pressure drop cyclone. Suitable for most applications.

Model HT
A wide bodied low pressure deep cyclone. Particularly suitable for large particles.

Model HF
A very compact medium efficiency and medium pressure drop cyclone. Suitable for most applications.

Cyclone Design Parameters

- Gas flow volume, pressure and temperature
- Particle size of dust
- Particle density
- Special characteristics of dust e.g. abrasiveness etc.

Construction options

- Light duty galvanised steel
- Heavy duty steel, blast cleaned and painted
- Stainless steel

Acessories and Options

- Structural steel support frame
- Vortex termination chamber
- 'China mans hat' weather cap
- Low loss cowl
- Rain sleeve
- Outlet scroll
- Split casing (flanged joint at top of cone)
- Matching flanges
- Wear plate
- Special paint finishes

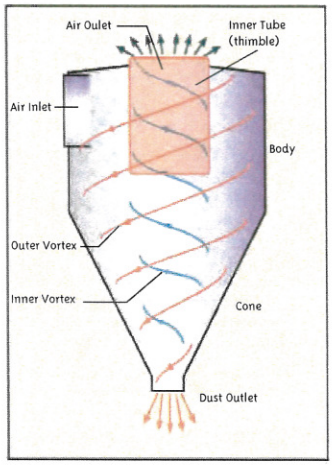
Applications

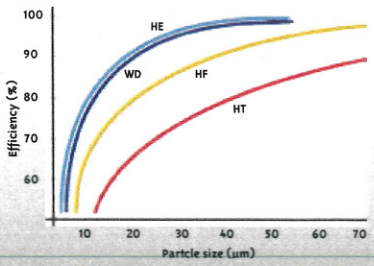
Type WD (estimated pressure drop 1200pa)
- Wood sander dust, sawdust and shavings
- Plastic chip
- Wool dust
- Chemical powders
- Food powders
- Soft feeds

Type HE (estimated pressure drop 750pa)
- Chemical powders
- Food powders
- Mineral powder
- Wood sander dust
- Soft feeds

Type HT (estimated pressure drop 500pa)
- Wood shavings and sawdust
- Paper and cardboard waste
- Feed pellets
- Generally suited to large particles

Type HF (estimated pressure drop 925pa)
- Chemical powders
- Mineral powders
- Stone grit
- Feed pellets





Cyclone Efficiency
The curves shown give an indication of the relative grade efficiency of Windsor cyclones. Due to the number of factors involved there is no single grade efficiency curve for any cyclone.
Overall cyclone efficiency is obtained from the product of particle size distribution and grade efficiency.

Efficiency = $\Sigma ejnj$
Where ej = grade efficiency for particle size j, under consideration
nj = number particles of size j

PERMIT APPLICATION

FOR

AIR POLLUTION CONTROL DEVICE

☐☐☐ - ☐☐☐☐ - ☐☐☐☐

Do not write in this space

1. **Name of firm or organization** Weyerhaeuser NR Company, Millport Mill

2. **Type of pollution control device: (if more than one, check each; however, separate forms are to be submitted for each specific device.)**

☐ Settling chamber ☐ Electrostatic precipitator

☐ Afterburner ☐ Baghouse

☒ Cyclone ☐ Multiclone

☐ Absorber ☐ Adsorber

☐ Condenser ☐ Wet Suppression

Wet scrubber (kind): _____

Stage 1 - Vapor balance (type) _____

Other (describe): _____

3. **Control device manufacturer's information:**

Name of manufacturer FISHER-KLOSTERMAN Model no. XQ120-34-4

4. **Emission source to which device is installed or is to be installed:**

Planer

5. **Emission parameters:**

	Pollutant #1	Pollutant #2	Pollutant #3
Pollutants removed	PM		
Mass emission rate (#/hr)			
Uncontrolled			
Designed	1.48		
Manufacturer's guaranteed			
Mass emission rate (units of the Standard)			
Required by regulation	4.0*		
Manufacturer's guaranteed			
Removal efficiency (%)			
Designed	99.999		
Manufacturer's guaranteed			

*Requested limit to reduce the allowable below the process weight rate

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6. Gas conditions:

	Inlet	Intermediate Locations	Outlet
Volume (SDCFM, 68°f, 29.92" hg)			
(ACFM, existing conditions)	55,000		55,000
Temperature (°F)	Ambient		Ambient
Velocity (ft/sec)	67		67
Percent moisture	~2-3%		~2-3%

Pressure drop across device: 4.48 (inches H_20)

7. Stack dimensions:

Height above grade ~90 (feet)

Inside diameter at exit 4.16 (feet)

Base Elevation ~281 (feet)

8. Draw a flow diagram which includes gas exit from process, each control device, location of by-pass, fan or blower, each emission point, exits for collected pollutants, and location of sampling ports.

9. Enclosed are:

☐ Blueprints

☐ Manufacturer's literature

☐ Emissions test of existing installation

☐ Other

☐ Particle size distribution report

☒ Size-efficiency curves

☐ Fan curves

10. If the pollution control device is of unusual design, please provide a sketch of the device.

11. List below the important operating parameters for the device. (For example: air/cloth ratio and fabric type, weight, and weave for baghouse; throat velocity and water use rate for a venturi scrubber; etc.)

12. By-pass (if any) is to be used when:

none

13. Disposal of collected air pollutants:

	Solid waste	Solid waste	Liquid waste	Liquid waste
Volume	65,600 BDT/yr			
Composition	Wood residue			
Is waste hazardous?	no			
Method of disposal	sale			
Final destination	Off-site sale			

If collected air pollutants are recycled, describe:

Name of person preparing application Bruce Ferguson, FC&E Engineering

Signature Bruce Ferguson Date 4/18/2016

XQPERF V12.2 10-20-2008

FKP 13-0184 PLANER MILL XQ120-34-4

* * * CYCLONE PERFORMANCE * * *

GAS CONDITIONS AT INLET

VOLUME, A.C.F.M.: 55000.00
DENSITY, LBS./CU. FT.: 0.0679
VISCOSITY, LBS.(MASS)/FT.-SEC.: 0.12630D-04

PARTICULATE CONDITIONS AT INLET

SPECIFIC GRAVITY: 0.8000
DUST LOADING, GRAINS/A.C.F.: 313.5000
PARTICLE SIZE DISTRIBUTION: DISTRIBUTION IS A 5 BRANCH WEIBULL FUNCTION;

BRANCH	INTERCEPT	SLOPE
1	0.90528470E-12	0.10537577E+02
2	0.29362022E-05	0.12224206E+01
3	0.17067727E-04	0.45804605E+00
4	0.89437481E-06	0.15469369E+01
5	0.18120673E-07	0.26039236E+01

CYCLONE SELECTION

CYCLONE MODEL: XQ120- 34.0000
NUMBER IN PARALLEL: 4
MATERIAL THICKNESS ON WHICH INLET OFFSET IS BASED, INCHES: 0.2500

PRESSURE DROPS AND EFFICIENCY

INLET VELOCITY, F.P.S.: 57.73
NO LOAD PRESSURE DROP, INCHES W.C.: 6.54
FULL LOAD PRESSURE DROP, INCHES W.C.: 4.48
NO LOAD COLLECTION EFFICIENCY, %: 99.999
FULL LOAD COLLECTION EFFICIENCY, %: 99.999

XQPERF V12.2 10-20-2008

FKP 13-0184 PLANER MILL XQ120-34-4

FRACTIONAL EFFICIENCIES: STOKES EQUIV. % EFFICIENCY

DIA., MICRONS	BY WEIGHT
3.00	6.94
3.50	15.69
4.00	27.52
4.50	40.69
5.00	53.50
5.50	64.82
6.00	74.14
6.50	81.41
8.00	90.23
13.00	96.43
23.00	99.18

DISTRIBUTION OF EFFLUENT: STOKES EQUIV. % FINER

DIA., MICRONS	BY WEIGHT
122.99	14.98

NOTE: PARTICLE SIZES ARE EXPRESSED IN STOKES EQUIVALENT DIAMETERS AS DETERMINED BY LIQUID SEDIMENTATION.

FISHER-KLOSTERMAN, INC.
LOUISVILLE., KY.

PERMIT APPLICATION

FOR

AIR POLLUTION CONTROL DEVICE

☐☐☐ - ☐☐☐☐ - ☐☐☐☐

Do not write in this space

1. **Name of firm or organization** Weyerhaeuser NR Company, Millport Mill
2. **Type of pollution control device: (if more than one, check each; however, separate forms are to be submitted for each specific device.)**

☐ Settling chamber ☐ Electrostatic precipitator

☐ Afterburner ☐ Baghouse

☒ Cyclone ☐ Multiclone

☐ Absorber ☐ Adsorber

☐ Condenser ☐ Wet Suppression

Wet scrubber (kind): _____

Stage 1 - Vapor balance (type) _____

Other (describe): _____

3. **Control device manufacturer's information:**

Name of manufacturer FISHER-KLOSTERMAN Model no. XQ120-34-2

4. **Emission source to which device is installed or is to be installed:**

Reject chipper

5. **Emission parameters:**

	Pollutant #1	Pollutant #2	Pollutant #3
Pollutants removed	PM		
Mass emission rate (#/hr)			
Uncontrolled			
Designed	0.34		
Manufacturer's guaranteed			
Mass emission rate (units of the Standard)			
Required by regulation	1.0*		
Manufacturer's guaranteed			
Removal efficiency (%)			
Designed	99.999		
Manufacturer's guaranteed			

*Requested limit to reduce allowable below process weight rate.

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6. Gas conditions:

	Inlet	Intermediate Locations	Outlet
Volume (SDCFM, 68°f, 29.92" hg)			
(ACFM, existing conditions)	30,000		30,000
Temperature (°F)	Ambient		Ambient
Velocity (ft/sec)	37		37
Percent moisture	~2-3%		~2-3%

Pressure drop across device: 4.48 (inches H_20)

7. Stack dimensions:

Height above grade ~90 (feet)

Inside diameter at exit 4.16 (feet)

Base Elevation ~281 (feet)

8. Draw a flow diagram which includes gas exit from process, each control device, location of by-pass, fan or blower, each emission point, exits for collected pollutants, and location of sampling ports.

9. Enclosed are:

☐ Blueprints

☐ Manufacturer's literature

☐ Emissions test of existing installation

☐ Other

☐ Particle size distribution report

☒ Size-efficiency curves

☐ Fan curves

10. If the pollution control device is of unusual design, please provide a sketch of the device.

11. List below the important operating parameters for the device. (For example: air/cloth ratio and fabric type, weight, and weave for baghouse; throat velocity and water use rate for a venturi scrubber; etc.)

12. By-pass (if any) is to be used when:

none

13. Disposal of collected air pollutants:

	Solid waste	Solid waste	Liquid waste	Liquid waste
Volume	9,900 BDT/yr			
Composition	Wood residue			
Is waste hazardous?	no			
Method of disposal	sale			
Final destination	Off-site sale			

If collected air pollutants are recycled, describe:

Name of person preparing application Bruce Ferguson, FC&E Engineering

Signature Bruce Ferguson Date 4/18/2016

XQPERF V12.2 10-20-2008

FKP 13-0184 TRIM BLOCK XQ120-34-2

* * * CYCLONE PERFORMANCE * * *

GAS CONDITIONS AT INLET
--- ---------- -- -----

VOLUME, A.C.F.M.: 30000.00
DENSITY, LBS./CU. FT.: 0.0679
VISCOSITY, LBS.(MASS)/FT.-SEC.: 0.12630D-04

PARTICULATE CONDITIONS AT INLET
---------- ---------- -- -----

SPECIFIC GRAVITY: 0.8000
DUST LOADING, GRAINS/A.C.F.: 132.2000
PARTICLE SIZE DISTRIBUTION: DISTRIBUTION IS A 4 BRANCH WEIBULL FUNCTION;

BRANCH	INTERCEPT	SLOPE
1	0.11177711E-05	0.14747835E+01
2	0.44291478E-05	0.81264299E+00
3	0.78598606E-06	0.14511260E+01
4	0.29313827E-08	0.28167980E+01

CYCLONE SELECTION
------- ---------

CYCLONE MODEL: XQ120- 34.0000
NUMBER IN PARALLEL: 2
MATERIAL THICKNESS ON WHICH INLET OFFSET IS BASED, INCHES: 0.2500

PRESSURE DROPS AND EFFICIENCY
-------- ----- --- ----------

INLET VELOCITY, F.P.S.: 62.98
NO LOAD PRESSURE DROP, INCHES W.C.: 7.89
FULL LOAD PRESSURE DROP, INCHES W.C.: 5.74
NO LOAD COLLECTION EFFICIENCY, %: 99.999
FULL LOAD COLLECTION EFFICIENCY, %: 99.999

XQPERF V12.2 10-20-2008

FKP 13-0184 TRIM BLOCK XQ120-34-2

FRACTIONAL EFFICIENCIES:

STOKES EQUIV. DIA., MICRONS	% EFFICIENCY BY WEIGHT
3.00	9.14
3.50	19.58
4.00	32.82
4.50	46.74
5.00	59.61
5.50	70.44
6.00	78.98
8.00	91.15
13.00	96.85
23.00	99.30

DISTRIBUTION OF EFFLUENT:

STOKES EQUIV. DIA., MICRONS	% FINER BY WEIGHT
442.86	4.00

NOTE: PARTICLE SIZES ARE EXPRESSED IN STOKES EQUIVALENT DIAMETERS AS DETERMINED BY LIQUID SEDIMENTATION.

FISHER-KLOSTERMAN, INC.
LOUISVILLE., KY.

PERMIT APPLICATION
FOR
MANUFACTURING OR PROCESSING OPERATION

[ ][ ][ ] - [ ][ ][ ][ ] - [ ][ ][ ][ ]
Do not write in this space

1. Name of firm or organization: Weyerhaeuser NR Company

2. Briefly describe the operation of this unit or process in your facility: (separate forms are to be submitted for each type of process or for multiple units of one process type. If the unit or process receives input material from, or provides input material to, another operation, please indicate the relationship between the operations.) An application should be completed for each alternative operating scenario.

Operating scenario number 1

In the sawmill area, logs are processed through equipment consisting of a Chip-N-Saw (CNS), a vertical gang saw, a board edger, and a green trimmer. Green chips from the sawmill and associated chipper are conveyed to a loading area for shipment. Green sawdust is conveyed to the fuel silo which feeds the continuous direct fired kiln (CDK). Green lumber is trimmed, sorted, and stacked, and then directed to the CDK. Dried lumber is then sent to the planer mill. After planning, the product lumber pieces are trimmed, stacked, and shipped. Planer shavings are pneumatically conveyed to truck bin for shipment.

3. Type of unit or process (e.g., calcining kiln, cupola furnace):

One continuous direct fired kiln w/35 MMBTU/hr Burner & 2 CDKs w/40 MMBTU/hr Burners

Make: KDS Windsor Model:

Rated process capacity (manufacturer's or designer's guaranteed maximum) in pounds/hour:
Guarantee 106 MMBF/yr (35 MMBTU Burner) and 121 MMBF/yr (40 MMBTU Burner)
Design 117 MMBF/yr (35 MMBTU Burner) and 134 MMBF/yr (40 MMBTU Burner)

Manufactured date: Proposed installation date: 2017

Original installation date (if existing):

Reconstruction or Modification date (if applicable):

4. Normal operating schedule:

Hours per day: 24 Days per week: 7 Weeks per year: 52

Peak production season (if any):

MAY 2016
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5. Materials (feed input) used in unit or process (include solid fuel materials used, if any):

Material	Process Rate Average (lb/hr)	Maximum (lb/hr)	Quantity tons/year
Green lumber	185,500	185,500	385 MMBF/yr
Green sawdust fuel (wet basis)	28,700	36,000	125,800

6. Total heat input capacity of process heating equipment (exclude fuel used by indirect heating equipment previously described on Form ADEM-104): 35 MMBtu/hr

Fuel	Heat Content	Units	Max. % Sulfur	Max. % Ash	Grade No. [fuel oil only]	Supplier [used oil only]
Coal		Btu/lb				
Fuel Oil		Btu/gal				
Natural Gas		Btu/ft^3				
L. P. Gas		Btu/ft^3				
Wood	3600-4200	Btu/lb	0.01-0.04	0.5-1.5		
Other (specify)						

7. Products of process or unit:

Products	Quantity/year	Units of production
Dried lumber	385,000	MBF/yr
Planer Shavings & Dry Trim (dry)	78,800	Dry tons/yr
Reject Chips	9,900	Dry tons/yr

8. For each regulated pollutant, describe any limitations on source operation which affects emissions or any work practice standard (attach additional page if necessary):

9. Is there any emission control equipment on this emission source?

☐Yes ☒No (Where a control device exists, Form ADEM-110 must be completed and attached).

10. Air contaminant emission points: (Each point of emission should be listed separately and numbered so that it can be located on the attached flow diagram):

Emission Point	Height Above Grade (Feet)	Base Elevation (Feet)	Diameter (Feet)	Stack Gas Exit Velocity (Feet/Sec)	Volume of Gas Discharged (ACFM)	Exit Temperature (°F)
CDK-4	25	280	n/a[1]	n/a	~40,000	~150
CDKC-4	90	280	2.13	36	12-14,000	ambient
CDK-5	25	280	n/a[1]	n/a	~40,000	~150
CDKC-5	90	280	2.13	36	12-14,000	ambient
CDK-6	25	280	n/a[1]	n/a	~40,000	~150
CDKC-6	90	280	2.13	36	12-14,000	ambient
PM-1	50	280	4.16	67	55,000	ambient
PM-2	50	280	4.16	37	30,000	ambient

* Std temperature is 68°F - Std pressure is 29.92" in Hg.

1 – Four doors (2 at each end of kiln) at 15'2" x 8'

11. Air contaminants emitted: Basis of estimate (material balance, stack test, emission factor, etc.) must be clearly indicated on calculations appended to this form. Fugitive emissions must be included and calculations must be appended.

Emission Point	Pollutants	Potential Emissions (lb/hr)	Potential Emissions (Tons/yr)	Basis of Calculation	Regulatory Emission Limit (lb/hr)	Regulatory Emission Limit (units of standard)
CDK-4,5&6	PM	10.24	44.84	Test Similar Kiln	10.24	Lb/hr*
CDK-4,5&6	PM_{10}	10.93	47.85	Test Similar Kiln		
CDK-4,5&6	$PM_{2.5}$	10.93	47.85	Test Similar Kiln		
CDK-4,5&6	NOx	20.70	90.67	Batch Kiln Test		
CDK-4,5&6	CO	37.03	162.19	Batch Kiln Test		
CDK-4,5&6	$VOC_{as\ WPP1}$	213.19	933.78	BACT	195	4.74 lb /MBF
CDK-4,5&6	SO_2	2.88	12.59	AP-42 factor	140	4 lb/MMBTU
CDK-4,5&6	Lead	0.0066	0.0287	NCASI		
CDK-4,5&6	CO_2e	24,098	105,551	40 CFR Part 98		
CDK-4,5&6	Methanol	9.8969	41.56	NCASI factor		
CDK-4,5&6	Formaldehyde	4.2027	17.6512	NCASI factor		
CDK-4,5&6	Acetaldehyde	2.1107	8.8650	NCASI factor		
CDK-4,5&6	Hydrochloric Acid	2.1850	9.5703	AP-42 factor		
CDK-4,5&6	Phenol	0.8584	3.6051	NCASI factor		
CDK-4,5&6	Acrolein	0.2814	1.1820	NCASI factor		
CDK-4,5&6	Propionaldehyde	0.2266	0.9515	NCASI factor		
CDK-4,5&6	Manganese	0.0059	0.0257	NCASI factor		
CDK-4,5&6	MIK	0.1065	0.4472	NCASI factor		
CDK-4,5&6	Benzene	0.0258	0.1084	NCASI factor		
CDK-4,5&6	Xylene	0.0094	0.0394	NCASI factor		
CDK-4,5&6	Toluene	0.0047	0.0197	NCASI factor		
CDK-4,5&6	Nickel	0.0021	0.0091	NCASI factor		
CDK-4,5&6	Arsenic	0.0004	0.0020	NCASI factor		
CDK-4,5&6	Chromium	0.0017	0.0076	NCASI factor		
CDK-4,5&6	Antimony	0.0001	0.0003	NCASI factor		
CDK-4,5&6	Cobalt	0.0000	0.0001	NCASI factor		
CDK-4,5&6	Cadmium	0.0006	0.0026	NCASI factor		
CDK-4,5&6	Mercury	0.0001	0.0003	NCASI factor		
CDK-4,5&6	Selenium	0.0004	0.0017	NCASI factor		
CDK-4,5&6	Beryllium	0.0001	0.0005	NCASI factor		
CDKC-4,5,6	PM	1.4	6.07	Oregon factor	1.4	Lb/hr*
CDKC-4,5,6	PM_{10}	1.2	5.26	Oregon factor		
CDKC-4,5,6	$PM_{2.5}$	1.01	4.43	Oregon factor		
CDKC-4,5,6	VOC	1.96	8.58	WeyCo factor		
PM-1	PM	3.77	16.50	Oregon factor	4.0	Lb/hr*
PM-1	PM_{10}	3.58	6.24	Oregon factor		
PM-1	$PM_{2.5}$	1.58	2.76	Oregon factor		
PM-1	VOC	2.26	3.94	WeyCo factor		

*Limit requested to reduce PTE to levels below the process weight equation

12. Using a flow diagram:

(1) Illustrate input of raw materials,

(2) Label production processes, process fuel combustion, process equipment and air pollution control equipment,

(3) Illustrate locations of air contaminant release so that emission points under item 10 can be identified.

(Attach extra pages as needed)
Process flow diagram

11. Air contaminants emitted: Basis of estimate (material balance, stack test, emission factor, etc.) must be clearly indicated on calculations appended to this form. Fugitive emissions must be included and calculations must be appended.

Emission Point	Pollutants	Potential Emissions			Regulatory Emission Limit	
		(lb/hr)	(Tons/yr)	Basis of Calculation	(lb/hr)	(units of standard)
PM-2	PM	0.68	2.98	Cyclone performance + 50%	1.00	Lb/hr*
PM-2	PM_{10}	0.65	1.83	95% of PM		
PM-2	$PM_{2.5}$	0.29	1.25	42% of PM		
PM-2	VOC	1.70	7.45	Weyco Factor		
Fugitive	PM	0.0062	0.0092	EPA Memo		
	PM_{10}	0.0029	0.0043	EPA Memo		
	$PM_{2.5}$	0.0004	0.0006	EPA Memo		

*Limit requested to reduce the PTE below the process weight equation

12. Using a flow diagram:

(1) Illustrate input of raw materials,

(2) Label production processes, process fuel combustion, process equipment and air pollution control equipment,

(3) Illustrate locations of air contaminant release so that emission points under item 10 can be identified.

(Attach extra pages as needed)
Process flow diagram

13. Is this unit or process in compliance with all applicable air pollution rules and regulations?

☒Yes ☐No

(if "no", a compliance schedule, Form ADEM-437 must be completed and attached.)

14. Does the input material or product from this process or unit contain finely divided materials which could become airborne?

☐Yes ☒No

15. If "yes", is this material stored in piles or in some other facility as to make possible the creation of fugitive dust problems?

☐Yes ☐No

List storage piles or other facility (if any):

Type of material	Particle size (diameter or screen size)	Pile size or facility (average tons)	Methods utilized to control fugitive emissions (wetted, covered, etc.)

Name of person preparing application: Bruce Ferguson, FC&E Engineering

Signature: Bruce Ferguson Date: 4/18/2016

PERMIT APPLICATION
FOR
MANUFACTURING OR PROCESSING OPERATION

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1. Name of firm or organization: Weyerhaeuser NR Company

2. Briefly describe the operation of this unit or process in your facility: (separate forms are to be submitted for each type of process or for multiple units of one process type. If the unit or process receives input material from, or provides input material to, another operation, please indicate the relationship between the operations.) An application should be completed for each alternative operating scenario.

Operating scenario number 1

In the sawmill area, logs are processed through equipment consisting of a Chip-N-Saw (CNS), a vertical gang saw, a board edger, and a green trimmer. Green chips from the sawmill and associated chipper are mechanically conveyed to a truck shipment bin. Bark from debarker are hogged and conveyed mechanically to a truck shipment bin. Facility roads included.

3. Type of unit or process (e.g., calcining kiln, cupola furnace):

Sawmill

Make: Model:

Rated process capacity (manufacturer's or designer's guaranteed maximum) in pounds/hour:

1,600,000 tons logs/yr

Manufactured date: Proposed installation date: 2017

Original installation date (if existing):

Reconstruction or Modification date (if applicable):

4. Normal operating schedule:

Hours per day: 24 Days per week: 7 Weeks per year: 52

Peak production season (if any):

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5. Materials (feed input) used in unit or process (include solid fuel materials used, if any):

Material	Process Rate Average (lb/hr)	Maximum (lb/hr)	Quantity tons/year
logs	342,500	342,500	1,500,000

6. Total heat input capacity of process heating equipment (exclude fuel used by indirect heating equipment previously described on Form ADEM-104): MMBtu/hr

Fuel	Heat Content	Units	Max. % Sulfur	Max. % Ash	Grade No. [fuel oil only]	Supplier [used oil only]
Coal		Btu/lb				
Fuel Oil		Btu/gal				
Natural Gas		Btu/ft^3				
L. P. Gas		Btu/ft^3				
Wood		Btu/lb				
Other (specify)						

7. Products of process or unit:

Products	Quantity/year	Units of production
Sawn green lumber	385,000	MBF/yr
Chips	275,500	Dry tons/yr
Bark	96,500	Dry tons/yr
Sawdust	64,800	Dry tons/yr

8. For each regulated pollutant, describe any limitations on source operation which affects emissions or any work practice standard (attach additional page if necessary):

9. Is there any emission control equipment on this emission source?

☐Yes ☒No (Where a control device exists, Form ADEM-110 must be completed and attached).

10. Air contaminant emission points: (Each point of emission should be listed separately and numbered so that it can be located on the attached flow diagram):

Emission Point	Height Above Grade (Feet)	Base Elevation (Feet)	Diameter (Feet)	Stack Gas Exit Velocity (Feet/Sec)	Volume of Gas Discharged (ACFM)	Exit Temperature (°F)

* Std temperature is 68°F - Std pressure is 29.92" in Hg.

11. Air contaminants emitted: Basis of estimate (material balance, stack test, emission factor, etc.) must be clearly indicated on calculations appended to this form. Fugitive emissions must be included and calculations must be appended.

Emission Point	Pollutants	Potential Emissions (lb/hr)	Potential Emissions (Tons/yr)	Basis of Calculation	Regulatory Emission Limit (lb/hr)	Regulatory Emission Limit (units of standard)
Sawmill Fugitives	PM	3.15	13.8	AP-42 & NCASI factors, professional judgement	39.4	$E = 17.31P^{0.16}$
	PM_{10}		2.6			
	$PM_{2.5}$		0.9			

12. Using a flow diagram:

(1) Illustrate input of raw materials,

(2) Label production processes, process fuel combustion, process equipment and air pollution control equipment,

(3) Illustrate locations of air contaminant release so that emission points under item 10 can be identified.

(Attach extra pages as needed)
Process flow diagram

13. Is this unit or process in compliance with all applicable air pollution rules and regulations?

☒Yes ☐No

(if "no", a compliance schedule, Form ADEM-437 must be completed and attached.)

14. Does the input material or product from this process or unit contain finely divided materials which could become airborne?

☒Yes ☐No

15. If "yes", is this material stored in piles or in some other facility as to make possible the creation of fugitive dust problems?

☒Yes ☐No

List storage piles or other facility (if any):

Type of material	Particle size (diameter or screen size)	Pile size or facility (average tons)	Methods utilized to control fugitive emissions (wetted, covered, etc.)
Chips	2.8×10^{-3} lb/ton – PM 1.6×10^{-4} lb/ton – PM_{10} 2.8×10^{-5} lb/ton – $PM_{2.5}$	5500	Transfer by covered conveyor. Water if visible emissions observed reaching property boundary.
Bark	2.8×10^{-3} lb/ton – PM 1.6×10^{-4} lb/ton – PM_{10} 2.8×10^{-5} lb/ton – $PM_{2.5}$	150	Transfer by covered conveyor. Water if visible emissions observed reaching property boundary.
Hogged Bark	2.8×10^{-3} lb/ton – PM 1.6×10^{-4} lb/ton – PM_{10} 2.8×10^{-5} lb/ton – $PM_{2.5}$	150	Transfer by covered conveyor. Water if visible emissions observed reaching property boundary.

Name of person preparing application: Bruce Ferguson, FC&E Engineering

Signature: Bruce Ferguson Date: 4/18/2016