Forest Resources
Western Florida Region
117 Pace Parkway
P.O. Box 875
Cantonment, Florida 32533
850 968-3010

Champion
Champion International Corporation

June 14, 1999

Mr. A. A. Linero, P.E.
Administrator, New Source Review Section
Bureau of Air Regulation
Florida Department of Environmental Protection
2600 Blair Stone Road, Mail Station #5505
Tallahassee, Florida 32399-2400

0330260-001-AC
PSD-FL-~~270~~ 271

Re: Champion International Corporation
McDavid Sawmill – Air Construction Permit Application

Dear Mr. Linero:

Champion International Corporation (Champion) is planning to construct and operate a new lumber sawmill in Escambia County, Florida, approximately 30 kilometers (km) (19 miles) north of Pensacola. The McDavid Sawmill will process southern yellow pine (SYP) logs and produce up to 225 million board feet per year (MMBF/yr) of lumber.

A permit for the new lumber sawmill is required prior to the beginning of facility construction, per Rule 62-212.300(1)(a), Florida Administrative Code (F.A.C.). Four copies of a permit application package, including the required permit application forms and supporting documentation included in the attachments, are enclosed for your review. A check, payable to the State of Florida, in the amount of $7,500 is also enclosed as payment of the required permit application processing fee per Rule 62-4.050(4)(a)1.

Champion would like to commence construction of the new sawmill by August 15, 1999. Accordingly, your expeditious processing of this permit application will be greatly appreciated. Please contact me at (850) 937-4849 or Tom Davis of Environmental Consulting & Technology, Inc. (ECT) at (352) 332-6230, Ext. 351 if there are any questions regarding the enclosed application.

Sincerely,

Dave Stevens

Dave Stevens
Manager of Special Projects (Project Director), Forest Products

Enclosures

cc: Mr. Andy Allen, FDEP, Pensacola – NWD
Mr. Tom Davis, ECT
EPA
NPS
Joe Kahn, BAR
Cleve Holladay, BAR

THE FACE OF THIS DOCUMENT HAS A COLORED BACKGROUND ON WHITE PAPER. THE BACK OF THIS DOCUMENT CONTAINS A MICROPRINT LINE AND A VOID PANTOGRAPH.

50-9-3
213

Champion
Champion International Corporation

Kingsbridge Branch [illegible]

No. 033096

Pay to the Order of

State of Florida
Dept of Environmental Protection
Twin Towers Office Building - MS 5505
2600 Blair Stone Road
Tallahassee, FL 32399

Date: 6-11-99

Pay the Amount

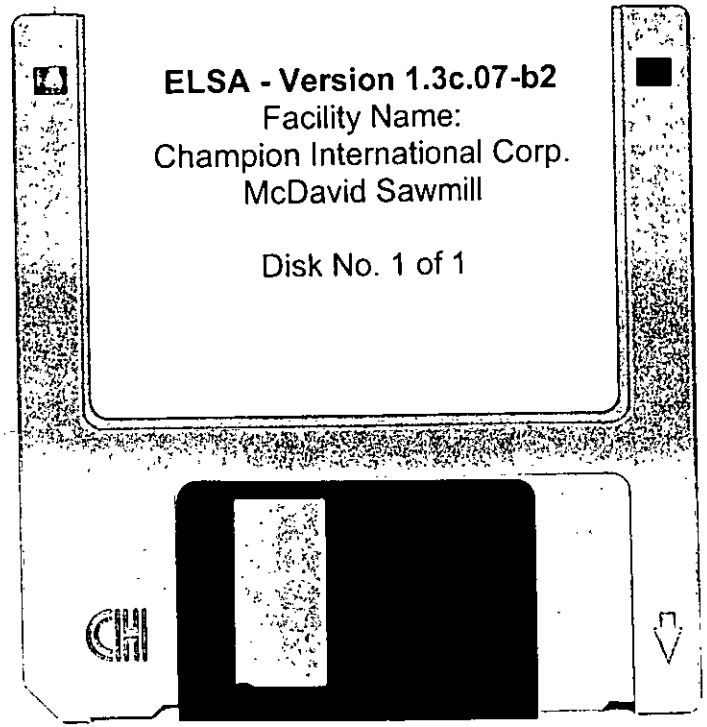
**********7,500.00

THE SUM 7500 DOLLARS

CHEMICAL BANK
90 Presidential Plaza
Syracuse, NY 13202

Susan A. Poxue
Wanda Duxley

⑈033096⑈ ⑆021309434⑆ 755⑈752279⑈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Facility Name:
Champion International Corp.
McDavid Sawmill
Disk No. 1 of 1

McDAVID SAWMILL
AIR CONSTRUCTION PERMIT
APPLICATION

Prepared for:

Cantonment, Florida

Prepared by:

ECT

Environmental Consulting & Technology, Inc.
3701 Northwest 98th Street
Gainesville, Florida 32606

ECT No. 990294-0100

June 1999

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1.0 INTRODUCTION AND SUMMARY

1.1 INTRODUCTION

Champion International Corporation (Champion) is planning to construct and operate a new lumber sawmill in Escambia County, Florida, approximately 30 kilometers (km) (19 miles) north of Pensacola. The McDavid Sawmill will process southern yellow pine (SYP) logs and produce up to 225 million board feet per year (MMBF/yr) of lumber.

A permit is required prior to the beginning of facility construction, per Rule 62-212.300(1)(a), Florida Administrative Code (F.A.C.). This report, including the required permit application forms and supporting documentation included in the attachments, constitutes Champion's application for authorization to commence construction in accordance with the Florida Department of Environmental Protection (FDEP) permitting rules contained in Chapters 62-4 and 62-212, F.A.C.

The McDavid Sawmill will be located in an attainment area and will have potential emissions of a regulated pollutant in excess of 250 tons per year (tpy). Consequently, the proposed sawmill qualifies as a new major facility and is subject to the prevention of significant deterioration (PSD) new source review (NSR) requirements of Section 62-212.400, F.A.C. Therefore, this report and application are also submitted to satisfy the permitting requirements contained in the FDEP PSD rules and regulations.

This report is organized as follows:

- Section 1.2 provides an overview and a summary of the key regulatory determinations.
- Section 2.0 describes the proposed facility and associated air emissions.
- Section 3.0 describes national and state air quality standards and discusses applicability of NSR procedures to the proposed project.
- Section 4.0 describes the PSD NSR review procedures.

- Section 5.0 provides an analysis of best available control technology (BACT).
- Sections 6.0 addresses ambient air quality impacts.
- Section 7.0 discusses current ambient air quality in the vicinity of the proposed sawmill and preconstruction ambient air quality monitoring.
- Section 8.0 addresses other potential air quality impact analyses.

Attachments A through C provide the FDEP Application for Air Permit—Title V Source, emission rate calculations, and control device vendor information, respectively.

1.2 SUMMARY

Principal McDavid Sawmill processes will include SYP log storage and processing (debarking and sawing); log chipping and sawing; green lumber drying using indirect, steam heated kilns; dried lumber finishing (planermill); and sorting, storage, and shipping of the final lumber product. Ancillary operations and equipment will include the storage and handling of wood by-products including bark, sawdust, chips, and planermill shavings and two natural gas-fired package boilers to provide steam for the lumber kilns.

The planned construction start date for the McDavid Sawmill is August 15, 1999. The proposed sawmill is scheduled to complete construction and commence operation in October 2000.

Based on an evaluation of anticipated worst-case annual operating scenarios, the McDavid Sawmill point (stack) emission sources will have the potential to emit 39 tpy of nitrogen oxides (NO_x), 70 tpy of carbon monoxide (CO), 14.5 tpy of particulate matter and particulate matter less than or equal to 10 micrometers aerodynamic diameter (PM/PM_{10}), 0.3 tpy of sulfur dioxide (SO_2), 326 tpy of volatile organic compounds (VOCs), and trace amounts of lead. Based on these annual emission rate potentials, VOC emissions are subject to PSD review.

Regarding noncriteria pollutants, the McDavid Sawmill will potentially emit less than 5.0 tpy of methanol and less than 1.0 tpy of all other organic and metallic hazardous air pollutants (HAPs). Therefore, the facility will not be a major source under Title III and would not be subject to a case-by-case maximum achievable control technology (MACT) review.

As presented in this report, the analyses required for this permit application resulted in the following conclusions:

- Advanced burner design and good operating practices to minimize incomplete combustion are proposed as BACT for VOC for the two package boilers. Good operating practice and maintenance are proposed as BACT for VOCs for the indirect, steam heated lumber drying kilns. Due to the complexity of the kiln drying cycle, installation of exhaust control systems to reduce VOC emissions presents many technical challenges. There are no lumber kilns in the United States that are equipped with VOC controls. BACT for VOCs for two recent (1997 and 1998) lumber kiln installations in Texas and North Carolina was determined to be no add-on controls. Cost effectiveness of VOC regenerative thermal oxidation (RTO) and regenerative catalytic oxidizer (RCO) control systems was determined to be $8,351 and $7,051 per ton of VOC, respectively. Accordingly, the installation of either an RTO or an RCO control system to control VOC emissions is considered to be economically infeasible.
- Use of low-NO_x burners with an emission rate of no more than 0.10 pound NO_x per million British thermal units (lb/MMBtu) heat input and a federally enforceable annual heat input limitation of 779,640 million British thermal units (MMBtu), lower heating value (LHV), for both package boilers combined are proposed to limit facility NO_x emissions to less than 40 tpy.
- Federally enforceable PM_{10} emissions of 0.0035 lb/MMBtu and 2.1 pounds per hour (lb/hr) for the two package boilers and planermill cyclone/baghouse control system, respectively, are proposed to limit facility PM_{10} emissions to less than 15 tpy.

- The McDavid Sawmill is projected to emit VOCs in greater than significant amounts. Representative, current quality-assured ambient ozone data collected by FDEP at monitoring sites located in the Pensacola area were used to satisfy the PSD preconstruction ambient air monitoring requirements for VOCs.
- Project impacts will be well below levels that are detrimental to soils and vegetation and will not impair visibility.
- The nearest PSD Class I area (Breton National Wildlife Refuge) is located approximately 155 km southwest of the McDavid Sawmill site. Air quality and visibility impacts on this Class I area will be negligible.

2.0 DESCRIPTION OF THE PROPOSED FACILITY

2.1 PROJECT LOCATION

The proposed McDavid Sawmill will be located in rural Escambia County approximately 22 km (14 miles) and 30 km (19 miles) north of Cantonment and Pensacola, respectively. Fenced access to the plant site will be from U.S. Highway (U.S.) 29 on the west side of the plant property. The plant entrance will have security gates to control site access. The entire site perimeter will be fenced.

The approximate 32-acre plant site is bordered on the north and south by undeveloped property owned by Champion. The Louisville and Nashville (CSX) railroad line runs north/south and borders the east side of the plant site. East of the railroad line is State owned swampland. West of U.S. 29 is additional undeveloped property owned by Champion. McDavid, Florida, located approximately 8 km (5 miles) north of the plant site, is the nearest town to the proposed sawmill. The closest residential housing is located approximately 2 km (1.2 miles) south of the plant site. Figure 2-1 shows the project site location relative to local landmarks.

2.2 PROCESS DESCRIPTION

Principal McDavid Sawmill processes will include:

1. Log storage and processing (debarking and sawing).
2. Sawmill operations (chipping and sawing).
3. Drying of green lumber using indirect steam-heated kilns.
4. Product lumber finishing, sorting, and shipping.

Ancillary equipment will include wood by-product (bark, chips, sawdust, and shavings) screening, handling, and storage; and two 55-MMBtu/hr heat input natural gas-fired package boilers that will provide steam for the lumber kilns. The McDavid Sawmill will

FIGURE 2-1.
SITE LOCATION RELATIVE TO LOCAL LANDMARKS

SOURCE: DeLorme, 1997.

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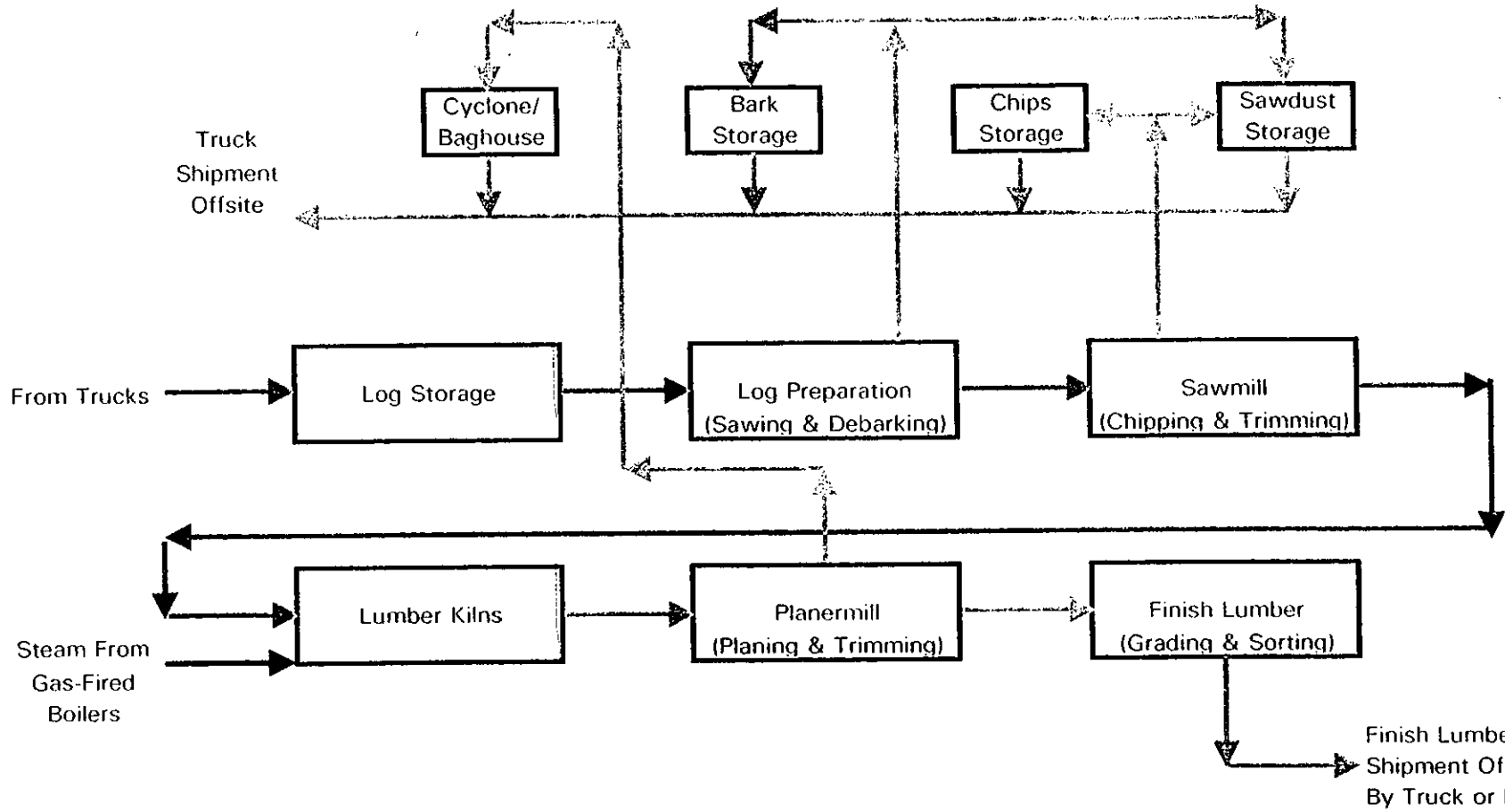
produce up to 225 MMBF/yr of lumber and will be capable of continuous operation; i.e., 8,760 hours per year (hr/yr).

Two parallel process lines will be used to process and size the SYP logs. A process flow diagram of the McDavid Sawmill is presented in Figure 2-2.

SYP logs will be transported to the plant site by truck, unloaded by one of two log cranes, and stored in two semi-circular piles prior to processing. The log cranes will also be utilized to transfer the logs from storage to the two process lines. Excessively crooked logs are initially cut using chain saws, if necessary. Ring debarkers will then be used to remove bark from the logs. Bark removed from the logs by the debarkers will drop to a conveyor which transfers the bark to a disc screen and hog. The hog (grinder) reduces the bark to a consistent size. From the hog, the bark will be transferred by conveyor to the bark storage bin and then loaded into trucks for shipment offsite.

Following debarking, the SYP logs will be cut into optimal lengths by high-speed cut-up rotary saws (two saws per processing line). Optical scanners precede the cut-up saws to determine the optimal lengths for each individual log; i.e., the scanners determine the precise log lengths needed to maximize the amount of lumber product per log. Sawdust (fines) generated by the cut-up saws will drop to conveyors for transfer to the fines storage bin, and then loaded into trucks for shipment offsite.

The cut SYP logs will then be processed in the sawmill for sizing into the appropriate lumber board dimensions. The sawmill will use machines to square the log by chipping and to cut and trim the resulting pieces to the desired board dimensions. Sawmill operations will take place in an essentially enclosed area; i.e., the sawmill building will be a roofed, two-level structure with metal side walls extending to approximately 15 feet above grade to allow for building ventilation. The sawmill equipment will be located in the enclosed, second level of the sawmill building. Sawdust (fines) generated by the



PROCESS FLOW DIAGRAM

Source: ECT, 1999.

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sawing operations will drop to conveyors, subsequently combined with the fines generated by the high-speed cut-up saws, transferred to the fines storage bin, and then loaded into trucks for shipment offsite. The sawmill will also include a separate chipper to process edger strips; chips generated by this chipper will be routed to a chip conveyor. The wood chips produced by the main log chipping operations will also drop to the chip conveyors and subsequently transferred to a screen for separation of oversize chips. The oversize chips will be conveyed to a rechipper for size reduction. The chips will then be screened to separate fines and then conveyed to the chips storage bin; the separated fines will be conveyed to the fines storage bin. From the chips storage bin, the chips will be loaded into trucks and shipped offsite.

The green, sized lumber (i.e., boards) will then be sorted, stacked, and stored in the green lumber storage shed prior to being dried in the indirect, steam-heated kilns. The drying kilns will be used to reduce lumber moisture content from approximately 50 to 20 percent under carefully controlled temperature and relative humidity conditions. Lumber drying will be achieved by circulating heated air over the stacked green lumber using bi-directional fans located near the ceiling of the kilns. The circulated air used for drying will be heated indirectly by means of heat transfer from steam coils located within the kilns. A series of five evenly spaced, rectangular vents will be located on each side of the V-shaped kiln roof for a total of ten vents per kiln. These kiln vents operate such that, at any given time in the drying cycle, one set of five vents will serve as air intakes for fresh air supply to the kiln while the remaining set of five vents will serve as kiln exhausts to release moisture-laden air. Approximately every 2 hours, the bi-directional fans will reverse direction to promote uniform drying of the lumber. When the circulating air fans change direction, kiln dampers will be employed to also reverse the duty of the kiln vents; i.e., the fresh air intake vents become kiln wet-air exhausts and vice versa. This air circulation reversing process will occur throughout the duration of the approximate 18-hour kiln drying cycle. Steam used to heat the circulating kiln air will be supplied by two natural gas-fired package boilers each rated at 55 MMBtu/hr heat input.

The dried lumber will then be removed from the kilns, allowed to air cool, and stored in the rough dried lumber shed. The stacked lumber will then be broken down into individual boards and planed and trimmed in the planermill. The planermill planing and trimming operations will be equipped with local exhaust ventilation systems to collect shavings generated by these processes. The planing and trimming shavings will then be transferred pneumatically to a cyclone/baghouse control system located adjacent to the wood by-product storage bins. Shavings removed by the cyclone collector will be stored in the shavings bin and then loaded into trucks for shipment offsite. Shavings removed by the baghouse will be routed by screw conveyor and loaded into trucks for shipment offsite. The planermill will also include a small hog/shaver for reducing the size of trimmed wood material; fines generated by this hog/shaver will be routed to the planermill cyclone/baghouse ventilation system. The final lumber board products will then be graded, sorted by length, packaged, and stored in the finish lumber storage area. From the finish lumber storage area, the lumber products will be shipped offsite by truck and rail.

2.3 PROJECT EMISSIONS AND CONTROL SYSTEMS

Combustion of natural gas in the package boilers will result in emissions of particulate matter (PM/PM_{10}), SO_2, NO_x, CO, and VOCs. The lumber kilns will emit PM/PM_{10} and VOC emissions primarily due to losses of naturally occurring, biogenic organic compounds contained in the SYP logs; e.g., terpenes. Planermill operations and wood by-product screening, handling, and storage will result in emissions of PM/PM_{10}.

Emission control systems proposed for the McDavid Sawmill include the use of a cyclone/baghouse system to control PM/PM_{10} emissions from planermill operations, implementation of reasonable precautions to abate fugitive PM/PM_{10} emissions, and low-NO_x burners for control of NO_x from the package boilers. Emissions of SO_2 will be minimal (less than 1 tpy) due to the exclusive use of pipeline-quality natural gas in the package boilers.

Upstream of the planermill, potential emissions of fugitive PM/PM_{10} emissions are considered to be low due to the high moisture content of the wood materials being processed. Observations of log debarking and sawing, wood by-product screening, handling, and storage, sawmill operations, and truck traffic on paved facility roadways at a similar lumber mill indicate that these processes generate little, if any, visible emissions. To further reduce the potential for fugitive PM/PM_{10} emissions, reasonable precautions to abate such emissions will be implemented. These precautions include enclosing wood by-product transfer points and periodic sweeping and/or watering of paved facility roadways, as necessary.

The one area of the McDavid Sawmill which could have the potential to generate significant amounts of fugitive PM/PM_{10} emissions, the planermill, will be enclosed and equipped with local exhaust ventilation systems to collect shavings produced by the high-speed planing and trimming machine centers. The collected shavings will be transferred pneumatically to a cyclone collector and baghouse control system for removal of PM/PM_{10} prior to exhausting the conveying air stream to the atmosphere.

The two package boilers will utilize low-NO_x burner technology to control NO_x emissions. The exclusive use of pipeline-quality natural gas and good combustion practice will result in low VOC, CO, PM/PM_{10} and SO_2 emissions from the package boilers.

A plot plan showing the major process equipment and structures, and all point (stack) emission sources is presented in Figure 2-3. Locations of the various fugitive PM/PM_{10} emission sources are shown in Figure 2-4.

2.4 EMISSION AND STACK PARAMETERS

Table 2-1 provides maximum hourly and annual criteria pollutant emission rates for the McDavid Sawmill point (stack) emission sources. Maximum hourly and annual noncriteria pollutant (i.e., HAPs) emission rates are summarized in Table 2-2 for the proposed

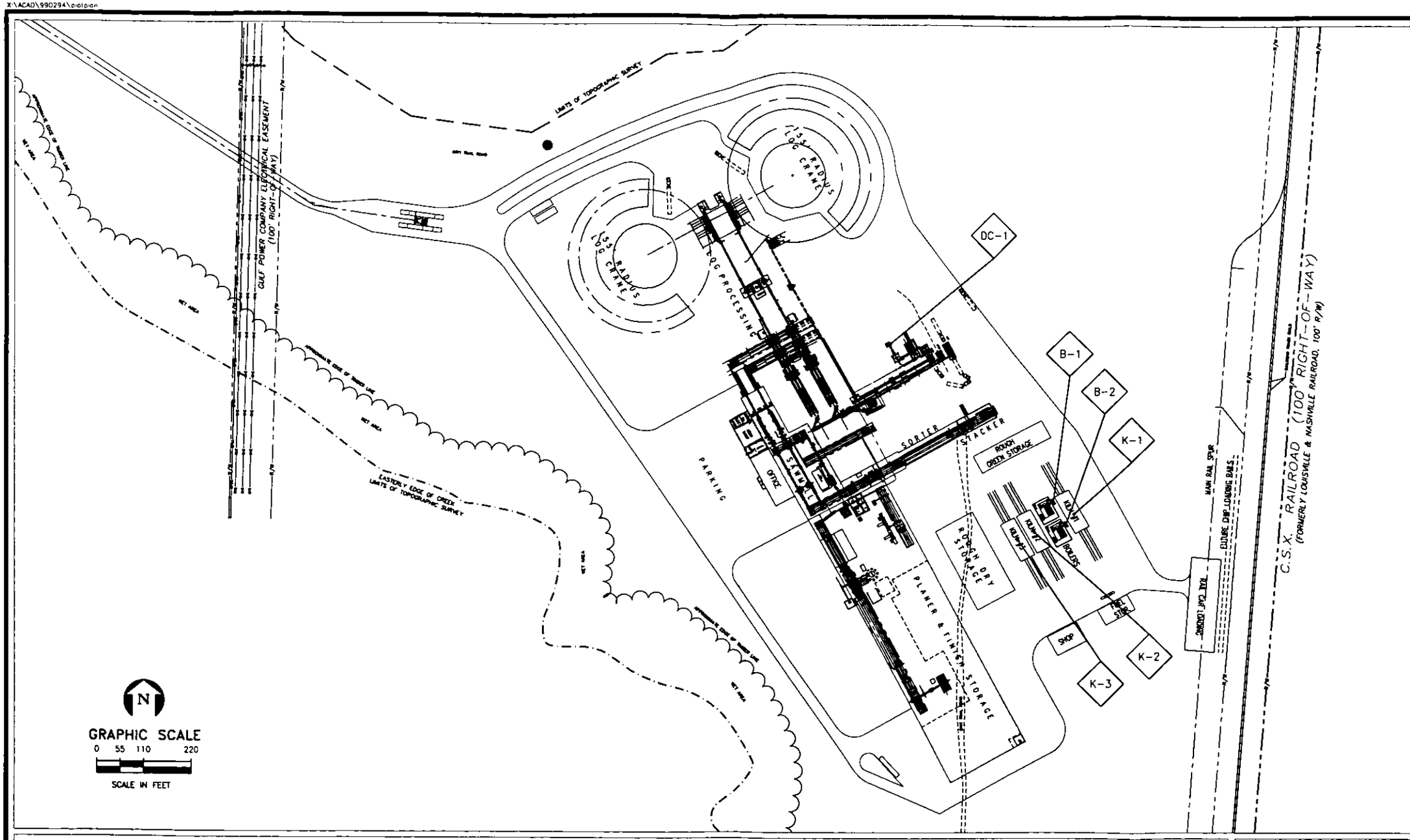

FIGURE 2-3.

FACILITY PLOT PLAN - POINT EMISSION SOURCES

Sources: Mid-South Engineering, 1999; ECT, 1999.

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Table 2-1. Maximum Criteria Pollutant Emission Rates - Point Sources

Emission Source Description	Emission Source ID	Emission Rates									
		PM/PM_{10}		NO_x		SO_2		CO		VOCs	
		(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)
Package Boiler 1	B-1	0.19	0.68	5.50	19.49	0.03	0.12	9.90	35.08	0.88	3.12
Package Boiler 2	B-2	0.19	0.68	5.50	19.49	0.03	0.12	9.90	35.08	0.88	3.12
Kilns 1-3	K1-K3	0.95	4.16	N/A	N/A	N/A	N/A	N/A	N/A	85.27	319.50
Planermill Dust Collector	DC-1	2.06	9.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Totals		**3.39**	**14.54**	**11.00**	**38.98**	**0.07**	**0.25**	**19.80**	**70.17**	**87.03**	**325.74**

Sources: Champion, 1999.
ECT, 1999.

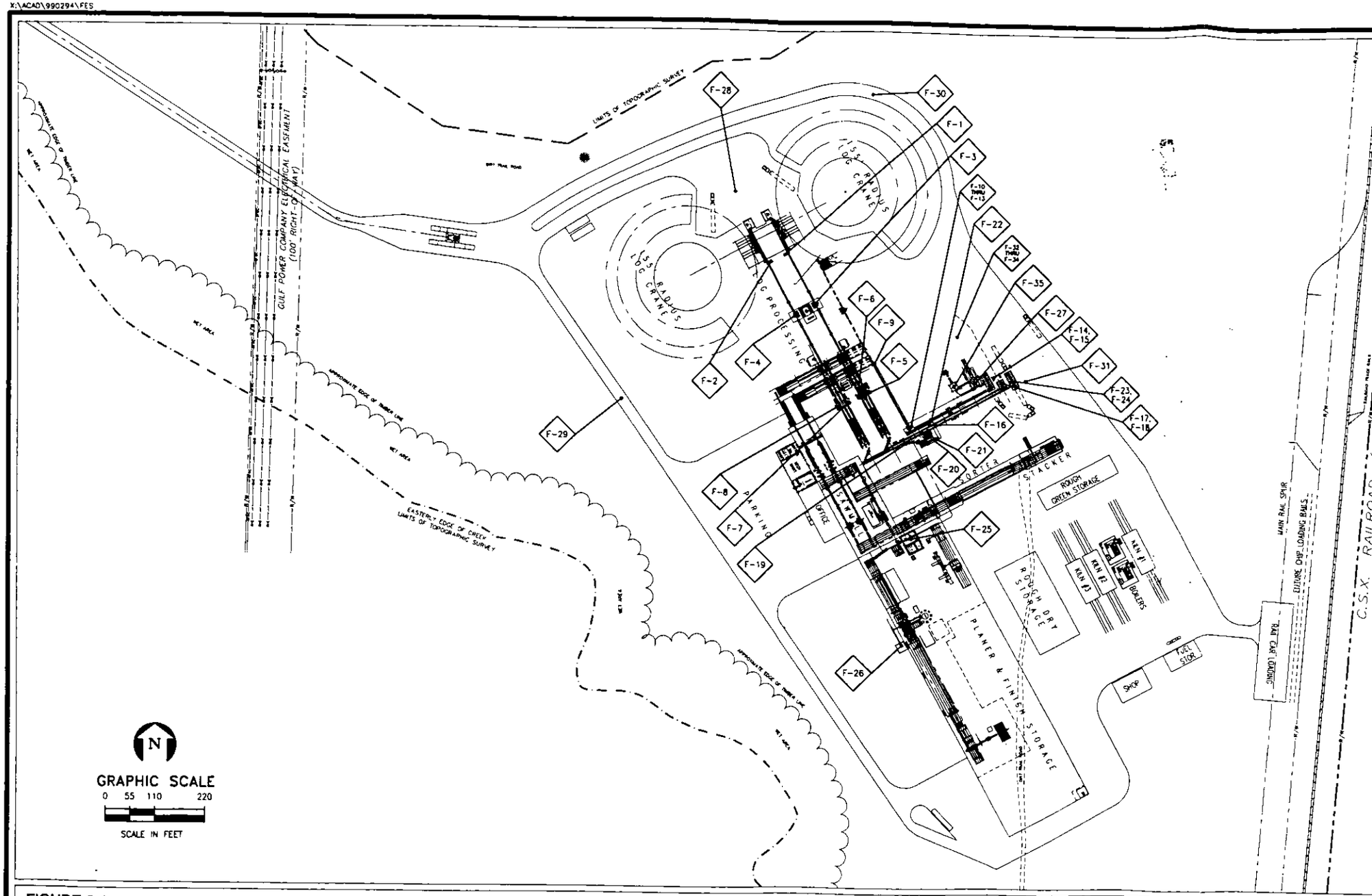

FIGURE 2-4.

FACILITY PLOT PLAN - FUGITIVE EMISSION SOURCES

Sources: Mid-South Engineering, 1999; ECT, 1999.

Table 2-2. Maximum Noncriteria Pollutant Emission Rates - Point Sources

Hazardous Air Pollutant	Emission Source							
	Boiler 1		Boiler 1		Kilns 1-3		Facility Totals	
	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)
Arsenic	1.16E-05	4.10E-05	1.16E-05	4.10E-05	N/A	N/A	2.32E-05	0.00008
Benzene	1.22E-04	4.31E-04	1.22E-04	4.31E-04	N/A	N/A	2.43E-04	0.00086
Beryllium	6.95E-07	6.82E-01	6.95E-07	2.46E-06	N/A	N/A	1.39E-06	0.68219
Cadmium	6.37E-05	2.26E-04	6.37E-05	2.26E-04	N/A	N/A	1.27E-04	0.00045
Chromium VI	8.11E-05	2.87E-04	8.11E-05	2.87E-04	N/A	N/A	1.62E-04	0.00057
Cobalt	4.86E-06	1.72E-05	4.86E-06	1.72E-05	N/A	N/A	9.73E-06	0.00003
Dichlorobenzene	6.95E-05	2.46E-04	6.95E-05	2.46E-04	N/A	N/A	1.39E-04	0.00049
Formaldehyde	4.34E-03	1.54E-02	4.34E-03	1.54E-02	7.36E-02	3.23E-01	8.23E-02	0.35331
Hexane	1.04E-01	3.69E-01	1.04E-01	3.69E-01	N/A	N/A	2.08E-01	0.73861
Manganese	2.20E-05	7.80E-05	2.20E-05	7.80E-05	N/A	N/A	4.40E-05	0.00016
Methanol	N/A	N/A	N/A	N/A	9.52E-01	4.17E+00	9.52E-01	4.17004
Mercury	1.51E-05	5.33E-05	1.51E-05	5.33E-05	N/A	N/A	3.01E-05	0.00011
Naphthalene	3.53E-05	1.25E-04	3.53E-05	1.25E-04	N/A	N/A	7.06E-05	0.00025
Nickel	1.22E-04	4.31E-04	1.22E-04	4.31E-04	N/A	N/A	2.43E-04	0.00086
Selenium	1.39E-06	4.92E-06	1.39E-06	4.92E-06	N/A	N/A	2.78E-06	0.00001
Toluene	1.97E-04	6.98E-04	1.97E-04	6.98E-04	N/A	N/A	3.94E-04	0.00140
Totals	**0.11**	**1.07**	**0.11**	**0.39**	**1.03**	**4.49**	**1.24**	**5.95**

Sources: Champion, 1999.
ECT, 1999.

sawmill point sources. A summary of estimated maximum hourly and annual fugitive PM/PM_{10} emissions is provided in Table 2-3.

Emission rates due to operation of the McDavid Sawmill were estimated using the best available data. These data consisted of equipment vendor emission guarantees for the package boilers (for PM/PM_{10}, CO, NO_x, and VOC) and planermill cyclone/baghouse control system (for PM/PM_{10}). Estimates of SO_2 and HAP emission rates due to natural gas combustion in the package boilers were developed using U.S. Environmental Protection Agency (EPA) AP-42 emission factors. Emissions of VOCs and PM/PM_{10} from the lumber kilns were estimated using test data obtained from the National Council of the Paper Industry for Air and Stream Improvement (NCASI). Estimates of fugitive PM/PM_{10} were made using EPA emission factors and procedures. The bases for the emission rate estimates are provided in Attachment B.

The emission rates estimated for the McDavid Sawmill are considered to be conservative; i.e., to over-estimate actual emission rates. For example, all emission sources, excluding the two package boilers, were assumed to operate continuously (i.e., 8,760 hr/yr) at peak production rates. The EPA procedures used to estimate fugitive PM/PM_{10} emissions are considered to be particularly conservative. As noted previously, observations of log debarking and sawing; wood by-product screening, handling, and storage; sawmill operations; and truck traffic on paved facility roadways at a similar lumber mill indicate that these processes generate little, if any, visible emissions.

Stack parameters for the McDavid Sawmill point emission sources are provided in Table 2-4.

Table 2-3. Maximum PM/PM_{10} Pollutant Emission Rates - Fugitive Sources

Emission Source Description	Emission Source ID	Emission Rates			
		PM		PM_{10}	
		(lb/hr)	(tpy)	(lb/hr)	(tpy)
Log Preparation					
Chain Saw - North Line	F-1	0.0889	0.2334	0.0142	0.0373
Chain Saw - South Line	F-2	0.0889	0.2334	0.0142	0.0373
Log Debarking - North Line	F-3	0.9146	2.4010	0.1463	0.3842
Log Debarking - South Line	F-4	0.9146	2.4010	0.1463	0.3842
Barking Saw 1	F-5	1.9816	5.2018	0.3171	0.8323
Barking Saw 2	F-6	1.9816	5.2018	0.3171	0.8323
Barking Saw 3	F-7	1.9816	5.2018	0.3171	0.8323
Barking Saw 4	F-8	1.9816	5.2018	0.3171	0.8323
Bark Processing/Handling					
Conveyor Transfer; Main Conveyor to Disc Screen/Hog Conveyor	F-9	0.0004	0.0011	0.0002	0.0005
Conveyor Transfer; Disc Screen/Hog Conveyor to Disc Screen/Hog	F-10	0.0004	0.0011	0.0002	0.0005
Bark Disc Screen	F-11	0.2312	0.6069	0.2312	0.6069
Bark Disc Hog	F-12	0.0008	0.0020	0.0008	0.0020
Conveyor Transfer; Disc Screen/Hog to Bark Bin Conveyor	F-13	0.0004	0.0011	0.0002	0.0005
Conveyor Transfer; Bark Bin Conveyor to Bark Bin	F-14	0.0004	0.0011	0.0002	0.0005
Bark Bin Truck Loading	F-15	0.0014	0.0036	0.0007	0.0017
Fines (Sawdust) Processing/Handling					
Conveyor Transfer; Fines Chip Screen Conveyor to Fines Bin Conveyor	F-16	0.0002	0.0006	0.0001	0.0003
Conveyor Transfer; Fines Bin Conveyor to Fines Bin	F-17	0.0002	0.0006	0.0001	0.0003
Fines Bin Truck Loading	F-18	0.0007	0.0018	0.0003	0.0009
Baghouse Fines Truck Loading	F-35	0.0001	0.0003	0.0001	0.0001
Chips Processing/Handling					
Conveyor Transfer; Oversize Chips Conveyor to Rechipper Conveyor	F-19	0.0002	0.0004	0.0001	0.0002
Rechipper	F-20	0.0003	0.0008	0.0003	0.0008
Chips Screen	F-21	0.9700	2.5464	0.9700	2.5464
Conveyor Transfer; Chips Screen to Chips Bin Conveyor	F-22	0.0018	0.0046	0.0008	0.0022
Conveyor Transfer; Chips Bin Conveyor to Chips Bin	F-23	0.0018	0.0046	0.0008	0.0022
Chips Bin Truck Loading	F-24	0.0058	0.0153	0.0028	0.0072
Sawmill Chipper	F-25	0.0003	0.0008	0.0003	0.0008
Planermill Shavings					
Hog	F-26	,0.0001	0.0002	0.0001	0.0002
Cyclone Bin Truck Loading	F-27	0.0006	0.0016	0.0003	0.0007
Truck Traffic on Paved Roadways					
Raw Material Wood Trucks	F-28	3.9202	5.8100	0.7649	1.1337
Product Lumber Trucks	F-29	2.4536	2.8151	0.4787	0.5493
Wood By-Product Trucks	F-30	3.2094	7.9196	0.6262	1.5453
Outdoor Storage Piles					
Chip Storage	F-31	0.1271	0.0153	0.0607	0.0073
Bark Storage	F-32	0.0370	0.0044	0.0176	0.0021
Sawdust Storage	F-33	0.0330	0.0040	0.0158	0.0019
Shavings Storage	F-34	0.0259	0.0016	0.0123	0.0007
Totals		**20.9570**	**45.8408**	**4.7752**	**10.5874**

Sources: Champion, 1999.
ECT, 1999.

Table 2-4. Stack Parameters - Point Sources

Emission Source Description	Emission Source ID	UTM Cordinates		Stack Data											
		Easting	Northing	Height		Equiv. Diameter		Area		Actual Flow Rate		Velocity		Temperature	
		(m)	(m)	(ft)	(m)	(ft)	(m)	(ft^2)	(m^2)	(ft^3/min)	(m^3/min)	(ft/sec)	(m/s)	(°F)	(K)
Package Boiler 1	B-1	468,899.0	3,406,446.8	35.0	10.67	3.50	1.07	9.62	0.89	75,984	2,152	131.63	40.12	320	433
Package Boiler 2	B-2	468,907.6	3,406,430.5	35.0	10.67	3.50	1.07	9.62	0.89	75,984	2,152	131.63	40.12	320	433
Kiln No. 1[1,2]	K1	468,911.8	3,406,439.6	25.3	7.70	5.89	1.79	27.22	2.53	34,502	977	21.12	6.44	209	372
Kiln No. 2[1,2]	K2	468,885.4	3,406,425.3	25.3	7.70	5.89	1.79	27.22	2.53	34,502	977	21.12	6.44	209	372
Kiln No. 3[1,2]	K3	468,874.2	3,406,419.2	25.3	7.70	5.89	1.79	27.22	2.53	34,502	977	21.12	6.44	209	372
Planermill Dust Collector	DC-1	468,782.0	3,406,560.0	23.0	7.01	3.17	0.97	7.88	0.73	60,000	1,699	126.97	38.70	68	293

[1] Each kiln has five (5) square (28 inches x 28 inches) vents open at any one time.

[2] Kiln exhaust flow rate, velocity, and temperature are averages for 18 hour drying cycle.

Sources: Champion, 1999.
ECT, 1999.

3.0 AIR QUALITY STANDARDS AND NEW SOURCE REVIEW APPLICABILITY

3.1 NATIONAL AND STATE AAQS

As a result of the 1977 Clean Air Act (CAA) Amendments, EPA has enacted primary and secondary national ambient air quality standards (NAAQS) for six air pollutants (40 CFR 50). Primary NAAQS are intended to protect the public health, and secondary NAAQS are intended to protect the public welfare from any known or anticipated adverse effects associated with the presence of pollutants in the ambient air. Florida has also adopted ambient air quality standards (AAQS); reference Section 62-204.240, F.A.C. Table 3-1 presents the current national and Florida AAQS.

Areas of the country in violation of AAQS are designated as nonattainment areas, and new sources to be located in or near these areas may be subject to more stringent air permitting requirements. The proposed McDavid Sawmill is located in Escambia County approximately 30 km north of Pensacola. Escambia County is presently designated in 40 CFR §81.310 as better than national standards (for total suspended particulates [TSPs]), unclassifiable for SO_2, unclassifiable/attainment (for CO), unclassifiable or better than national standards (for nitrogen dioxide [NO_2]), and not designated (for lead). 40 CFR §81.310 also indicates that the 1-hour ozone standard is not applicable. Escambia County is designated attainment (for ozone, CO, and NO_2) and unclassifiable (for SO_2, PM_{10} and lead) by Section 62-204.340, F.A.C.

3.2 NONATTAINMENT NSR APPLICABILITY

The McDavid Sawmill will be located in Escambia County. As noted above, Escambia County is presently designated as either better than national standards or unclassifiable/attainment for all criteria pollutants. Accordingly, the proposed McDavid Sawmill is not subject to the nonattainment NSR requirements of Section 62-212.500, F.A.C.

Table 3-1. National and Florida Air Quality Standards

Pollutant (units)	Averaging Periods	National Standards		Florida Standards
		Primary	Secondary	
SO_2 (ppmv)	3-hour[1]		0.5	0.5
	24-hour[1]	0.14		0.1
	Annual[2]	0.030		0.02
SO_2 ($\mu g/m^3$)	3-hour[1]			1,300
	24-hour[1]			260
	Annual[2]			60
PM_{10}[13] ($\mu g/m^3$)	24-hour[3]	150	150	
	Annual[4]	50	50	
PM_{10} ($\mu g/m^3$)	24-hour[5]			150
	Annual[6]			50
$PM_{2.5}$[11,12] ($\mu g/m^3$)	24-hour[7]	65	65	
	Annual[8]	15	15	
CO (ppmv)	1-hour[1]	35		35
	8-hour[1]	9		9
CO ($\mu g/m^3$)	1-hour[1]			40,000
	8-hour[1]			10,000
Ozone (ppmv)	1-hour[9]			0.12
	8-hour[10, 11]	0.08	0.08	
NO_2 (ppmv)	Annual[2]	0.053	0.053	0.05
NO_2 ($\mu g/m^3$)	Annual[2]			100
Lead ($\mu g/m^3$)	Calendar Quarter Arithmetic Mean	1.5	1.5	1.5

1 Not to be exceeded more than once per calendar year.
2 Arithmetic mean.
3 Standard attained when the 99th percentile is less than or equal to the standard, as determined by 40 CFR 50, Appendix N.
4 Arithmetic mean, as determined by 40 CFR 50, Appendix N.
5 Not to be exceeded more than once per year, as determined by 40 CFR 50, Appendix K.
6 Standard attained when the expected annual arithmetic mean is less than or equal to the standard, as determined by 40 CFR 50, Appendix K.
7 Standard attained when the 98th percentile is less than or equal to the standard, as determined by 40 CFR 50, Appendix N.
8 Arithmetic mean, as determined by 40 CFR 50, Appendix N.
9 Standard attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than 1, as determined by 40 CFR 50, Appendix H.
10 Standard attained when the average of the annual 4th highest daily maximum 8-hour average concentration is less than or equal to the standard, as determined by 40 CFR 50, Appendix I.
11 The U.S. Court of Appeals for the District of Columbia Circuit (Circuit Court) held that these standards are not enforceable. American Trucking Association v. U.S.E.P.A., 1999 WL300618 (Circuit Court)
12 The Circuit Court may vacate standards following briefing. Id.
13 The Circuit Court held PM_{10} standards vacated upon promulgation of effective $PM_{2.5}$ standards.

3.3 PSD NSR APPLICABILITY

The proposed McDavid Sawmill is not one of the industrial categories listed in Section 62-212.400, Table 212.400-1, F.A.C. Accordingly, the proposed sawmill would be classified as a *new major facility* subject to PSD NSR if located in an attainment area and if potential emissions from the project equal or exceed 250 tpy (excluding fugitive emissions) of any regulated pollutant.

The proposed McDavid Sawmill will be located in an attainment area and will have potential emissions of a regulated pollutant in excess of 250 tpy. Therefore, the McDavid Sawmill qualifies as a new major facility and is subject to the PSD NSR requirements of Section 62-212.400, F.A.C., for those pollutants which are emitted at or above the specified PSD significant emission rate levels. Comparisons of estimated potential annual emission rates for the McDavid Sawmill and the PSD significant emission rate thresholds are provided in Table 3-2. As shown in this table, potential emissions of VOCs are projected to exceed the applicable PSD significant emission rate level. This pollutant is, therefore, subject to the PSD NSR requirements of Section 62-212.400, F.A.C. Detailed emission rate estimates for the McDavid Sawmill are provided in Attachment B.

Table 3-2. Projected Emissions Compared to PSD Significant Emission Rates

Pollutant	Projected Maximum Annual Emissions (tpy)	PSD Significant Emission Rate (tpy)	PSD Applicability
NO_x	39.0	40	No
CO	70.1	100	No
PM	14.5	25	No
PM_{10}	14.5	15	No
SO_2	0.3	40	No
Ozone/VOC	325.7	40	Yes
Lead	Negligible	0.6	No
Mercury	Negligible	0.1	No
Total fluorides	Not Present	3	No
H_2SO_4 mist	Negligible	7	No
Total reduced sulfur (including hydrogen sulfide)	Not Present	10	No
Reduced sulfur compounds (including hydrogen sulfide)	Not Present	10	No
Municipal waste combustor acid gases (measured as SO_2 and hydrogen chloride)	Not Present	40	No
Municipal waste combustor metals (measured as PM)	Not Present	15	No
Municipal waste combustor organics (measured as total tetra- through octa-chlorinated dibenzo-p-dioxins and dibenzofurans)	Not Present	3.5×10^{-6}	No

Sources: Section 62-212.400, Table 212.400-2, F.A.C.
ECT, 1999.

4.0 PSD NSR REQUIREMENTS

4.1 CONTROL TECHNOLOGY REVIEW

Pursuant to Rule 62-212.400(5)(c), F.A.C., an analysis of BACT is required for each pollutant which is emitted by the proposed McDavid Sawmill in amounts equal to or greater than the PSD significant emission rate levels. As defined by Rule 62-210.200(42), F.A.C., BACT is:

> "an emission limitation, including a visible emission standard, based on the maximum degree of reduction of each pollutant emitted which the Department, on a case by case basis, taking into account energy, environmental, and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems and techniques (including fuel cleaning or treatment or innovative fuel combustion techniques) for control of each such pollutant. If the Department determines that technological or economic limitations on the application of measurement methodology to a particular part of an emissions unit or facility would make the imposition of an emission standard infeasible, a design, equipment, work practice, operational standard or combination thereof, may be prescribed instead to satisfy the requirement for the application of BACT. Such standard shall, to the degree possible, set forth the emissions reductions achievable by implementation of such design, equipment, work practice or operation. Each BACT determination shall include applicable test methods or shall provide for determining compliance with the standard(s) by means which achieve equivalent results."

BACT determinations are made on a case-by-case basis as part of the FDEP NSR process and apply to each pollutant which exceeds the PSD significant emission rate thresholds shown in Table 3-2. All emission units involved in a major modification or a new major source that emit or increase emissions of the applicable pollutants must undergo BACT analysis. Because each applicable pollutant must be analyzed, particular emission units may undergo BACT analysis for more than one pollutant.

BACT is defined in terms of a numerical emissions limit unless determined to be infeasible. This numerical emissions limit can be based on the application of air pollution control equipment; specific production processes, methods, systems, or techniques; fuel

cleaning; or combustion techniques. BACT limitations may not exceed any applicable federal new source performance standard (NSPS) or national emission standard for hazardous air pollutants (NESHAP), or any other emission limitation established by state regulations.

BACT analyses are conducted using the *top-down* analysis approach, which was outlined in a December 1, 1987, memorandum from Craig Potter, EPA Assistant Administrator, to EPA Regional Administrators on the subject of "Improving New Source Review (NSR) Implementation." Using the top-down methodology, available control technology alternatives are identified based on knowledge of the particular industry of the applicant and previous control technology permitting decisions for other identical or similar sources. These alternatives are rank ordered by stringency into a control technology hierarchy. The hierarchy is evaluated starting with the *top*, or most stringent alternative, to determine economic, environmental, and energy impacts, and to assess the feasibility or appropriateness of each alternative as BACT based on site-specific factors. If the top control alternative is not applicable, or is technically or economically infeasible, it is rejected as BACT, and the next most stringent alternative is then considered. This evaluation process continues until an applicable control alternative is determined to be both technologically and economically feasible, thereby defining the emission level corresponding to BACT for the pollutant in question emitted from the particular facility under consideration.

4.2 AMBIENT AIR QUALITY MONITORING

In accordance with the PSD requirements of Rule 62-212.400(5)(f), F.A.C., any application for a PSD permit must contain, for each pollutant subject to review, an analysis of ambient air quality data in the area affected by the proposed major stationary source or major modification. The affected pollutants are those that the source would potentially emit in significant amounts; i.e., those that exceed the PSD significant emission rate thresholds shown in Table 3-2.

Preconstruction ambient air monitoring for a period of up to 1 year generally is appropriate to complete the PSD requirements. Existing data from the vicinity of the proposed source may be used if the data meet certain quality assurance requirements; otherwise, additional data may need to be gathered. Guidance in designing a PSD monitoring network is provided by EPA's *Ambient Monitoring Guidelines for Prevention of Significant Deterioration* (1987).

Rule 62-212.400(2)(e), F.A.C., provides an exemption that excludes or limits the pollutants for which an air quality monitoring analysis is conducted. This exemption states that a proposed facility shall be exempt from the monitoring requirements of Rule 62-212.400(5)(f) and (g), F.A.C., with respect to a particular pollutant if the emissions increase of the pollution from the source or modification would cause, in any area, air quality impacts less than the PSD *de minimis* ambient impact levels presented in Section 62-212.400, Table 212.400-3, F.A.C. (see Table 4-1). In addition, an exemption may be granted if the air quality impacts due to existing sources in the area of concern are less than the PSD *de minimis* ambient impact levels.

Applicability of the PSD preconstruction ambient monitoring requirements to the proposed McDavid Sawmill is discussed in Section 7.0.

4.3 AMBIENT IMPACT ANALYSIS

An air quality or source impact analysis must be performed for a proposed major source subject to PSD for each pollutant for which the increase in emissions exceeds the significant emission rates (see Table 3-2). The FDEP rules specifically require the use of applicable EPA atmospheric dispersion models in determining estimates of ambient concentrations (refer to Rule 62-204.220[4], F.A.C.). Guidance for the use and application of dispersion models is presented in the EPA *Guideline on Air Quality Models* as published in Appendix W to 40 CFR Part 51. Criteria pollutants may be exempt from the full source impact analysis if the net increase in impacts due to the new source or modification is

Table 4-1. PSD *De Minimis* Ambient Impact Levels

Averaging Time	Pollutant	Significance Level ($\mu g/m^3$)
Annual	NO_2	14
Quarterly	Lead	0.1
24-Hour	PM_{10}	10
	SO_2	13
	Mercury	0.25
	Fluorides	0.25
8-Hour	CO	575
1-Hour	Hydrogen sulfide	0.2
NA	Ozone	100 tpy of VOC emissions

Note: $\mu g/m^3$ = micrograms per cubic meter.

Source: Section 62-212.400, Table 212.400-3, F.A.C.

below the appropriate Rule 62-210.200(259), F.A.C., significant impact level, as presented in Table 4-2.

Ozone is one pollutant for which a source impact analysis is not normally required. Ozone is formed in the atmosphere as a result of complex photochemical reactions. Models for ozone generally are applied to entire urban areas. Various lengths of record for meteorological data can be used for impact analyses.

A 5-year period can be used with corresponding evaluation of the highest of the second-highest short-term concentrations for comparison to AAQS or PSD increments. The term *highest, second-highest* (HSH) refers to the highest of the second-highest concentrations at all receptors (i.e., the highest concentration at each receptor is discarded). The second-highest concentration is significant because short-term PSD increments specify that the standard should not be exceeded at any location more than once per year. If less than 5 years of meteorological data are used, the highest concentration at each receptor must be used.

In promulgating the 1977 CAA Amendments, Congress specified that certain increases above an air quality *baseline concentration* level for SO_2 and TSP would constitute significant deterioration. The magnitude of the increment that cannot be exceeded depends on the classification of the area in which a new source (or modification) will have an impact. Three classifications were designated based on criteria established in the CAA Amendments. Initially, Congress promulgated areas as Class I (international parks, national wilderness areas, and memorial parks larger than 2,024 hectares [ha] (5,000 acres), and national parks larger than 2,428 ha (6,000 acres) or Class II (all other areas not designated as Class I). No Class III areas, which would be allowed greater deterioration than Class II areas, were designated. However, the states were given the authority to redesignate any Class II area to Class III status, provided certain requirements were met. EPA then promulgated, as regulations, the requirements for classifications and area designations.

Table 4-2. Significant Impact Levels

Pollutant	Averaging Period	Concentration ($\mu g/m^3$)
SO_2	Annual	1
	24-Hour	5
	3-Hour	25
PM_{10}	Annual	1
	24-Hour	5
NO_2	Annual	1
CO	8-Hour	500
	1-Hour	2,000
Lead	Quarterly	0.03

Source: Rule 62-210.200(260), F.A.C.

On October 17, 1988, EPA promulgated PSD increments for NO_2; the effective date of the new regulation was October 17, 1989. However, the baseline date for NO_2 increment consumption was set at March 28, 1988, for Florida; new major sources or modifications constructed after this date will consume NO_2 increment.

On June 3, 1993, EPA promulgated PSD increments for PM_{10}; the effective date of the new regulation was June 3, 1994. The increments for PM_{10} replace the original PM increments which were based on TSP. Baseline dates and areas that were previously established for the original TSP increments remain in effect for the new PM_{10} increments. Revised NAAQS for PM, which includes a revised NAAQS for PM_{10} and a new NAAQS for particulate matter less than or equal to 2.5 micrometers ($PM_{2.5}$) became effective on September 16, 1997. The new NAAQS for $PM_{2.5}$ was recently remanded to EPA and is not currently enforceable. In addition, due to the significant technical difficulties that exist with respect to $PM_{2.5}$ monitoring, emissions estimation, and modeling, EPA has determined that implementation of PSD permitting for $PM_{2.5}$ is administratively impracticable at this time for State permitting authorities. Accordingly, EPA has advised that PM_{10} may be used as a surrogate for $PM_{2.5}$ in meeting NSR requirements until these difficulties are resolved.

Current Florida PSD allowable increments are specified in Section 62-204.260, F.A.C., and shown on Table 4-3.

The term *baseline concentration* evolved from federal and state PSD regulations and denotes a concentration level corresponding to a specified baseline date and certain additional baseline sources. By definition in the PSD regulations, as amended, *baseline concentration* means the ambient concentration level that exists in the baseline area at the time of the applicable minor source baseline date. A baseline concentration is determined for each pollutant for which a baseline date is established based on:

1. The actual emissions representative of sources in existence on the applicable minor source baseline date.

Table 4-3. PSD Allowable Increments ($\mu g/m^3$)

Pollutant	Averaging Time	Class I	Class II	Class III
PM_{10}	Annual arithmetic mean	4	17	34
	24-Hour maximum*	8	30	60
SO_2	Annual arithmetic mean	2	20	40
	24-Hour maximum*	5	91	182
	3-Hour maximum*	25	512	700
NO_2	Annual arithmetic mean	2.5	25	50

*Maximum concentration not to be exceeded more than once per year at any one location.

Source: Section 62-204.260, F.A.C.

2. The allowable emissions of major stationary sources which commenced construction before the major source baseline date but were not in operation by the applicable minor source baseline date.

The following will not be included in the baseline concentration and will affect the applicable maximum allowable increase(s); i.e., allowed increment consumption:

1. Actual emissions from any major stationary source on which construction commenced after the major source baseline date.
2. Actual emissions increases and decreases at any stationary source occurring after the minor source baseline date.

It is not necessary to make a determination of the baseline concentration to determine the amount of PSD increment consumed. Instead, increment consumption calculations need only reflect the ambient pollutant concentration *change* attributable to emission sources that affect increment. *Major source baseline date* means January 6, 1975, for PM (TSP/PM_{10}) and SO_2 and February 8, 1988, for NO_2. *Minor source baseline date* means the earliest date after the trigger date, on which the first complete application (in Florida, December 27, 1977, for PM/PM_{10} and SO_2 and March 28, 1988, for NO_x) was submitted by a major stationary source or major modification subject to the requirements of 40 CFR §52.21 or Section 62-212.400, F.A.C. The trigger dates are August 7, 1977, for PM (TSP/PM_{10}) and SO_2 and February 8, 1988, for NO_2.

The ambient impact analysis for the McDavid Sawmill is provided in Section 6.0.

4.4 ADDITIONAL IMPACT ANALYSES

Rule 62-212.400(5)(e), F.A.C., requires additional impact analyses for three areas: (1) associated growth, (2) soils and vegetation impact, and (3) visibility impairment. The level of analysis for each area should be commensurate with the scope of the proposed project under consideration. A more extensive analysis would be conducted for projects having large emission increases than those that will cause a small increase in emissions.

The growth analysis generally includes:

1. A projection of the associated industrial, commercial, and residential growth that will occur in the area.
2. An estimate of the air pollution emissions generated by the permanent associated growth.
3. An air quality analysis based on the associated growth emission estimates and the emissions expected to be generated directly by the new source or modification.

The soils and vegetation analysis is typically conducted by comparing projected ambient concentrations for the pollutants of concern with applicable susceptibility data from the air pollution literature. For most types of soils and vegetation, ambient air concentrations of criteria pollutants below the NAAQS will not result in harmful effects. Sensitive vegetation and emissions of toxic air pollutants could necessitate a more extensive assessment of potential adverse effects on soils and vegetation.

The visibility impairment analysis pertains particularly to Class I area impacts and other areas where good visibility is of special concern. A quantitative estimate of visibility impairment is conducted, if warranted by the scope of the proposed project.

The additional impact analyses for the McDavid Sawmill is provided in Section 8.0.

5.0 BEST AVAILABLE CONTROL TECHNOLOGY ANALYSIS

5.1 METHODOLOGY

BACT analyses were performed in accordance with the EPA top-down method as previously described in Section 4.1. The first step in the top-down BACT procedure is the identification of all available control technologies. Alternatives considered included process designs and operating practices that reduce the formation of emissions, post-process stack controls that reduce emissions after they are formed, and combinations of these two control categories. Sources of information which were used to identify control alternatives include:

- EPA reasonably available control technology (RACT)/BACT/lowest achievable emission rate (LAER) Clearinghouse (RBLC) via the RBLC Information System database.
- EPA NSR web site.
- EPA Control Technology Center (CTC) web site.
- Recent State BACT determinations for similar facilities.
- Process equipment and control system vendor information.
- Discussions with NCASI personnel familiar with sawmill operations.

Following the identification of available control technologies, the next step in the analysis is to determine which technologies are feasible for the processes under review. Technical feasibility was evaluated using the criteria contained in Chapter B of the draft *EPA NSR Workshop Manual* (EPA, 1990). The third step in the top-down BACT process is the ranking of the remaining technically feasible control technologies from high to low in order of control effectiveness.

An assessment of energy, environmental, and economic impacts is then performed. The economic analysis employed the procedures found in the Office of Air Quality Planning and Standards (OAQPS) *Control Cost Manual* (EPA, 1996). Specific factors used in estimating capital and annual operating costs are summarized in Table 5-1.

Table 5-1. Capital and Annual Operating Cost Factors

Cost Item	Factor
Direct Capital Costs	
Sales tax	0.06 x purchased equipment cost
Freight	0.05 x purchased equipment cost
Foundations and supports	0.08 x purchased equipment cost
Handling and erection	0.14 x purchased equipment cost
Electrical	0.04 x purchased equipment cost
Piping	0.02 x purchased equipment cost
Insulation	0.01 x purchased equipment cost
Painting	0.01 x purchased equipment cost
Indirect Capital Costs	
Engineering	0.10 x purchased equipment cost
Construction and field expenses	0.05 x purchased equipment cost
Contractor fees	0.10 x purchased equipment cost
Start-up	0.02 x purchased equipment cost
Performance testing	0.01 x purchased equipment cost
Contingencies	0.03 x purchased equipment cost
Direct Annual Operating Costs	
Supervisor labor	0.15 x total operator labor cost
Maintenance labor	1.10 x operator labor direct wage
Maintenance materials	1.00 x total maintenance labor cost
Indirect Annual Operating Costs	
Overhead	0.60 x total of operating, supervisory, and maintenance labor and maintenance materials
Administrative charges	0.02 x total capital investment
Property taxes	0.01 x total capital investment
Insurance	0.01 x total capital investment

Source: EPA, 1996.

The fifth and final step is the selection of a BACT emission limitation or a design, equipment, work practice, operational standard or combination thereof, corresponding to the most stringent, technically feasible control technology that was not eliminated based on adverse energy, environmental, or economic grounds.

As indicated in Section 3.3, Table 3-2, projected annual emission rates of VOC for the McDavid Sawmill exceed the PSD significance rate and, therefore, is subject to BACT analysis. VOC control technology analysis using the five-step top-down BACT method is provided in Section 5.3.

5.2 FEDERAL AND FLORIDA EMISSION STANDARDS

Pursuant to Rule 62-212.400(5)(b), F.A.C., BACT emission limitations must be no less stringent than any applicable NSPS (40 CFR Part 60), NESHAP (40 CFR Parts 61 and 63), and FDEP emission standards (Chapter 62-296, F.A.C., *Stationary Sources—Emission Standards*.

On the federal level, the two package boilers each have a rated heat input greater than 10 MMBtu/hr and less than 100 MMBtu/hr and, therefore, are subject to the requirements of NSPS Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*. However, Subpart Dc does not contain any emission limitations or monitoring requirements which are applicable to natural gas-fired boilers. Applicable reporting and recordkeeping requirements are contained in CFR §60.48c(a)(1) and (3) and §60.48c(i).

There are no other NSPS or NESHAPs which are applicable to any other McDavid Sawmill processes.

FDEP emission standards for stationary sources are contained in Chapters 62-296, F.A.C., *Stationary Sources—Emission Standards*. Chapter 62-296, F.A.C., contains general emission standards for sources emitting VOCs (Rule 62-296.320[1], F.A.C.) and PM (Rules 62-296.320[4][b] and [c], F.A.C.) which may be applicable to the McDavid Sawmill. Rule 62-

296.320[4][b] and [c], F.A.C.) which may be applicable to the McDavid Sawmill. Rule 62-296.320(1), F.A.C. states that "No person shall store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department." With respect to PM emissions, visible emissions are limited to a maximum of 20 percent opacity pursuant to Rule 62-296.320(4)(b), F.A.C. Reasonable precautions are required to be taken to prevent the emissions of unconfined PM pursuant to Rule 62-296.320(c), F.A.C. Unconfined emissions are defined by Rule 62-210.200(300), F.A.C. as "Emissions which escape and become airborne from unenclosed operations or which are emitted into the atmosphere without being conducted through a stack."

Sections 62-296.401 through 62-296.417, F.A.C., specify emission standards for 17 categories of sources. Section 62-296.406, F.A.C., contains emission limitations for visible emissions, PM, and SO_2, and is applicable to new and existing fossil fuel steam generators with less than 250 MMBtu/hr heat input. This rule would, therefore, be applicable to the two natural gas-fired boilers. Rule 62-296.406(1), F.A.C., limits visible emissions to no more than 20 percent opacity except for either one 6-minute period per hour during which opacity shall not exceed 27 percent, or one 2-minute period per hour during which opacity shall not exceed 40 percent. Rules 62-296.406(2) and (3), F.A.C., require BACT for PM and SO_2. None of the remaining categorical emission standards contained in Sections 62-296.401 through 62-296.417, F.A.C., are applicable to the McDavid Sawmill emission sources.

Emission standards applicable to sources located in nonattainment and maintenance areas are contained in Sections 62-296.500 (for ozone nonattainment and maintenance areas) and 62-296.700, F.A.C. (for PM nonattainment and maintenance areas). Because the McDavid Sawmill will be located in Escambia County, Florida, and because this county is designated attainment for all criteria pollutants and is not a maintenance area, these emission standards are not applicable. Finally, Section 62-204.800, F.A.C., adopts federal NSPS and

NESHAP, respectively, by reference. As noted previously, NSPS Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units* is applicable to the two package steam boilers. There are no applicable NESHAP requirements.

Applicable federal and state emission standards are summarized in Tables 5-2 and 5-3, respectively. BACT emission limitations proposed for the McDavid Sawmill emission sources are all more stringent than the applicable federal and state standards cited in these tables.

5.3 BACT ANALYSIS FOR VOC

5.3.1 PACKAGE BOILERS

For the two package boilers, VOC emissions result from the incomplete combustion of carbon and organic compounds. Factors affecting VOC emissions include firing temperatures, residence time in the combustion zone, and combustion chamber mixing characteristics.

5.3.1.1 Potential Control Technologies

Available technologies for controlling VOCs from gas-fired boilers include combustion process design and use of oxidation catalyst. Each of these technologies is discussed in the following sections.

Combustion Process Design

Combustion process controls involve burner designs and operation practices that improve the oxidation process and minimize incomplete combustion. Due to the high combustion efficiency of natural gas-fired boilers, VOC emissions are inherently low.

Oxidation Catalyst

Noble metal (commonly platinum or palladium) oxidation catalysts are used to promote oxidation of VOCs to carbon dioxide (CO_2) and water at temperatures lower than would

Table 5-2. Federal Emission Limitations

NSPS Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.

§ 60.48c Reporting and recordkeeping requirements:

(a) The owner or operator of each affected facility shall submit notification of the date of construction or reconstruction, anticipated startup, and actual startup, as provided by §60.7 of this part. This notification shall include:

(1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.

(3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.

(i) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of 2 years following the date of such record.

Sources: 40 CFR 60, Subpart Dc.

Table 5-3. Florida Emission Limitations

Pollutant	Emission Limitation
General Volatile Organic Compound Emission Standard Rule 62-296.320(1)(a), F.A.C.	
• VOC	No person shall store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems deemed necessary and ordered the Department.
General PM Emission Standards Rules 62-296.320(4)(b) and 62-296.320(4)(c), F.A.C.	
• Visible emissions	< 20 percent opacity (averaged over a 6-minute period)
• Unconfined PM	No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any activity, including vehicular movement; transportation of materials; construction, alteration, demolition or wrecking; or industrially related activities such as loading, unloading, storing or handling; without taking reasonable precautions to prevent such emissions.
Fossil Fuel Steam Generators Less Than 250 MMBtu/hr Heat Input Rule 62-296.406, F.A.C. (Package Boilers)	
• PM	BACT
• Visible emissions	< 20 percent opacity (averaged over a 6-minute period)
• SO_2	BACT

Source: Chapter 62-296, F.A.C.

be necessary for oxidation without a catalyst. The operating temperature range for oxidation catalysts is between 650 and 1,150 degrees Fahrenheit (°F).

Efficiency of VOC oxidation varies with inlet temperature. Control efficiency will increase with increasing temperature for VOCs up to a temperature of approximately 1,100°F; further temperature increases will have little effect on control efficiency. Temperatures on the order of 900°F are needed to oxidize VOCs. Inlet temperature must also be maintained below 1,350 to 1,400°F to prevent thermal aging of the catalyst which will reduce catalyst activity and pollutant removal efficiencies. Removal efficiency will also vary with gas residence time which is a function of catalyst bed depth. Increasing bed depth will increase removal efficiencies but will also cause an increase in pressure drop across the catalyst bed. VOC removal efficiency will vary with the species of hydrocarbon. In general, unsaturated hydrocarbons, such as ethylene, are more reactive with oxidation catalysts than saturated species such as ethane. A typical VOC control efficiency using oxidation catalyst is 50 percent.

Oxidation catalysts are susceptible to deactivation due to impurities present in the exhaust gas stream. Arsenic, iron, sodium, phosphorous, and silica will all act as catalyst poisons causing a reduction in catalyst activity and pollutant removal efficiencies.

Oxidation catalysts are nonselective and will oxidize other compounds in addition to CO and VOCs. The nonselectivity of oxidation catalysts is important in assessing applicability to exhaust streams containing sulfur compounds. Sulfur compounds that have been oxidized to SO_2 in the combustion process will be further oxidized by the catalyst to sulfur trioxide (SO_3). SO_3 will, in turn, combine with moisture in the gas stream to form sulfuric acid (H_2SO_4) mist. Due to the oxidation of sulfur compounds and excessive formation of H_2SO_4 mist emissions, oxidation catalysts are not considered to be technically feasible for combustion devices that are fired with fuels containing appreciable amounts of sulfur.

5.3.1.2 Technical Feasibility

Due to efficient combustion and use of natural gas, VOC emissions from the two package boilers are relatively low. Based on boiler vendor emission estimates, maximum VOC emissions are projected to be no more 0.88 pound per hour (lb/hr) based on an emission factor of 0.016 lb/MMBtu. This emission rate equates to 3.9 tpy per boiler assuming continuous operation. Such low levels of VOC emissions are not amenable to the application of oxidation catalysts or post-combustion thermal oxidation control systems because removal efficiencies would be low and control costs excessive. The relatively small size of the package boilers would also present technical difficulties with respect to the installation of an oxidation catalyst system; such a system would need to be located within the boiler at the proper process temperature to be effective. Champion is not aware of any small, natural gas-fired package boilers which are equipped with post-combustion VOC control systems. Accordingly, proper and efficient combustion is considered to be the only technically feasible approach for controlling VOCs from the two small, natural-gas fired package boilers.

5.3.2 LUMBER KILNS

VOC emissions from the lumber drying kilns are primarily due to losses of naturally occurring organic compounds, primarily terpenes, contained in the SYP logs.

5.3.2.1 Potential Control Technologies

VOC control technologies potentially available for the lumber kilns include:

- RTO.
- RCO.
- Biofiltration.

Each of these technologies is discussed in the following sections.

Thermal Oxidation Systems

Thermal oxidation control systems are employed to control a wide variety of continuous emission streams containing VOCs. The basic process involved in thermal oxidation is the chemical combustion of the VOC containing waste gas stream at a sufficient temperature and residence time to oxidize the VOCs to CO_2 and water (H_2O). The percent conversion of VOC to CO_2 and H_2O depends on the oxidizer design; i.e., specific design combustion temperature, residence time, and extent of gas stream mixing within the oxidizer.

Thermal oxidation is typically applied to exhaust streams containing dilute mixtures of VOC and air. To satisfy insurance requirements, waste gas stream VOC concentrations are normally no more than 25 percent of the lower explosive limit (LEV). Due to the dilute nature of the waste gas stream, these streams also have a low heat content. Accordingly, thermal oxidizers usually require the addition of supplemental fuel to sustain the combustion process.

The main component of a thermal oxidation system is the combustion chamber in which the VOC-containing waste stream is burned. Within the combustion chamber, a nozzle-stabilized flame is maintained by a combination of waste gas VOC compounds, auxiliary fuel, and supplemental air if necessary. The waste gas stream is heated from its inlet temperature to its ignition temperature. The ignition temperature varies depending on the VOC species being combusted and normally is determined empirically. Ignition will occur for any concentration of VOCs providing the combustion chamber temperature is sufficiently elevated. The extent of VOC destruction depends on the three "Ts" of combustion; time, temperature, and turbulence. The waste gas stream must be oxidized at a sufficiently high temperature, an adequate residence time, and with proper mixing in order to achieve acceptable VOC destruction efficiencies. The shorter the residence time, the higher the combustion reactor temperature must be and vice versa. Most thermal oxidation units are designed to provide no more than one second of residence time within a temperature range of 1,200 to 2,000 °F.

A number of heat recovery schemes are utilized to reduce the amount of supplemental fuel required; these heat recovery designs serve to define the various types of thermal oxidation systems. A thermal recuperative oxidizer uses a conventional heat exchanger to preheat the inlet VOC waste gas stream using the hot, outlet oxidizer gas stream as the heat exchange medium. Additional heat recovery and fuel savings can be achieved by using direct contact heat exchangers composed of ceramic material in a regenerative type oxidation system. In a regenerative system, the inlet waste gas stream first passes through a hot ceramic bed, thereby increasing the gas stream temperature and cooling the ceramic bed. The heated gas stream then flows to a combustion chamber where supplemental fuel is added to bring the gas stream to its ignition temperature. Following oxidation in the combustion chamber (with the appropriate residence time), the hot combustion gases flow through a second ceramic bed to raise the second bed to the outlet gas temperature prior to discharging to the atmosphere. The process flows are then switched by means of a damper system such that the inlet waste gas stream first passes through the hot ceramic bed, to the combustion chamber, and then to the cooled ceramic bed before exiting to the atmosphere. Thus, the two ceramic heat exchanger beds switch duty depending on the oxidizer cycle; i.e., first to transfer heat to the incoming gas stream and then to recover heat from the hot, combustion chamber outlet exhaust stream. Ceramic media is used in the oxidizer heat exchangers due to its ability to tolerate high temperatures. Thermal energy efficiencies up to 95 percent can be achieved with regenerative thermal oxidizer systems.

RCOs function in a similar fashion to RTOs; i.e., use ceramic heat exchange media in a cycling mode of operation. To further reduce operating costs, RCOs include a catalyst bed located within the combustion chamber. The catalyst bed serves to increase the reaction rate allowing for combustion to occur at a lower temperature than a conventional RTO. The savings in combustion chamber supplemental fuel costs is somewhat offset by the increased capital cost of a RCO system.

Biofiltration

Biofiltration utilizes microorganisms to naturally biodegrade VOC exhaust streams to CO_2 and H_2O. The VOC-containing gas stream is passed through one or more beds of biomedia containing microorganisms selected to biodegrade the specific VOC compounds present in the waste gas stream. The VOCs are degraded to lower level compounds and eventually to CO_2 and H_2O as the exhaust stream passes through the biofilter beds. In turn, the microorganisms receive energy and nutrients from the biodegradation process. Accordingly, the biofilter must be designed to have an adequate exhaust gas residence time and be populated with microorganisms which can be acclimated to effectively biodegrade a specific VOC waste stream. Waste VOC exhaust gas streams typically require conditioning, principally for temperature, prior to being treated by a biofilter.

5.3.2.2 Technical Feasibility

The nature of lumber kiln operation presents a number of technical challenges with respect to add-on thermal oxidation control systems. Each kiln employs ten separate vents to supply fresh inlet air and to exhaust moisture-laden air. As previously described in Section 2.2, these vents periodically switch service (approximately every 2 hours) such that the fresh air intake vents become wet-air exhausts and vice versa. The lumber kilns are operated under carefully controlled temperature and humidity conditions to properly dry the green lumber. Any control system design would need to be able to function in conjunction with this complex intake/exhaust kiln ventilation system and, at the same time, not adversely affect proper operation of the kilns.

The lumber kiln drying cycle is also highly variable with respect to exhaust flow rates and exhaust stream VOC content. The quantity of exhaust gas generated at any time during the drying cycle will depend on the various kiln operating parameters including internal kiln temperature and desired moisture removal rates. Advanced instrumentation and automatic controls are employed to operate the kiln vents to achieve the required drying cycle. Accordingly, routine operation of the kilns will result in a variable exhaust stream,

both with respect to flow rates as well as VOC concentrations. Variations in exhaust gas temperatures and moisture contents will also occur. Varying flow rates and VOC concentration presents design challenges to RTO and RCO vendors; e.g., specifying the appropriate oxidizer combustion chamber volume to achieve the required temperature and residence time.

As noted previously, the VOCs present in the lumber kiln exhaust are primarily due to naturally occurring (i.e., biogenic) organic compounds, principally terpenes, that are contained in the SYP logs. Condensation of these viscous, resinous compounds in any downstream control system will, over time, result in accumulation of "sticky" deposits which will adversely affect control system operations; e.g., ductwork and oxidizer dampers and controls. For this reason, maintenance requirements would be expected to be significantly higher for a lumber kiln control system than for a control system without the potential for such condensation. Exhaust stream condensation and deposition of solids will particularly affect the operation of RCOs and biofilters because these control technologies are susceptible to plugging.

There are no known applications of biolfiltration to lumber kiln exhaust streams. There would, therefore, need to be a considerable amount of research and "up front" engineering necessary to properly design a biofiltration system to treat a lumber kiln exhaust stream. This effort would include fully characterizing the exhaust stream (i.e., range of flow rates, temperatures, VOC species and concentrations, etc.), identify potential microorganisms capable of biodegrading the specific VOCs present, and determining exhaust stream conditioning requirements (e.g., lowering the exhaust stream temperature). The volume of kiln exhaust requiring treatment, approximately 138,000 actual cubic feet per minute (acfm) for the three kilns, would require a relatively long biofilter contact period for effective biodegradation. This, in turn, would result in a large biofilter volume to obtain a suitable velocity and residence time in the biofilter media bed. As noted above, condensation of the kiln exhaust stream raises the issue of potential plugging of the bio-

filter media and resulting operational problems; i.e., excessive back-pressure would adversely affect proper kiln operation.

Due to these many technical problems, there are no lumber kilns operating with VOC thermal oxidation or biofiltration control systems. For two recent lumber kiln installations subject to PSD permitting review (one in North Carolina in mid 1997 and another in Texas in late 1998), the State regulatory agencies concluded in each case that "no controls" represents BACT for VOC for lumber kilns. Biofiltration is not considered to be a technically feasible control technology due to the many uncertainties regarding the design of such a system for a lumber kiln exhaust stream and the fact that it has not been demonstrated in practice for application to lumber kilns. Although unproven for lumber kilns, the RTO and RCO technologies were further evaluated for energy, environmental, and economic impacts.

5.3.3 ENERGY AND ENVIRONMENTAL IMPACTS

Application of RTO or RCO control technology will result in an energy penalty due to the use of supplemental fuel in the oxidizer combustion chamber. For RTO technology, the energy penalty is 18.0 MMBtu/hr; equivalent to the use of 150.2 million cubic feet (ft^3) of natural gas annually based on a natural gas heating value of 1,050 British thermal units per cubic foot (Btu/ft^3). For RCO technology, the energy penalty is 3.6 MMBtu/hr, equivalent to the use of 30.0 million ft^3 of natural gas annually based on a natural gas heating value of 1,050 Btu/ft^3. In addition, both control technologies will impose additional electricity demand due to the power needed to run the control system exhaust gas fans. For RTO technology, this electrical energy penalty is 5,479,380 kilowatt-hours per year (kW-hr/yr). The electrical energy penalty for RCO technology is 2,838,240 kW-hr/yr.

With respect to environmental impacts, the use of supplemental fuel in the RTO and RCO control systems will result in additional air emissions due to the combustion of natural gas. The following table summarizes the estimated additional emissions, based on EPA AP-42

emission factors for natural gas combustion, resulting from application of the RTO and RCO control technologies:

Pollutant	Annual Emissions (tpy)	
	RTO	RCO
NO_x	7.5	1.5
CO	6.3	1.3
VOC	0.4	0.1
PM	0.1	0.03

The additional electricity demands of the RTO and RCO control technologies will cause secondary air emissions; i.e., due to additional fuel combustion at the least-cost dispatch power plant (typically coal-fired).

5.3.4 ECONOMIC IMPACTS

An economic evaluation of RTO and RCO control technologies was performed using the OAQPS factors previously summarized in Table 5-1 and project-specific economic factors provided in Table 5-4. Specific capital and annual operating costs for RTO control technology are summarized in Tables 5-5 and 5-6. Specific capital and annual operating costs for RCO control technology are summarized in Tables 5-7 and 5-8.

The base case (i.e., uncontrolled rate for all three lumber kilns) annual VOC emission rate is 319.3 tpy. For both RTO and RCO technologies, the controlled annual VOC emission rate was based on a capture efficiency of 85 percent and a VOC destruction efficiency of 95 percent (for an overall VOC removal of 80.8 percent) resulting in a controlled annual VOC emission rate of 61.3 tpy. Base case and controlled VOC emission rates are summarized in Table 5-9.

The cost effectiveness of RTO and RCO control technologies for VOC emissions was determined to be $8,351 and $7,051 per ton of VOC removed, respectively. Based on these high control costs, use of RTO or RCO control technology to control VOC emissions is not

Table 5-4. Economic Cost Factors

Factor	Units	Value
Interest rate	%	8.0
Control system life	Years	10
RCO Catalyst life	Years	2
Electricity cost	$/kWh	0.045
Natural Gas Cost	$MMBtu	2.58
Labor costs (base rates)	$/hour	
Operator		10.55
Maintenance		13.12

Sources: Champion, 1999.
ECT, 1999.

Table 5-5. Capital Costs for RTO Control System (Three Oxidizers)

Item	Dollars	OAQPS Factor	Comments
Direct Costs			
Purchased Equipment			
RTO Control System	2,050,000		
Ductwork	501,000		
Total Control System	2,551,000	A	
Instrumentation	0	0.01 x A	Included in A
Sales Tax	123,000	0.06 x A	
Freight	25,050	0.05 x A	Ductwork Only
Total Purchased Equipment	**2,699,050**	B	
Installation			
Foundations & Supports	175,844	0.08 x B	Excluding Ductwork
Handling & Erection	307,727	0.14 x B	Excluding Ductwork
Electrical	87,922	0.04 x B	Excluding Ductwork
Piping	53,981	0.02 x B	
Insulation For Ductwork	26,991	0.01 x B	
Painting	0	0.01 x B	Included in A
Subtotal Installation Cost	**652,465**		
Subtotal Direct Costs	**3,351,515**	TDC	
Indirect Costs			
Engineering	539,810	0.10 x B	x 2, Custom Built
Construction & Field Expenses	134,953	0.05 x B	
Contractor Fees	269,905	0.10 x B	
Start-up	53,981	0.02 x B	
Performance Test	107,962	0.01 x B	x 4, Multiple Tests
Contingency	1,349,525	0.03 x B	50%, First Application on Kilns
Total Indirect Cost	**2,456,136**	TIC	
TOTAL CAPITAL INVESTMENT	**5,807,650**	TCI	

Sources: ECT, 1999.
Eisenmann Corp., 1999.

Table 5-6. Annual Operating Costs for RTO Control System (Three Oxidizers)

Item	Dollars	OAQPS Factor	Comments
Direct Costs			
Labor & Material Costs			
Operator	69,314	6.0 hr/shift (A)	Operator Labor @ $10.55/hr
Supervisor	10,397	0.15 x A	(3 Oxidizers, Complex System)
Maintenance			
Labor	86,198	6.0 hr/shift (B)	Operator Labor @ $13.12/hr
Material	86,198	1.0 x B	(3 Oxidizers, Complex System)
Subtotal Labor & Material Costs	**252,107**	C	
Utilities			
Natural Gas	406,814	18.0 MMBtu/hr	Natural Gas @ $2.58/MMBtu
Electricity	246,572	625.5 kW	Electricity @ $0.045/kWh
Subtotal Utilities	**653,387**		
Subtotal Direct Costs	**905,494**	TDC	
Indirect Costs			
Overhead	151,264	0.60 * C	
Administrative Charges	116,153	0.02 * TCI	
Property Taxes	58,077	0.01 * TCI	
Insurance	58,077	0.01 * TCI	
Capital Recovery	865,511		10 Years @ 8.0%
Subtotal Indirect Costs	**1,249,082**		
TOTAL ANNUAL COST	**2,154,575**		

Sources: Champion, 1999.
ECT, 1999.

Table 5-7. Capital Costs for RCO Control System (Three Oxidizers)

Item	Dollars	OAQPS Factor	Comments
Direct Costs			
Purchased Equipment			
RCO Control System	2,055,000		
Ductwork	501,000		
Total Control System	2,556,000	A	
Instrumentation	0	0.01 x A	Included in A
Sales Tax	123,300	0.06 x A	
Freight	0	0.05 x A	Included in A
Total Purchased Equipment	**2,679,300**	B	
Installation			
Foundations & Supports	174,264	0.08 x B	Excluding Ductwork
Handling & Erection	304,962	0.14 x B	Excluding Ductwork
Electrical	87,132	0.04 x B	Excluding Ductwork
Piping	53,586	0.02 x B	
Insulation For Ductwork	26,793	0.01 x B	
Painting	0	0.01 x B	Included in A
Subtotal Installation Cost	**646,737**		
Subtotal Direct Costs	**3,326,037**	TDC	
Indirect Costs			
Engineering	535,860	0.10 x B	x 2, Custom Built
Construction & Field Expenses	133,965	0.05 x B	
Contractor Fees	267,930	0.10 x B	
Start-up	53,586	0.02 x B	
Performance Test	107,172	0.01 x B	x 4, Multiple Tests
Contingency	1,339,650	0.03 x B	50%, First Application on Kilns
Total Indirect Cost	**2,438,163**	TIC	
TOTAL CAPITAL INVESTMENT	**5,764,200**	TCI	

Sources: ECT, 1999.
Geoenergy, 1999.

Table 5-8. Annual Operating Costs for RCO Control System (Three Oxidizers)

Item	Dollars	OAQPS Factor	Comments
Direct Costs			
Labor & Material Costs			
Operator	69,314	6.0 hr/shift (A)	Operator Labor @ $10.55/hr
Supervisor	10,397	0.15 x A	(3 Oxidizers, Complex System)
Maintenance			
Labor	86,198	6.0 hr/shift (B)	Operator Labor @ $13.12/hr
Material	86,198	1.0 x B	(3 Oxidizers, Complex System)
Subtotal Labor & Material Costs	**252,107**	C	
Catalyst Costs			
Replacement (materials + labor)	285,000		
Annualized Catalyst Cost	159,819		2 Years @ 8.0%
Subtotal Catalyst Costs	**159,819**		
Utilities			
Natural Gas	81,363	3.6 MMBtu/hr	Natural Gas @ $2.58/MMBtu
Electricity	130,086	330 kW	Electricity @ $0.045/kWh
Subtotal Utilities	**211,449**		
Subtotal Direct Costs	**623,375**	TDC	
Indirect Costs			
Overhead	151,264	0.60 * C	
Administrative Charges	115,284	0.02 * TCI	
Property Taxes	57,642	0.01 * TCI	
Insurance	57,642	0.01 * TCI	
Capital Recovery	814,014		10 Years @ 8.0%
Subtotal Indirect Costs	**1,195,846**		
TOTAL ANNUAL COST	**1,819,222**		

Sources: Champion, 1999.
ECT, 1999.

considered to be economically feasible. Results of the RTO and RCO economic analyses are summarized in Table 5-9.

5.3.5 PROPOSED BACT DESIGN/OPERATIONAL STANDARDS

Use of state-of-the-art burner design and good operating practices to minimize incomplete combustion are proposed as BACT for VOCs for the two package boilers. This is consistent with prior BACT determinations for gas-fired boilers. Recent RBLC NO_x BACT determinations for natural gas-fired boilers are provided in Table 5-10.

For the lumber kilns, BACT for VOCs is considered to be the proper installation, operation, and maintenance of the kilns. As noted previously, there are no known installations of VOC controls on existing lumber kilns. Recent (mid 1997 and late 1998) regulatory agency BACT determinations for new lumber kilns located in Texas and North Carolina concluded that "no controls" represents BACT for VOCs. The unique and complex manner in which lumber kilns are operated (e.g., use of a series of vents which periodically switch mode from inlet to outlet service, wide variation in exhaust flow rates and VOC concentrations, and potential for condensation of viscous substances and concomitant fouling and plugging of control system components) presents daunting technical challenges for RTO and RCO control technologies. Table 5-11 summarizes the VOC BACT design/operational standards proposed for the McDavid Sawmill.

Table 5-9. Summary of VOC BACT Analysis

Control Option	Emission Impacts			Economic Impacts			Energy Impacts	Environmental Impacts	
	Emission Rates[1]		Emission Reduction	Installed Capital Cost	Total Annualized Cost	Cost Effectiveness Over Baseline	Increase Over Baseline	Toxic Impact	Adverse Envir. Impact
	(lb/hr)	(tpy)	(tpy)	($)	($/yr)	($/ton)	(MMBtu/yr) [kWh/yr]	(Y/N)	(Y/N)
RTO	14.0	61.3	258.0	5,807,650	2,154,575	8,351	157,680 5,479,380	N	N
RCO	14.0	61.3	258.0	5,764,200	1,819,222	7,051	31,536 2,890,800	N	N
Baseline	72.9	319.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A

[1] RTO and RCO emission rates based on 85% capture efficiency and 95% VOC destruction efficiency.

Source: ECT, 1999.

Table 5-10. RBLC VOC Summary - Natural Gas-Fired Boilers

RBLCID	Facility Name	City	Permit Dates		Process Description	Throughput Rates	Emission Limits	Control D
			Issue	Last Update				
AL-0125	ALABAMA POWER PLANT BARRY	BUCKS	8/7/98	4/15/99	BOILERS, NATURAL GAS COMBUSTION	510 MW(TOTAL)	0.015 LB/MMBTU	EFFICIENT COMBUSTI
AR-0017	STAFFORD RAILSTEEL CORPORATION	WEST MEMPHIS	8/17/93	3/24/95	BOILER, VTD	46.5 MMBTU/H	0.8 TPY	FUEL SPEC: USE OF N
GA-0063	MID-GEORGIA COGEN.	KATHLEEN	4/3/96	8/19/96	BOILER, NATURAL GAS	60 MMBTU/HR	0.005 LB/MMBTU	COMPLETE COMBUST
IN-0068	WAUPACA FOUNDRY - PLANT 5	TELL CITY	1/19/96	5/31/96	BOILERS, NATURAL GAS	93.9 MMBTU/HR	0.55 LBS/HR	
KY-0052	TOYOTA MOTOR MANUFACTURING U.S.A. INC.	GEORGETOWN	7/17/86	12/22/92	COMBUSTION, NATURAL GAS		0.0026 LB/MMBTU	
LA-0085	TRANSAMERICAN REFINING CORPORATION (TARC)	NEW SARPY	1/15/93	3/24/95	BOILER	1.2 MMBTU/HR	0.01 LB/HR	GOOD COMBUSTION
LA-0090	TRANSAMERICAN REFINING CORPORATION	NORCO	2/10/95	4/17/95	BOILER, NATURAL GAS/RFG FIRED	244 MM BTU/HR	0.34 LB/HR	COMBUSTION CONTR
MI-0202	JAMES RIVER CORP	KALAMAZOO	9/17/91	10/30/91	BOILER	226.7 MMBTU/H NAT GAS	0.025 LB/MMBTU	
MS-0029	WEYERHAEUSER COMPANY	COLUMBUS	9/10/96	12/30/96	BOILER, NATURAL GAS	400 MMBTU/HR	0.0013 LB/MMBTU	EFFICIENT OPERATIO
NJ-0013	LAKEWOOD COGENERATION, L.P.	LAKEWOOD TOWNSHIP	4/1/91	5/29/95	BOILER (NATURAL GAS)	131 MMBTU/HR	0.0017 LB/MMBTU	BOILER DESIGN
NJ-0017	NEWARK BAY COGENERATION PARTNERSHIP, L.P.	NEWARK	6/9/93	5/29/95	BOILER, AUXILIARY, NATURAL GAS-FIRED	200 MMBTU/HR	0.005 LB/MMBTU	BOILER DESIGN
NY-0046	SARANAC ENERGY COMPANY	PLATTSBURGH	7/31/92	9/13/94	BOILER, AUXILIARY (GAS OR LPG)	249 MMBTU/HR	0.0045 LB/MMBTU	COMBUSTION CONTR
NY-0072	KAMINE/BESICORP SYRACUSE LP	SOLVAY	12/10/94	4/27/95	(3) UTILITY BOILER (EP #S 00002-4)	33 MMBTU/HR	0.003 LB/MMBTU, 0.11 LB/HR	NO CONTROLS
NY-0072	KAMINE/BESICORP SYRACUSE LP	SOLVAY	12/10/94	4/27/95	HEAT & STEAM BOILER (EP #00006)	2.5 MMBTU/HR	0.004 LB/MMBTU, 0.01 LB/HR	NO CONTROLS
WA-0279	BOISE CASCADE CORPORATION - YAKIMA COMPLEX	YAKIMA	11/16/96	8/22/97	NATURAL GAS FIRED BOILERS	800 HP	50.7 LBS/DAY	FUEL SPEC: NATURAL
WV-0011	CNG TRANSMISSION CORPORATION		5/3/93	3/2/94	BOILER, WATER	10 MMBTU/HR	2.8 LB/MIL. CU. FT	
WY-0043	SF PHOSPHATE LIMITED COMPANY	4.5 MILES E-SE OF ROCK SPRINGS	7/2/93	4/15/99	BOILER, NATURAL GAS FIRED	350 MMBTU/H	0.45 LB/H	

Source: RBLC, 1999.

Table 5-10. RBLC VOC Summary for Natural Gas Fired CTGs

RBLC ID	Facility Name	City	Permit Dates		Process Description	Thruput Rate	Emission Limit	Control System Description	E
			Issuance	Update					
CA-0768	NORTHERN CALIFORNIA POWER AGENCY	LODI	10/2/97	3/16/98	GE FRAME 5 GAS TURBINE	325 MMBTU/HR	8 LB/HR	NATURAL GAS AS PRIMARY FUEL	
CO-0017	THERMO INDUSTRIES, LTD.	FT. LUPTON	2/19/92	3/24/95	TURBINE, GAS FIRED, 5 EACH	246 MMBTU/H	16.7 LB/H		
CO-0018	BRUSH COGENERATION PARTNERSHIP	BRUSH		7/20/94	TURBINE	350 MMBTU/H	26.7 T/YR		
CO-0019	COLORADO POWER PARTNERSHIP	BRUSH		7/20/94	TURBINES, 2 NAT GAS & 2 DUCT BURNERS	385 MMBTU/H EACH TURBINE	35.2 T/YR		
FL-0052	FLORIDA POWER AND LIGHT	NORTH PALM BEACH	6/5/91	3/24/95	TURBINE, GAS, 4 EACH	400 MW	1.6 PPM @ 15% O2	COMBUSTION CONTROL	
FL-0053	FLORIDA POWER AND LIGHT	LAVOGROME REPOWE	3/14/91	3/24/95	TURBINE, GAS, 4 EACH	240 MW	1 PPM @ 15% O2	COMBUSTION CONTROL	
FL-0056	ORLANDO UTILITIES COMMISSION	TITUSVILLE	11/5/91	5/14/93	TURBINE, GAS, 4 EACH	35 MW	7 PPM @ 15% O2	COMBUSTION CONTROL	
FL-0068	ORANGE COGENERATION LP	BARTOW	12/30/93	1/13/95	TURBINE, NATURAL GAS, 2	368 3 MMBTU/H	10 PPMVD	GOOD COMBUSTION	
FL-0080	AUBURNDALE POWER PARTNERS, LP	AUBURNDALE	12/14/92	1/13/95	TURBINE,GAS	1214 MMBTU/H	5 LB/H	GOOD COMBUSTION PRACTICES	
FL-0082	FLORIDA POWER CORPORATION POLK COUNTY SITE	BARTOW	2/25/94	1/13/95	TURBINE, NATURAL GAS (2)	1510 MMBTU/H	7 PPMVW	GOOD COMBUSTION PRACTICES	
GA-0062	SAVANNAH ELECTRIC AND POWER CO.		2/12/92	3/24/95	TURBINES, 8	1032 MMBTU/H, NAT GAS	0 003 LB/MMBTU	FUEL SPEC ;LOW SULFUR FUEL OIL	
GA-0063	MID-GEORGIA COGEN.	KATHLEEN	4/3/96	8/19/96	COMBUSTION TURBINE (2), NATURAL GAS	116 MW	6 PPMVD	COMPLETE COMBUSTION	
LA-0086	INTERNATIONAL PAPER	MANSFIELD	2/24/94	4/17/95	TURBINE/HRSG, GAS COGEN	338 MM BTU/HR TURBINE	3.6 LB/HR COMBINED	COMBUSTION CONTROLS, FUEL SELECTION	
NC-0055	DUKE POWER CO. LINCOLN COMBUSTION TURBINE STATION	LOWESVILLE	12/20/91	3/24/95	TURBINE COMBUSTION	1313 MM BTU/HR	2 LB/HR	COMBUSTION CONTROL	
NJ-0013	LAKEWOOD COGENERATION, L.P.	LAKEWOOD TOWNSHI	4/1/91	5/29/95	TURBINES (NATURAL GAS) (2)	1190 MMBTU/HR (EACH)	0 0046 LB/MMBTU	TURBINE DESIGN	
NJ-0017	NEWARK BAY COGENERATION PARTNERSHIP, L.P	NEWARK	6/9/93	5/29/95	TURBINES, COMBUSTION, NATURAL GAS-FIRED (2)	617 MMBTU/HR (EACH)	4 PPMDV	TURBINE DESIGN	
NM-0021	WILLIAMS FIELD SERVICES CO - EL CEDRO COMPRESSOR	BLANCO	10/29/93	3/2/94	TURBINE, GAS-FIRED	11257 HP	25 PPM @ 15% O2	COMBUSTION CONTROL	
NM-0028	SOUTHWESTERN PUBLIC SERVICE CO/CUNNINGHAM STATION	HOBBS	11/4/96	12/30/96	COMBUSTION TURBINE, NATURAL GAS	100 MW	SEE P2	GOOD COMBUSTION PRACTICES	
NM-0029	SOUTHWESTERN PUBLIC SERVICE COMPANY/CUNNINGHAM STA	HOBBS	2/15/97	3/31/97	COMBUSTION TURBINE, NATURAL GAS	100 MW			
NY-0046	SARANAC ENERGY COMPANY	PLATTSBURGH	33816	9/13/94	TURBINES, COMBUSTION (2) (NATURAL GAS)	1123 MMBTU/HR (EACH)	0 0045 LB/MMBTU	OXIDATION CATALYST	
OH-0218	CNG TRANSMISSION	WASHINGTON COURT	8/12/92	4/5/95	TURBINE (NATURAL GAS) (3)	5500 HP (EACH)	0 1 G/HP HR	FUEL SPEC: USE OF NATURAL GAS	
PA-0083	NORTHERN CONSOLIDATED POWER	NORTH EAST	5/3/91	7/20/94	TURBINES, GAS, 2	34 6 KW EACH	105 PPM @ 15% O2	OXIDATION CATALYST	
PA-0099	FLEETWOOD COGENERATION ASSOCIATES	FLEETWOOD	4/22/94	11/22/94	NG TURBINE (GE LM6000) WITH WASTE HEAT BOILER	360 MMBTU/HR	4.4 LB/HR	GOOD COMBUSTION PRACTICES	
PA-0148	BLUE MOUNTAIN POWER, LP	RICHLAND	7/31/96	9/23/96	COMBUSTION TURBINE WITH HEAT RECOVERY BOILER	153 MW	4 PPM @ 15% O2	OXIDATION CATALYST WHEN FIRING NO 2 OIL EMISSION LI	
PA-0149	BUCKNELL UNIVERSITY	LEWISBURG	11/26/97	11/30/97	NG FIRED TURBINE, SOLAR TAURUS T-7300S	5 MW	25 PPMV@15%O2	GOOD COMBUSTION	
RI-0010	NARRAGANSETT ELECTRIC/NEW ENGLAND POWER CO.	PROVIDENCE	4/13/92	5/31/92	TURBINE, GAS AND DUCT BURNER	1360 MMBTU/H EACH	5 PPM @ 15% O2		
RI-0012	ALGONQUIN GAS TRANSMISSION CO.	BURRILLVILLE	7/31/91	5/31/92	TURBINE, GAS, 2	49 MMBTU/H	0 016 LB/MMBTU	GOOD COMBUSTION PRACTICES	
SC-0029	SC ELECTRIC AND GAS COMPANY - HAGOOD STATION	CHARLESTON	12/11/89	3/24/95	INTERNAL COMBUSTION TURBINE	110 MEGAWATTS	10 LBS/HR	GOOD COMBUSTION PRACTICES	
SC-0031	BMW MANUFACTURING CORPORATION	GREER	1/7/94	8/12/96	TURBINE, NAT.GAS FIRED (3 -1 SPARE) AND 2 BOILERS	54.5 MM BTU/HR TURBINES	77.86 LBS/DAY	EACH OF THE 2 BOILER-TURBINE USE A COMMON STACK	
TX-0231	WEST CAMPUS COGENERATION COMPANY	COLLEGE STATION	5/2/94	10/31/94	GAS TURBINES	75 3 MW (TOTAL POWER)	38 TPY	INTERNAL COMBUSTION CONTROLS	
PR-0004	ECOELECTRICA, L.P.	PENUELAS	10/1/96	5/6/98	TURBINES, COMBINED-CYCLE COGENERATION	461 MW	5 PPMDV	COMBUSTION CONTROLS.	
PR-0004	ECOELECTRICA, L.P.	PENUELAS	10/1/96	5/6/98	TURBINES, COMBINED-CYCLE COGENERATION	461 MW	8 PPMDV	COMBUSTION CONTROL.	

Source: RBLC 1999

Table 5-10. RBLC VOC Summary - Natural Gas-Fired Boilers

RBLCID	Facility Name	ts	Control Description	BASIS
AL-0125	ALABAMA POWER PLANT BARRY		EFFICIENT COMBUSTION	BACT-PSD
AR-0017	STAFFORD RAILSTEEL CORPORATION		FUEL SPEC: USE OF NATURAL GAS	OTHER
GA-0063	MID-GEORGIA COGEN.		COMPLETE COMBUSTION	BACT-PSD
IN-0068	WAUPACA FOUNDRY - PLANT 5			BACT-PSD
KY-0052	TOYOTA MOTOR MANUFACTURING U.S.A. INC.			BACT-PSD
LA-0085	TRANSAMERICAN REFINING CORPORATION (TARC)		GOOD COMBUSTION PRACTICES	LAER
LA-0090	TRANSAMERICAN REFINING CORPORATION		COMBUSTION CONTROL	BACT-PSD
MI-0202	JAMES RIVER CORP			BACT-PSD
MS-0029	WEYERHAEUSER COMPANY		EFFICIENT OPERATION	BACT-PSD
NJ-0013	LAKEWOOD COGENERATION, L.P.		BOILER DESIGN	OTHER
NJ-0017	NEWARK BAY COGENERATION PARTNERSHIP, L.P.		BOILER DESIGN	OTHER
NY-0046	SARANAC ENERGY COMPANY		COMBUSTION CONTROLS	BACT-OTHER
NY-0072	KAMINE/BESICORP SYRACUSE LP	11 LB/HR	NO CONTROLS	BACT-OTHER
NY-0072	KAMINE/BESICORP SYRACUSE LP	01 LB/HR	NO CONTROLS	BACT-OTHER
WA-0279	BOISE CASCADE CORPORATION - YAKIMA COMPLEX		FUEL SPEC: NATURAL GAS	BACT-PSD
WV-0011	CNG TRANSMISSION CORPORATION			BACT-OTHER
WY-0043	SF PHOSPHATE LIMITED COMPANY			BACT-PSD

Source: RBLC, 1999.

Table 5-10. RBLC VOC Summary for Natural Gas Fired CTGs

RBLC ID	Facility Name	Control System Description	Control Efficiency	Basis
CA-0768	NORTHERN CALIFORNIA POWER AGENCY	AS PRIMARY FUEL		LAER
CO-0017	THERMO INDUSTRIES, LTD.			OTHER
CO-0018	BRUSH COGENERATION PARTNERSHIP			OTHER
CO-0019	COLORADO POWER PARTNERSHIP			OTHER
FL-0052	FLORIDA POWER AND LIGHT	CONTROL		BACT-PSD
FL-0053	FLORIDA POWER AND LIGHT	CONTROL		BACT-PSD
FL-0056	ORLANDO UTILITIES COMMISSION	CONTROL		BACT-PSD
FL-0068	ORANGE COGENERATION LP	STION		BACT-PSD
FL-0080	AUBURNDALE POWER PARTNERS, LP	STION PRACTICES		BACT-PSD
FL-0082	FLORIDA POWER CORPORATION POLK COUNTY SITE	STION PRACTICES		BACT-PSD
GA-0052	SAVANNAH ELECTRIC AND POWER CO.	OW SULFUR FUEL OIL		BACT-PSD
GA-0063	MID-GEORGIA COGEN.	MBUSTION		BACT-PSD
LA-0086	INTERNATIONAL PAPER	CONTROLS, FUEL SELECTION		BACT
NC-0055	DUKE POWER CO. LINCOLN COMBUSTION TURBINE STATION	CONTROL		BACT-PSD
NJ-0013	LAKEWOOD COGENERATION, L.P.	GN		OTHER
NJ-0017	NEWARK BAY COGENERATION PARTNERSHIP, L.P.	GN		BACT-PSD
NM-0021	WILLIAMS FIELD SERVICES CO. - EL CEDRO COMPRESSOR	CONTROL		BACT-PSD
NM-0028	SOUTHWESTERN PUBLIC SERVICE CO/CUNNINGHAM STATION	STION PRACTICES		BACT-PSD
NM-0029	SOUTHWESTERN PUBLIC SERVICE COMPANY/CUNNINGHAM STA			BACT-PSD
NY-0046	SARANAC ENERGY COMPANY	ATALYST		BACT-OTHER
OH-0218	CNG TRANSMISSION	SE OF NATURAL GAS		OTHER
PA-0083	NORTHERN CONSOLIDATED POWER	ATALYST	50	OTHER
PA-0099	FLEETWOOD COGENERATION ASSOCIATES	STION PRACTICES		BACT-OTHER
PA-0148	BLUE MOUNTAIN POWER, LP	ATALYST WHEN FIRING NO. 2 OIL EMISSION LI	12	LAER
PA-0149	BUCKNELL UNIVERSITY	STION		BACT-OTHER
RI-0010	NARRAGANSETT ELECTRIC/NEW ENGLAND POWER CO.			BACT-PSD
RI-0012	ALGONQUIN GAS TRANSMISSION CO.	STION PRACTICES		BACT-OTHER
SC-0029	SC ELECTRIC AND GAS COMPANY - HAGOOD STATION	STION PRACTICES		BACT-PSD
SC-0031	BMW MANUFACTURING CORPORATION	2 BOILER-TURBINE USE A COMMON STACK		LAER
TX-0231	WEST CAMPUS COGENERATION COMPANY	MBUSTION CONTROLS		BACT
PR-0004	ECOELECTRICA, L.P.	CONTROLS.		BACT-PSD
PR-0004	ECOELECTRICA, L.P.	CONTROL.		BACT-PSD

Source: RBLC 1999.

Table 5-11. Proposed VOC BACT Design/Operational Standards

Emission Source	Proposed VOC BACT Design/Operational Standards
Package Boilers	Proper operation and efficient combustion
Lumber Kilns	Proper installation, operation, and maintenance

Sources: Champion, 1999.
ECT, 1999.

6.0 AMBIENT IMPACT ANALYSIS

Based on an evaluation of anticipated worst-case annual operating scenarios, the McDavid Sawmill will have the potential to emit 39 tpy NO_x, 70 tpy of CO, 14.5 tpy of PM/PM_{10}, 0.3 tpy of SO_2, and 326 tpy of VOCs, excluding fugitive emissions. A comparison of estimated potential annual emission rates for the McDavid Sawmill and the PSD significant emission rate thresholds was previously provided in Table 3-2. As shown in that table, potential emissions of VOC are projected to exceed the applicable PSD significant emission rate level. This pollutant is, therefore, subject to the PSD NSR air quality impact analysis requirements of Rule 62-212.400 (5) (d), F.A.C.

Because VOCs contribute to the formation of ground-level ozone and because ozone modeling is conducted on a regional scale, modeling of VOC emissions resulting from operation of the McDavid Sawmill is not required. The biogenic VOC emissions projected for the McDavid Sawmill are small relative to area VOC emissions and will not affect the ozone attainment status for the area.

7.0 AMBIENT AIR QUALITY MONITORING AND ANALYSIS

7.1 EXISTING AMBIENT AIR QUALITY MONITORING DATA

The nearest FDEP ambient air monitoring station is located in Cantonment, Escambia County, approximately 22 km south of the McDavid Sawmill site. The FDEP monitoring station at Cantonment monitors PM_{10}. The nearest FDEP stations that monitor ozone, SO_2 and NO_x are located in Pensacola, Escambia County, approximately 30 km south of the McDavid Sawmill site. The nearest FDEP stations monitoring for CO and lead are situated in Jacksonville, Duval County, approximately 560 km east of the McDavid Sawmill site. A summary of 1997 and 1998 ambient air quality data for these FDEP monitoring stations is provided in Tables 7-1 and 7-2.

7.2 PRECONSTRUCTION AMBIENT AIR QUALITY MONITORING EXEMPTION APPLICABILITY

As previously discussed in Section 4.2, PSD review may require continuous ambient air monitoring data to be collected in the area of the proposed source for pollutants emitted in significant amounts. Because VOCs will be emitted from the McDavid Sawmill in excess of its significant emission rate, preconstruction monitoring is required. FDEP Rule 62-212.400(2)(e), F.A.C. provides for an exemption from the preconstruction monitoring requirement for sources with *de minimis* air quality impacts. The *de minimis* ambient impact levels were previously presented in Table 4-1.

In accordance with EPA guidance (EPA, 1992), representative, current (1997 and 1998) quality-assured ambient ozone data collected at the FDEP's ozone monitoring sites located in Pensacola, Escambia County were used to satisfy the PSD pre-construction ambient air monitoring requirements for VOCs. Ambient ozone levels at the McDavid Sawmill site in rural Escambia County would be expected to be lower than the concentrations measured in metropolitan Pensacola. A summary of the FDEP monitored ozone ambient air quality data is provided on Tables 7-1 and 7-2.

Table 7-1. Summary of 1997 FDEP Ambient Air Quality Data

Pollutant	Site Location		Site No.	Averaging Period	Sampling Period	No. of Observations	Ambient Concentration (ug/m^3)				
	County	City					1st High	2nd High	99th Percentile	Arithmetic Mean	Standard
PM_{10}	Escambia	Cantonment	0468-003-F02	24-Hr	Jan-Dec	55	53	52	53		150[1]
				Annual						24	50[2]
	Escambia	Pensacola	3540-004-F01	24-Hr	Jan-Dec	56	57	56	57		150[1]
				Annual						24	50[2]
	Escambia	Pensacola	3540-004-F09	24-Hr	Jan-Dec	57	56	55	56		150[1]
				Annual						23	50[2]
SO_2	Escambia	Pensacola	3540-004-F01	1-Hr	Jan-Dec	8,715	291	254			
				3-Hr			233	191			1,300[3]
				24-Hr			98	76			260[3]
				Annual						11	60[2]
	Escambia	Pensacola	3540-022-F02	1-Hr	Jan-Dec	8,657	432	403			
				3-Hr			333	322			1,300[3]
				24-Hr			114	86			260[3]
				Annual						12	60[2]
NO_2	Escambia	Pensacola	3540-004-F01	1-Hr	Jan-Sep	6,161	105	98			
				Annual						16	100[2]
CO	Duval	Jacksonville	1960-080-H01	1-Hr	Jan-Dec	8,519	3,420	3,420			40,000[3]
				8-Hr			2,280	2,280			10,000[3]
CO	Duval	Jacksonville	1960-083-H01	1-Hr	Jan-Dec	8,544	7,980	5,700			40,000[3]
				8-Hr			3,420	3,420			10,000[3]
CO	Duval	Jacksonville	1960-084-H01	1-Hr	Jan-Dec	8,576	6,840	6,840			40,000[3]
				8-Hr			4,560	3,420			10,000[3]
CO	Duval	Jacksonville	1960-095-H01	1-Hr	Jan-Dec	8,074	7,980	5,700			40,000[3]
				8-Hr			3,420	3,420			10,000[3]
O_3	Escambia	Pensacola	3540-004-F01	1-Hr	Jan-Dec	8,711	217	214			235[4]
	Escambia	Pensacola	3540-018-F01	1-Hr	Jan-Dec	8,705	221	216			235[4]
	Escambia	Pensacola	3540-024-F01	1-Hr	Sep-Dec	2,912	202	200			235[4]
Lead	Duval	Jacksonville	1960-032-H01	24-Hr							
					Jan-Mar	15				0.0	1.5[2]
					Apr-Jun	15				0.0	
					Jul-Sep	15				0.0	
					Oct-Dec	13				0.0	
Lead	Duval	Jacksonville	1960-084-H01	24-Hr							
					Jan-Mar	15				0.0	1.5[2]
					Apr-Jun	15				0.0	
					Jul-Sep	14				0.0	
					Oct-Dec	14				0.0	

[1] 99th percentile

[2] Arithmetic mean

[3] 2nd high

[4] 4th highest day with hourly value exceeding standard over a 3-year period

Source: FDEP, 1998 and 1999.
ECT, 1999.

Table 7-2. Summary of 1998 FDEP Ambient Air Quality Data

Pollutant	Site Location		Site No.	Averaging Period	Sampling Period	No. of Observations	Ambient Concentration (ug/m^3)				
	County	City					1st High	2nd High	99th Percentile	Arithmetic Mean	Standard
PM_{10}	Escambia	Pensacola	12-033-0003	24-Hr	Jan-Dec	59	62	60	62		150[1]
				Annual						23	50[2]
	Escambia	Pensacola	12-033-0004	24-Hr	Jan-Dec	56	67	62	67		150[1]
				Annual						24	50[2]
SO_2	Escambia	Pensacola	12-033-0004	1-Hr	Jan-Dec	8,707	334	310			
				3-Hr			253	214			1,300[3]
				24-Hr			60	57			260[3]
				Annual						10	60[2]
	Escambia	Pensacola	12-033-0022	1-Hr	Jan-Dec	8,595	477	360			
				3-Hr			264	211			1,300[3]
				24-Hr			63	63			260[3]
				Annual						10	60[2]
NO_2	Duval	Jacksonville	12-031-0032	1-Hr	Jan-Dec	8,204	124	124			
				Annual						28	100[2]
CO	Duval	Jacksonville	12-031-0080	1-Hr	Jan-Dec	8,311	9,576	7,296			40,000[3]
				8-Hr			5,130	3,306			10,000[3]
CO	Duval	Jacksonville	12-031-0083	1-Hr	Jan-Dec	8,013	5,586	5,472			40,000[3]
				8-Hr			3,534	3,306			10,000[3]
CO	Duval	Jacksonville	12-031-0084	1-Hr	Jan-Dec	8,417	6,954	6,270			40,000[3]
				8-Hr			3,762	3,762			10,000[3]
CO	Duval	Jacksonville	12-031-0095	1-Hr	Jan-Dec	2,111	5,016	4,218			40,000[3]
				8-Hr			2,280	2166			10,000[3]
O_3	Escambia	Pensacola	12-033-0004	1-Hr	Jan-Dec	364	249	223			235[4]
	Escambia	Pensacola	12-033-0018	1-Hr	Jan-Dec	361	257	251			235[4]
Lead	Duval	Jacksonville	12-031-0032	24-Hr		50					
					Jan-Mar					0.01	1.5[2]
					Apr-Jun					0.02	
					Jul-Sep					0.01	
					Oct-Dec					0.02	
Lead	Duval	Jacksonville	12-031-0084	24-Hr		62					
					Jan-Mar					0.01	1.5[2]
					Apr-Jun					0.01	
					Jul-Sep					0.01	
					Oct-Dec					0.02	

[1] 99th percentile

[2] Arithmetic mean

[3] 2nd high

[4] 4th highest day with hourly value exceeding standard over a 3-year period

Source: FDEP, 1998 and 1999.
ECT, 1999.

8.0 ADDITIONAL IMPACT ANALYSES

The additional impacts analysis, required for projects subject to PSD review, evaluates project impacts pertaining to: (a) associated growth, (b) soils, vegetation, and wildlife, and (c) visibility impairment. Each of these topics is discussed in the following sections.

8.1 GROWTH IMPACT ANALYSIS

The purpose of the growth impact analysis is to quantify growth resulting from the construction and operation of the proposed project and to assess air quality impacts that would result from that growth.

Impacts associated with construction of the McDavid Sawmill will be minor and temporary. While not readily quantifiable, the temporary increase in vehicle miles traveled in the area would be insignificant, as would any temporary increase in vehicular emissions.

The McDavid Sawmill is being constructed to meet general national/regional demands for lumber and, therefore, no significant secondary growth effects due to operation of the facility are anticipated. When operational, the McDavid Sawmill is projected to generate approximately 125 new jobs; this number of new personnel will not significantly affect growth in the area. The increase in natural gas fuel demand due to operation of the two, small package boilers will have no major impact on local fuel markets. No significant air quality impacts due to associated industrial/commercial growth are expected.

8.2 IMPACTS ON SOILS, VEGETATION, AND WILDLIFE

8.2.1 IMPACTS ON SOILS

The primary air pollutants of concern with respect to soil impacts are SO_2 and NO_x. Deposition of SO_2 and NO_x and adsorption by soils has the potential to lower soil pH. Low soil pH will have an influence on most chemical and biological reactions in the soil including the level and availability of most plant nutrients in the soil.

Projected maximum annual emissions of PM/PM_{10}, SO_2, and NO_x due to McDavid Sawmill operations are all less than the PSD significant emission rate thresholds. Potential

emissions of SO_2 and NO_x due to operation of the McDavid Sawmill are less than 1 and 39 tpy, respectively. It is unlikely that these low levels of SO_2 and NO_x emissions will have any measurable affect on the pH of rainfall in the area. Emissions of VOCs are not anticipated to result in any adverse effects on soils. No significant adverse effects on soils due to deposition of PM/PM_{10} generated by the McDavid Sawmill are expected due the relatively low rate of PM/PM_{10} emissions. Based on the low level of facility emissions, no significant adverse impacts to soils are expected due to McDavid Sawmill operations.

8.2.2 IMPACTS ON VEGETATION

Vegetation in the vicinity of the proposed McDavid Sawmill consists primarily of pine plantation and cypress swamp. Dose response curves have been developed for various plant species and their sensitivity to specific air pollutants. Vegetation damages are described as impacts which result in foliar damage. Less apparent vegetation damage is described as a reduction in growth and/or productivity without visible damage as well as changes in secondary metabolites such as tannin and phenolic compounds. Vegetation damage often results from acute exposure to pollution (i.e., relatively high doses over relatively short time periods). Injury is also associated with prolonged exposures of vegetation to relatively low doses (chronic exposure). Acute damages are usually manifested by internal damage to foliar tissues which have both functional and visible consequences. Chronic injuries are typically more associated with changes in physiological processes.

As noted previously, projected maximum annual emissions of PM/PM_{10}, SO_2, and NO_x due to McDavid Sawmill operations are all less than the PSD significant emission rate thresholds. Accordingly, maximum ambient air concentrations of these pollutants will be well below the levels that cause damage to vegetation. VOC emissions from the McDavid Sawmill processes consist primarily of naturally occurring organics contained in the SYP logs. These VOC emissions will be a small fraction of the similar biogenic VOC compounds presently generated by the surrounding pine plantations. Accordingly, no adverse impacts on vegetation are expected due to McDavid Sawmill operations.

8.2.3 IMPACTS ON WILDLIFE

Air pollution impacts to wildlife have been reported in the literature although many of the incidents involved acute exposures to pollutants usually caused by unusual or highly concentrated releases or unique weather conditions. Generally, there are three ways pollutants may affect wildlife: through inhalation, through exposure with skin, and through ingestion. Ingestion is the most common means and can occur through eating or drinking of high concentrations of pollutants. Bioaccumulation is the process of animals collecting and accumulating pollutant levels in their bodies over time. Other animal that prey on these animals would then be ingesting concentrated pollutant levels.

Based on a review of the limited literature on air pollutant effects on wildlife, the levels of pollutants generated by the proposed McDavid Sawmill will not cause injury or death to wildlife. Concentrations of pollutants in the ambient air will be low, emissions dispersed over a large area, and the mobility of wildlife will minimize their exposure to any unusual concentrations caused by unique weather patterns.

In conclusion, it is unlikely that the projected air emissions from the proposed McDavid Sawmill will have any measurable direct or indirect effects on wildlife using the site or vicinity.

8.3 VISIBILITY IMPAIRMENT POTENTIAL

No visibility impairment at the local level is expected due to the types and quantities of emissions projected for the McDavid Sawmill. Stack opacities from the two, package boilers, lumber kilns, and planermill cyclone/baghouse are all expected to be 10 percent or less, excluding water. Emissions of primary sulfur oxides from the two, package boilers will be low due to the exclusive use of pipeline quality natural gas. The McDavid Sawmill will comply with all applicable FDEP requirements pertaining to visible emissions.

ATTACHMENT A—

APPLICATION FOR AIR PERMIT – TITLE V SOURCE

Department of Environmental Protection

Division of Air Resources Management

APPLICATION FOR AIR PERMIT - TITLE V SOURCE

See Instructions for Form No. 62-210.900(1)

I. APPLICATION INFORMATION

Identification of Facility

1. Facility Owner/Company Name: **Champion International Corporation**	
2. Site Name: **McDavid Sawmill**	
3. Facility Identification Number:	[✔] Unknown
4. Facility Location: Street Address or Other Locator: **U.S. Highway 29** City: **Pine Barren** County: **Escambia** Zip Code: **32568**	
5. Relocatable Facility? [ ] Yes [✔] No	6. Existing Permitted Facility? [ ] Yes [✔] No

Application Contact

1. Name and Title of Application Contact: **Terry Kassabaum** **Environmental, Health and Safety Manager** **Wood Products Manufacturing**
2. Application Contact Mailing Address: Organization/Firm: **Champion International Corporation** Street Address: **Highway 59 North** City: **Corrigan** State: **TX** Zip Code: **75939**
3. Application Contact Telephone Numbers: Telephone: **(409) 398 – 2511** Fax: **(409) 398 – 7226**

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	June 15, 1999
2. Permit Number:	0330260-001-AC
3. PSD Number (if applicable):	PSD-FL-~~000~~ 271
4. Siting Number (if applicable):	

Purpose of Application

Air Operation Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

[ ] Initial Title V air operation permit for an existing facility which is classified as a Title V source.

[ ] Initial Title V air operation permit for a facility which, upon start up of one or more newly constructed or modified emissions units addressed in this application, would become classified as a Title V source.

Current construction permit number:_____

[ ] Title V air operation permit revision to address one or more newly constructed or modified emissions units addressed in this application.

Current construction permit number:_____

Operation permit number to be revised:_____

[ ] Title V air operation permit revision or administrative correction to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application. (Also check Air Construction Permit Application below.)

Operation permit number to be revised/corrected:_____

[ ] Title V air operation permit revision for reasons other than construction or modification of an emissions unit. Give reason for the revision; e.g., to comply with a new applicable requirement or to request approval of an "Early Reductions" proposal.

Operation permit number to be revised:_____

Reason for revision:_____

Air Construction Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

[✔] Air construction permit to construct or modify one or more emissions units.

[ ] Air construction permit to make federally enforceable an assumed restriction on the potential emissions of one or more existing, permitted emissions units.

[ ] Air construction permit for one or more existing, but unpermitted, emissions units.

Owner/Authorized Representative or Responsible Official

1. Name and Title of Owner/Authorized Representative or Responsible Official:
   Dave Stevens – Manager of Special Products, Forest Products
2. Application Contact Mailing Address:
   Organization/Firm: **Champion International Corporation**
   Street Address: **117 Pace Parkway**
   City: **Cantonment** State: **FL** Zip Code: **32533**
3. Owner/Authorized Representative or Responsible Official Telephone Numbers:
   Telephone: **(850) 937-4849** Fax: **(850) 968-3027**
4. Owner/Authorized Representative or Responsible Official Statement:

   I, the undersigned, am the owner or authorized representative(check here [ ] if so) or the responsible official (check here [✔], if so) of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions unit.*

   David A Stevens — Signature

   6/14/99 — Date

* Attach letter of authorization if not currently on file.

Professional Engineer Certification

1. Professional Engineer Name: **Thomas W. Davis**
   Registration Number: **36777**
2. Professional Engineer Mailing Address:
   Organization/Firm: **Environmental Consulting & Technology, Inc.**
   Street Address: **3701 Northwest 98th Street**
   City: **Gainesville** State: **FL** Zip Code: **32606**
3. Professional Engineer Telephone Numbers:
   Telephone: **(352) 332-0444** Fax: **(352) 332-6722**

4. Professional Engineer Statement:

I, the undersigned, hereby certify, except as particularly noted herein, that:*

(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.

If the purpose of this application is to obtain a Title V source air operation permit (check here [ ], if so), I further certify that each emissions unit described in this Application for Air Permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance schedule is submitted with this application.

If the purpose of this application is to obtain an air construction permit for one or more proposed new or modified emissions units (check here [✔], if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

If the purpose of this application is to obtain an initial air operation permit or operation permit revision for one or more newly constructed or modified emissions units (check here [ ], if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

Thomas D. Davis — Signature

6/12/99 — Date

(seal)

* Attach any exception to certification statement.

Scope of Application

Emissions Unit ID	Description of Emissions Unit	Permit Type	Processing Fee
001	Natural Gas-Fired Package Boiler No. 1	AC1A	PSD
002	Natural Gas-Fired Package Boiler No. 2	AC1A	PSD
003	Lumber Drying Kilns Nos. 1 – 3	AC1A	PSD
004	Planermill Operations	AC1A	PSD
005	Facility Fugitive Emissions	AC1A	PSD

Application Processing Fee

Check one: [✔] Attached - Amount: **$ 7,500** [ ] Not Applicable

Construction/Modification Information

1. Description of Proposed Project or Alterations:

Champion International Corporation (Champion) is planning to construct and operate a new lumber sawmill in Escambia County, Florida approximately 30 kilometers (km) [19 miles (mi)] north of Pensacola. The McDavid Sawmill will process southern yellow pine (SYP) logs and produce up to 225 million board feet per year (MMBF/yr) of lumber. Principal McDavid Sawmill processes include:

1. **Log storage and processing (debarking and sawing);**
2. **Sawmill operations (chipping and sawing);**
3. **Drying of green lumber using indirect steam-heated kilns; and**
4. **Product lumber finishing, sorting, and shipping.**

Ancillary equipment includes wood by-product (bark, chips, sawdust, and shavings) screening, handling, and storage and two, 55 MMBtu/hr heat input natural gas-fired package boilers that provide steam for the lumber kilns.

2. Projected or Actual Date of Commencement of Construction: **August 15, 1999**

3. Projected Date of Completion of Construction: **October 2000**

Application Comment

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates: Zone: **16** East (km): **468.74** North (km): **3,406.5**			
2. Facility Latitude/Longitude: Latitude (DD/MM/SS): Longitude (DD/MM/SS):			
3. Governmental Facility Code: **0**	4. Facility Status Code: **C**	5. Facility Major Group SIC Code: **24**	6. Facility SIC(s): **2421**
7. Facility Comment (limit to 500 characters):			

Facility Contact

1. Name and Title of Facility Contact: **Dave Stevens – Manager of Special Products, Forest Products**
2. Facility Contact Mailing Address: Organization/Firm: **Champion International Corporation** Street Address: **117 Pace Parkway** City: **Cantonment** State: **FL** Zip Code: **32533**
3. Facility Contact Telephone Numbers: Telephone: **(850) 937-4849** Fax: **(850) 968-3027**

Facility Regulatory Classifications

Check all that apply:

1. [ ] Small Business Stationary Source? [ ] Unknown
2. [✔] Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)?
3. [ ] Synthetic Minor Source of Pollutants Other than HAPs?
4. [ ] Major Source of Hazardous Air Pollutants (HAPs)?
5. [ ] Synthetic Minor Source of HAPs?
6. [✔] One or More Emissions Units Subject to NSPS?
7. [ ] One or More Emission Units Subject to NESHAP?
8. [ ] Title V Source by EPA Designation?
9. Facility Regulatory Classifications Comment (limit to 200 characters):

List of Applicable Regulations

See Attachment A-1	

B. FACILITY POLLUTANTS

List of Pollutants Emitted

1. Pollutant Emitted	2. Pollutant Classif.	3. Requested Emissions Cap lb/hour	tons/year	4. Basis for Emissions Cap	5. Pollutant Comment
VOC	**A**	**N/A**	**N/A**	**N/A**	

C. FACILITY SUPPLEMENTAL INFORMATION

Supplemental Requirements

1. Area Map Showing Facility Location: [✔] Attached, Document ID: **Fig. 2-1** [ ] Not Applicable [ ] Waiver Requested
2. Facility Plot Plan: [✔] Attached, Document ID: **Fig. 2-3** [ ] Not Applicable [ ] Waiver Requested
3. Process Flow Diagram(s): [✔] Attached, Document ID: **Fig. 2-2** [ ] Not Applicable [ ] Waiver Requested
4. Precautions to Prevent Emissions of Unconfined Particulate Matter: [✔] Attached, Document ID: **Att. A-2** [ ] Not Applicable [ ] Waiver Requested
5. Fugitive Emissions Identification: [✔] Attached, Document ID: **Table 2-3** [ ] Not Applicable [ ] Waiver Requested
6. Supplemental Information for Construction Permit Application: [✔] Attached, Document ID: **PSD App.** [ ] Not Applicable
7. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

8. List of Proposed Insignificant Activities:
   [ ] Attached, Document ID:_____ [ ] Not Applicable

9. List of Equipment/Activities Regulated under Title VI:
   [ ] Attached, Document ID:_____
   [ ] Equipment/Activities On site but Not Required to be Individually Listed
   [ ] Not Applicable

10. Alternative Methods of Operation:
    [ ] Attached, Document ID:_____ [ ] Not Applicable

11. Alternative Modes of Operation (Emissions Trading):
    [ ] Attached, Document ID:_____ [ ] Not Applicable

12. Identification of Additional Applicable Requirements:
    [ ] Attached, Document ID:_____ [ ] Not Applicable

13. Risk Management Plan Verification:
    [ ] Plan previously submitted to Chemical Emergency Preparedness and Prevention Office (CEPPO). Verification of submittal attached (Document ID:_____) or previously submitted to DEP (Date and DEP Office:_____)
    [ ] Plan to be submitted to CEPPO (Date required:_____)
    [ ] Not Applicable

14. Compliance Report and Plan:
    [ ] Attached, Document ID:_____ [ ] Not Applicable

15. Compliance Certification (Hard-copy Required):
    [ ] Attached, Document ID:_____ [ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through J as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION
(All Emissions Units)

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in This Section: (Check one)

[✔] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Regulated or Unregulated Emissions Unit? (Check one)

[✔] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

3. Description of Emissions Unit Addressed in This Section (limit to 60 characters):
Emission unit consists of a natural gas-fired boiler with a heat input of 55 MMBtu/hr.

4. Emissions Unit Identification Number:
ID: **001 (B-1)**
[ ] No ID
[ ] ID Unknown

5. Emissions Unit Status Code:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
C		**24**	[ ]

9. Emissions Unit Comment: (Limit to 500 Characters)

Emissions Unit Control Equipment

1. Control Equipment/Method Description (Limit to 200 characters per device or method):

   NO_x Controls

   Low-NO_x burner

2. Control Device or Method Code(s): **24 (Modified Furnace or Burner Design)**

Emissions Unit Details

1. Package Unit: **(Or Equivalent)**
   Manufacturer: **Cleaver Brooks** Model Number: **DL-68**
2. Generator Nameplate Rating: MW
3. Incinerator Information:
   Dwell Temperature: °F
   Dwell Time: seconds
   Incinerator Afterburner Temperature: °F

B. EMISSIONS UNIT CAPACITY INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:	**55**	mmBtu/hr		
2. Maximum Incineration Rate:		lb/hr		tons/day
3. Maximum Process or Throughput Rate:				
4. Maximum Production Rate:				
5. Requested Maximum Operating Schedule:				
	24	hours/day	**7**	days/week
	52	weeks/year	**8,760**	hours/year

6. Operating Capacity/Schedule Comment (limit to 200 characters):

Applicant requests a federally enforceable annual heat input limitation of 779,640 MMBtu (LHV) for both package boilers (B-1 and B-2) combined.

C. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

List of Applicable Regulations

See Attachment A-1	

D. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? **B-1**	2. Emission Point Type Code: **1**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): **N/A**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **N/A**		
5. Discharge Type Code: **V**	6. Stack Height: **35** feet	7. Exit Diameter: **3.5** feet
8. Exit Temperature: **320** °F	9. Actual Volumetric Flow Rate: **75,984** acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates: Zone: East (km): North (km):		
14. Emission Point Comment (limit to 200 characters):		

E. SEGMENT (PROCESS/FUEL) INFORMATION
(All Emissions Units)

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
Package steam boiler fired with pipeline quality natural gas.		
2. Source Classification Code (SCC): **10200602**	3. SCC Units: **Million Cubic Feet Burned**	
4. Maximum Hourly Rate: **0.058**	5. Maximum Annual Rate: **820.7***	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **950 (LHV)**
10. Segment Comment (limit to 200 characters): *** Combined natural gas consumption for package boilers 1 and 2 will not exceed 820.7 MM ft^3 per year.**		

Segment Description and Rate: Segment ____ of ____

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters):		

F. EMISSIONS UNIT POLLUTANTS
(All Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 – NOX	**024**		**EL**
2 – CO			**NS**
3 – PM			**EL**
4 – PM10			**EL**

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **NOX**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **5.5** lb/hour **39.0*** tons/year	4. Synthetically Limited? [✔]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **0.10 lb/MMBtu** Reference: **Vendor data**	7. Emissions Method Code: **5**
8. Calculation of Emissions (limit to 600 characters): **Hourly emission rate = 0.10 lb/MMBtu x 55 MMBtu/hr = 5.5 lb/hr** ***Annual emission rate = 0.10 lb/MMBtu x 779,640 MMBtu/yr x (1 ton / 2,000 lb) = 39.0 tpy (for package boilers 1 and 2 combined)**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): **Package boilers 1 and 2 will be limited to 39 tpy combined.**	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **ESCPSD**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.10 lb/MMBtu**	4. Equivalent Allowable Emissions: **5.5** lb/hour **39.0*** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Reference Method 7E (Initial Only)**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **An annual heat input cap of 779,640 MMBtu (LHV) is requested for Boilers Nos. 1 and 2 combined.** *** Combined annual NO_x emission rate for package boilers 1 and 2 will not exceed 39.0 tpy.**	

Allowable Emissions Allowable Emissions____of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **CO**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **9.9** lb/hour **70.2*** tons/year	4. Synthetically Limited? [✓]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **0.18 lb/MMBtu** Reference: **Vendor data**	7. Emissions Method Code: **5**
8. Calculation of Emissions (limit to 600 characters): **Hourly emission rate = 0.18 lb/MMBtu x 55 MMBtu/hr = 9.9 lb/hr** ***Annual emission rate = 0.18 lb/MMBtu x 779,640 MMBtu/yr x (1 ton / 2,000 lb) = 70.2 tpy (for package boilers 1 and 2 combined)**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions ____ of ____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):	

Allowable Emissions Allowable Emissions ___ of ___

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):	

Allowable Emissions Allowable Emissions ___ of ___

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
4. Requested Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.19** lb/hour **1.4*** tons/year	4. Synthetically Limited? [✓]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **0.0035 lb/MMBtu** Reference: **Vendor data**	7. Emissions Method Code: **5**

8. Calculation of Emissions (limit to 600 characters):

Hourly emission rate = 0.0035 lb/MMBtu x 55 MMBtu/hr = 0.19 lb/hr

***Annual emission rate = 0.0035 lb/MMBtu x 779,640 MMBtu/yr x (1 ton / 2,000 lb)**
= 1.4 tpy (for package boilers 1 and 2 combined)

9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: **ESCPSD**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.19 lb/hr**	4. Equivalent Allowable Emissions: **0.19** lb/hour **1.4*** tons/year

5. Method of Compliance (limit to 60 characters):
EPA Reference Method 5, 5B, or 17 (Initial Only)
(Including adjustment for boiler inlet air PM concentration)

6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):
An annual heat input cap of 779,640 MMBtu (LHV) is requested for Boilers Nos. 1 and 2 combined.

*** Combined annual PM emission rate for package boilers 1 and 2 will not exceed 1.4 tpy.**

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **20 % Opacity**	4. Equivalent Allowable Emissions: **0.19** lb/hour **1.4*** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Reference Method 9 (Annual)**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **Rule 62-296.406(1), F.A.C.** *** Combined annual PM emission rate for package boilers 1 and 2 will not exceed 1.4 tpy.**	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
**(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)**

Potential/Fugitive Emissions

1. Pollutant Emitted: **PM10**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.19** lb/hour **1.4*** tons/year	4. Synthetically Limited? [✔]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **0.0035 lb/MMBtu** Reference: **Vendor data**	7. Emissions Method Code: **5**
8. Calculation of Emissions (limit to 600 characters): **Hourly emission rate = 0.0035 lb/MMBtu x 55 MMBtu/hr = 0.19 lb/hr** ***Annual emission rate = 0.0035 lb/MMBtu x 779,640 MMBtu/yr x (1 ton / 2,000 lb) = 1.4 tpy (for package boilers 1 and 2 combined)**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **ESCPSD**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.19 lb/hr**	4. Equivalent Allowable Emissions: **0.19** lb/hour **1.4*** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Reference Method 5, 5B, or 17 (Initial Only) (Including adjustment for boiler inlet air PM concentration)**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **An annual heat input cap of 779,640 MMBtu (LHV) is requested for Boilers Nos. 1 and 2 combined.** *** Combined annual PM_{10} emission rate for package boilers 1 and 2 will not exceed 1.4 tpy.**	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **20% Opacity**	4. Equivalent Allowable Emissions: **0.19** lb/hour **1.4*** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Reference Method 9 (Annual)**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **Rule 62-296.406(1), F.A.C.** *** Combined annual PM_{10} emission rate for package boilers 1 and 2 will not exceed 1.4 tpy.**	

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation 1 of 2

1. Visible Emissions Subtype: **VE20**	2. Basis for Allowable Opacity: [✔] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: **20** % Exceptional Conditions: **27** % Maximum Period of Excess Opacity Allowed: **6** min/hour	
4. Method of Compliance: **EPA Reference Method 9 (Annual)**	
5. Visible Emissions Comment (limit to 200 characters): **Rule 62-296.406(1), F.A.C.**	

Visible Emissions Limitation: Visible Emissions Limitation 2 of 2

1. Visible Emissions Subtype: **VE100**	2. Basis for Allowable Opacity: [✔] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: % Exceptional Conditions: **100** % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: **EPA Reference Method 9 (every 5 years)**	
5. Visible Emissions Comment (limit to 200 characters): **Excess emissions resulting from startup, shutdown, or malfunction not-to-exceed 2 hours in any 24 hour period unless authorized by FDEP for a longer duration. Rule 62-210.700(1), F.A.C.**	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor ____ of ____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	[ ] Rule [ ] Other
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters):	

Continuous Monitoring System: Continuous Monitor ____ of ____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	[ ] Rule [ ] Other
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters):	

J. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements

1. Process Flow Diagram [✔] Attached, Document ID: **Fig. 2-2** [ ] Not Applicable [ ] Waiver Requested
2. Fuel Analysis or Specification [✔] Attached, Document ID: **Att. A-3** [ ] Not Applicable [ ] Waiver Requested
3. Detailed Description of Control Equipment [✔] Attached, Document ID: **Sect. 5.0** [ ] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities **To be provided** [ ] Attached, Document ID:_____ [ ] Not Applicable [ ] Waiver Requested
5. Compliance Test Report [ ] Attached, Document ID:_____ [ ] Previously submitted, Date:_____ [✔] Not Applicable
6. Procedures for Startup and Shutdown [ ] Attached, Document ID:_____ [✔] Not Applicable [ ] Waiver Requested
7. Operation and Maintenance Plan [ ] Attached, Document ID:_____ [✔] Not Applicable [ ] Waiver Requested
8. Supplemental Information for Construction Permit Application **See PSD application** [ ] Attached, Document ID:_____ [ ] Not Applicable
9. Other Information Required by Rule or Statute [ ] Attached, Document ID:_____ [✔] Not Applicable
10. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

11. Alternative Methods of Operation
[ ] Attached, Document ID: _____ [ ] Not Applicable

12. Alternative Modes of Operation (Emissions Trading)
[ ] Attached, Document ID:_____ [ ] Not Applicable

13. Identification of Additional Applicable Requirements
[ ] Attached, Document ID:_____ [ ] Not Applicable

14. Compliance Assurance Monitoring Plan
[ ] Attached, Document ID:_____ [ ] Not Applicable

15. Acid Rain Part Application (Hard-copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID:_____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID:_____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID:_____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID:_____

[ ] Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
Attached, Document ID:_____

[ ] Phase NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
Attached, Document ID:_____

[ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through J as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION
(All Emissions Units)

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in This Section: (Check one)

[✔] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Regulated or Unregulated Emissions Unit? (Check one)

[✔] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

3. Description of Emissions Unit Addressed in This Section (limit to 60 characters):
Emission unit consists of a natural gas-fired boiler with a heat input of 55 MMBtu/hr.

4. Emissions Unit Identification Number:
ID: **002 (B-2)**
[ ] No ID
[ ] ID Unknown

5. Emissions Unit Status Code:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
C		**24**	[ ]

9. Emissions Unit Comment: (Limit to 500 Characters)

Emissions Unit Control Equipment

1. Control Equipment/Method Description (Limit to 200 characters per device or method):

NO_x Controls

Low-NO_x burner

2. Control Device or Method Code(s): **24 (Modified Furnace or Burner Design)**

Emissions Unit Details

1. Package Unit: **(Or Equivalent)**
   Manufacturer: **Cleaver Brooks** Model Number: **DL-68**
2. Generator Nameplate Rating: MW
3. Incinerator Information:
   Dwell Temperature: °F
   Dwell Time: seconds
   Incinerator Afterburner Temperature: °F

B. EMISSIONS UNIT CAPACITY INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:	**55** mmBtu/hr			
2. Maximum Incineration Rate:		lb/hr		tons/day
3. Maximum Process or Throughput Rate:				
4. Maximum Production Rate:				
5. Requested Maximum Operating Schedule:				
	24	hours/day	**7**	days/week
	52	weeks/year	**8,760**	hours/year
6. Operating Capacity/Schedule Comment (limit to 200 characters):				
Applicant requests a federally enforceable annual heat input limitation of 779,640 MMBtu (LHV) for both package boilers (B-1 and B-2) combined.				

C. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

List of Applicable Regulations

See Attachment A-1	

D. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? **B-2**	2. Emission Point Type Code: **1**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): **N/A**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **N/A**		
5. Discharge Type Code: **V**	6. Stack Height: **35** feet	7. Exit Diameter: **3.5** feet
8. Exit Temperature: **320** °F	9. Actual Volumetric Flow Rate: **75,984** acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates: Zone:	East (km):	North (km):
14. Emission Point Comment (limit to 200 characters):		

E. SEGMENT (PROCESS/FUEL) INFORMATION
(All Emissions Units)

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **Package steam boiler fired with pipeline quality natural gas.**		
2. Source Classification Code (SCC): **10200602**	3. SCC Units: **Million Cubic Feet Burned**	
4. Maximum Hourly Rate: **0.058**	5. Maximum Annual Rate: **820.7***	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **950**
10. Segment Comment (limit to 200 characters): *** Combined natural gas consumption for package boilers 1 and 2 will not exceed 820.7 MM ft^3 per year.**		

Segment Description and Rate: Segment of

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
3. Source Classification Code (SCC):	3. SCC Units:	
6. Maximum Hourly Rate:	7. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
11. Maximum % Sulfur:	12. Maximum % Ash:	13. Million Btu per SCC Unit:
14. Segment Comment (limit to 200 characters):		

F. EMISSIONS UNIT POLLUTANTS
(All Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 – NOX	**024**		**EL**
2 – CO			**NS**
3 – PM			**EL**
4 – PM10			**EL**

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **NOX**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **5.5** lb/hour **39.0*** tons/year	4. Synthetically Limited? [✔]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **0.10 lb/MMBtu** Reference: **Vendor data**	7. Emissions Method Code: **5**

8. Calculation of Emissions (limit to 600 characters):

Hourly emission rate = 0.10 lb/MMBtu x 55 MMBtu/hr = 5.5 lb/hr

***Annual emission rate = 0.10 lb/MMBtu x 779,640 MMBtu/yr x (1 ton / 2,000 lb) = 39.0 tpy (for package boilers 1 and 2 combined)**

9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):

Package boilers 1 and 2 will be limited to 39 tpy combined.

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **ESCPSD**	2. Future Effective Date of Allowable Emissions:
4. Requested Allowable Emissions and Units: **0.10 lb/MMBtu**	4. Equivalent Allowable Emissions: **5.5** lb/hour **39.0*** tons/year

5. Method of Compliance (limit to 60 characters):
EPA Reference Method 7E (Initial Only)

6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):
An annual heat input cap of 779,640 MMBtu (LHV) is requested for Boilers Nos. 1 and 2 combined.

*** Combined annual NO_x emission rate for package boilers 1 and 2 will not exceed 39.0 tpy.**

Emissions Unit Information Section 2 of 5

Pollutant Detail Information Page 2 of 8

Allowable Emissions Allowable Emissions____of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
4. Requested Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **CO**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **9.9** lb/hour **70.2*** tons/year	4. Synthetically Limited? [✔]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **0.18 lb/MMBtu** Reference: **Vendor data**	7. Emissions Method Code: **5**

8. Calculation of Emissions (limit to 600 characters):

Hourly emission rate = 0.18 lb/MMBtu x 55 MMBtu/hr = 9.9 lb/hr

***Annual emission rate = 0.18 lb/MMBtu x 779,640 MMBtu/yr x (1 ton / 2,000 lb) = 70.2 tpy (for package boilers 1 and 2 combined)**

9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):

Allowable Emissions Allowable Emissions ____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
4. Requested Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):	

Allowable Emissions Allowable Emissions ___ of ___

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
5. Requested Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):	

Allowable Emissions Allowable Emissions ___ of ___

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
6. Requested Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.19** lb/hour **1.4*** tons/year	4. Synthetically Limited? [✔]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **0.0035 lb/MMBtu** Reference: **Vendor data**	7. Emissions Method Code: **5**

8. Calculation of Emissions (limit to 600 characters):

Hourly emission rate = 0.0035 lb/MMBtu x 55 MMBtu/hr = 0.19 lb/hr

***Annual emission rate = 0.0035 lb/MMBtu x 779,640 MMBtu/yr x (1 ton / 2,000 lb)**
= 1.4 tpy (for package boilers 1 and 2 combined)

9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: **ESCPSD**	2. Future Effective Date of Allowable Emissions:
4. Requested Allowable Emissions and Units: **0.19 lb/hr**	4. Equivalent Allowable Emissions: **0.19** lb/hour **1.4*** tons/year

5. Method of Compliance (limit to 60 characters):
EPA Reference Method 5, 5B, or 17 (Initial Only)
(Including adjustment for boiler inlet air PM concentration)

6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):
An annual heat input cap of 779,640 MMBtu (LHV) is requested for Boilers Nos. 1 and 2 combined.

*** Combined annual PM emission rate for package boilers 1 and 2 will not exceed 1.4 tpy.**

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions:
4. Requested Allowable Emissions and Units: **20 % Opacity**	4. Equivalent Allowable Emissions: **0.19** lb/hour **1.4*** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Reference Method 9 (Annual)**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **Rule 62-296.406(1), F.A.C.** *** Combined annual PM emission rate for package boilers 1 and 2 will not exceed 1.4 tpy.**	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **PM10**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.19** lb/hour **1.4*** tons/year	4. Synthetically Limited? [✔]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **0.0035 lb/MMBtu** Reference: **Vendor data**	7. Emissions Method Code: **5**
8. Calculation of Emissions (limit to 600 characters): **Hourly emission rate = 0.0035 lb/MMBtu x 55 MMBtu/hr = 0.19 lb/hr** ***Annual emission rate = 0.0035 lb/MMBtu x 779,640 MMBtu/yr x (1 ton / 2,000 lb) = 1.4 tpy (for package boilers 1 and 2 combined)**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **ESCPSD**	2. Future Effective Date of Allowable Emissions:
4. Requested Allowable Emissions and Units: **0.19 lb/hr**	4. Equivalent Allowable Emissions: **0.19** lb/hour **1.4*** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Reference Method 5, 5B, or 17 (Initial Only)** **(Including adjustment for boiler inlet air PM concentration)**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **An annual heat input cap of 779,640 MMBtu (LHV) is requested for Boilers Nos. 1 and 2 combined.** *** Combined annual PM_{10} emission rate for package boilers 1 and 2 will not exceed 1.4 tpy.**	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions:
4. Requested Allowable Emissions and Units: **20% Opacity**	4. Equivalent Allowable Emissions: **0.19** lb/hour **1.4*** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Reference Method 9 (Annual)**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **Rule 62-296.406(1), F.A.C.** *** Combined annual PM_{10} emission rate for package boilers 1 and 2 will not exceed 1.4 tpy.**	

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation 1 of 2

1. Visible Emissions Subtype: **VE20**	2. Basis for Allowable Opacity: [✔] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: **20** % Exceptional Conditions: **27** % Maximum Period of Excess Opacity Allowed: **6** min/hour	
4. Method of Compliance: **EPA Reference Method 9 (Annual)**	
5. Visible Emissions Comment (limit to 200 characters): **Rule 62-296.406(1), F.A.C.**	

Visible Emissions Limitation: Visible Emissions Limitation 2 of 2

1. Visible Emissions Subtype: **VE100**	2. Basis for Allowable Opacity: [✔] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: % Exceptional Conditions: **100** % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: **EPA Reference Method 9 (every 5 years)**	
5. Visible Emissions Comment (limit to 200 characters): **Excess emissions resulting from startup, shutdown, or malfunction not-to-exceed 2 hours in any 24 hour period unless authorized by FDEP for a longer duration. Rule 62-210.700(1), F.A.C.**	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor ____ of ____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	[ ] Rule [ ] Other
4. Monitor Information: Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters):	

Continuous Monitoring System: Continuous Monitor ____ of ____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	[ ] Rule [ ] Other
4. Monitor Information: Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters):	

J. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements

1. Process Flow Diagram
   [✔] Attached, Document ID: **Fig. 2-2** [ ] Not Applicable [ ] Waiver Requested

2. Fuel Analysis or Specification
   [✔] Attached, Document ID: **Att. A-3** [ ] Not Applicable [ ] Waiver Requested

3. Detailed Description of Control Equipment
   [✔] Attached, Document ID: **Sect. 5.0** [ ] Not Applicable [ ] Waiver Requested

4. Description of Stack Sampling Facilities **To be provided**
   [ ] Attached, Document ID:_____ [ ] Not Applicable [ ] Waiver Requested

5. Compliance Test Report
   [ ] Attached, Document ID:_____
   [ ] Previously submitted, Date:_____
   [✔] Not Applicable

6. Procedures for Startup and Shutdown
   [ ] Attached, Document ID:_____ [✔] Not Applicable [ ] Waiver Requested

7. Operation and Maintenance Plan
   [ ] Attached, Document ID:_____ [✔] Not Applicable [ ] Waiver Requested

8. Supplemental Information for Construction Permit Application **See PSD application**
   [ ] Attached, Document ID:_____ [ ] Not Applicable

9. Other Information Required by Rule or Statute
   [ ] Attached, Document ID:_____ [✔] Not Applicable

10. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

11. Alternative Methods of Operation
[ ] Attached, Document ID: _____ [ ] Not Applicable

12. Alternative Modes of Operation (Emissions Trading)
[ ] Attached, Document ID:_____ [ ] Not Applicable

13. Identification of Additional Applicable Requirements
[ ] Attached, Document ID:_____ [ ] Not Applicable

14. Compliance Assurance Monitoring Plan
[ ] Attached, Document ID:_____ [ ] Not Applicable

15. Acid Rain Part Application (Hard-copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID:_____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID:_____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID:_____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID:_____

[ ] Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
Attached, Document ID:_____

[ ] Phase NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
Attached, Document ID:_____

[ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through J as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION
(All Emissions Units)

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in This Section: (Check one)

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[✔] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Regulated or Unregulated Emissions Unit? (Check one)

[✔] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

3. Description of Emissions Unit Addressed in This Section (limit to 60 characters):
Emission unit consists of three indirect, heated steam lumber drying kilns.

4. Emissions Unit Identification Number:
ID: **003 (K-1 through K-3)**
[ ] No ID
[ ] ID Unknown

5. Emissions Unit Status Code:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
C		**24**	[ ]

9. Emissions Unit Comment: (Limit to 500 Characters)

Emissions Unit Control Equipment

1. Control Equipment/Method Description (Limit to 200 characters per device or method):

2. Control Device or Method Code(s):

Emissions Unit Details

1. Package Unit:
   Manufacturer: Model Number:

2. Generator Nameplate Rating: MW

3. Incinerator Information:
   Dwell Temperature: °F
   Dwell Time: seconds
   Incinerator Afterburner Temperature: °F

B. EMISSIONS UNIT CAPACITY INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:	mmBtu/hr			
2. Maximum Incineration Rate:	lb/hr		tons/day	
3. Maximum Process or Throughput Rate:				
4. Maximum Production Rate: **225 MM Board Feet Per Year**				
5. Requested Maximum Operating Schedule:				
	24	hours/day	**7**	days/week
	52	weeks/year	**8,760**	hours/year
6. Operating Capacity/Schedule Comment (limit to 200 characters):				

C. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

List of Applicable Regulations

See Attachment A-1	

D. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? **K-1, K-2, K-3**	2. Emission Point Type Code: **3**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): **Lumber Kilns 1 through 3, 10 vents per kiln. 5 vents are in use at any one time.**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **N/A**		
5. Discharge Type Code: **W**	6. Stack Height: **25.3** feet	7. Exit Diameter: **5.8** feet
8. Exit Temperature: **209** °F	9. Actual Volumetric Flow Rate: **34,502** acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates: Zone: East (km): North (km):		
14. Emission Point Comment (limit to 200 characters): **Diameter represents equivalent diameter for 5, 28" x 28" vents.** **Stack temperature and flow rate are averages for 18 hour drying cycle.**		

E. SEGMENT (PROCESS/FUEL) INFORMATION
(All Emissions Units)

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **Drying of green wood in indirect, steam heated lumber kilns**		
2. Source Classification Code (SCC): **30700898**	3. SCC Units: **1,000 Board Feet**	
4. Maximum Hourly Rate: **25.7**	5. Maximum Annual Rate: **225,000**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters):		

Segment Description and Rate: Segment ____ of ____

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters):		

F. EMISSIONS UNIT POLLUTANTS
(All Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 – VOC			**EL**
2 – PM			**EL**
3 – PM10			**EL**

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **VOC**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **85.3** lb/hour **319.5** tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **3.32 lb/MBF** Reference: **NCASI data**	7. Emissions Method Code: **5**
8. Calculation of Emissions (limit to 600 characters): **Hourly emission rate = 3.32 lb/MBF x 25.86 MBF = 85.3 lb/hr** **Annual emission rate = 2.84 lb/MBF x 225,000 MBF/yr x (1 ton / 2,000 lb) = 319.5 tpy**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **85.3 lb/hr**	4. Equivalent Allowable Emissions: **85.3** lb/hour **319.5** tons/year
5. Method of Compliance (limit to 60 characters): **Lumber drying rates (MBF/hr) x NCASI Emission Factor**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **FDEP Rule 62-212.400(5)(c), F.A.C. (BACT)**	

Allowable Emissions Allowable Emissions____of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.95** lb/hour **4.2** tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **0.037 lb/MBF** Reference: **NCASI data**	7. Emissions Method Code: **5**
8. Calculation of Emissions (limit to 600 characters): **Hourly emission rate = 0.037 lb/MBF x 25.86 MBF = 0.95 lb/hr** **Annual emission rate = 0.037 lb/MBF x 225,000 MBF/yr x (1 ton / 2,000 lb) = 4.2 tpy**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **ESCPSD**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.95 lb/hr**	4. Equivalent Allowable Emissions: **0.95** lb/hour **4.2** tons/year
5. Method of Compliance (limit to 60 characters): **Lumber drying rates (MBF/hr) x NCASI Emission Factor**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):	

Allowable Emissions Allowable Emissions ____ of ____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **PM10**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.95** lb/hour **4.2** tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **0.037 lb/MBF** Reference: **NCASI data**	7. Emissions Method Code: **5**
8. Calculation of Emissions (limit to 600 characters): **Hourly emission rate = 0.037 lb/MBF x 25.86 MBF = 0.95 lb/hr** **Annual emission rate = 0.037 lb/MBF x 225,000 MBF/yr x (1 ton / 2,000 lb) = 4.2 tpy**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **ESCPSD**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.95 lb/hr**	4. Equivalent Allowable Emissions: **0.95** lb/hour **4.2** tons/year
5. Method of Compliance (limit to 60 characters): **Lumber drying rates (MBF/hr) x NCASI Emission Factor**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):	

Allowable Emissions Allowable Emissions ____ of ____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):	

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation 1 of 2

1. Visible Emissions Subtype: **VE10**	2. Basis for Allowable Opacity: [ ] Rule [✔] Other
3. Requested Allowable Opacity: Normal Conditions: **10** % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: **EPA Reference Method 9**	
5. Visible Emissions Comment (limit to 200 characters): **Rule 62-212.400(5)(c), F.A.C. (BACT)**	

Visible Emissions Limitation: Visible Emissions Limitation 2 of 2

1. Visible Emissions Subtype: **VE100**	2. Basis for Allowable Opacity: [✔] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: % Exceptional Conditions: **100** % Maximum Period of Excess Opacity Allowed: **60** min/hour	
4. Method of Compliance: **EPA Reference Method 9 (every 5 years)**	
5. Visible Emissions Comment (limit to 200 characters): **Excess emissions resulting from startup, shutdown, or malfunction not-to-exceed 2 hours in any 24 hour period unless authorized by FDEP for a longer duration. Rule 62-210.700(1), F.A.C.**	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor ____ of ____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	[ ] Rule [ ] Other
4. Monitor Information: Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters):	

Continuous Monitoring System: Continuous Monitor ____ of ____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	[ ] Rule [ ] Other
4. Monitor Information: Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters):	

J. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements

1. Process Flow Diagram
   [✔] Attached, Document ID: **Fig. 2-2** [ ] Not Applicable [ ] Waiver Requested
2. Fuel Analysis or Specification
   [ ] Attached, Document ID:_____ [✔] Not Applicable [ ] Waiver Requested
3. Detailed Description of Control Equipment
   [ ] Attached, Document ID:_____ [✔] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities
   [ ] Attached, Document ID:_____ [✔] Not Applicable [ ] Waiver Requested
5. Compliance Test Report
   [ ] Attached, Document ID:_____
   [ ] Previously submitted, Date:_____
   [✔] Not Applicable
6. Procedures for Startup and Shutdown
   [ ] Attached, Document ID:_____ [✔] Not Applicable [ ] Waiver Requested
7. Operation and Maintenance Plan
   [ ] Attached, Document ID:_____ [✔] Not Applicable [ ] Waiver Requested
8. Supplemental Information for Construction Permit Application **See PSD application**
   [ ] Attached, Document ID:_____ [ ] Not Applicable
9. Other Information Required by Rule or Statute
   [ ] Attached, Document ID:_____ [✔] Not Applicable
10. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

11. Alternative Methods of Operation
[ ] Attached, Document ID:_____ [ ] Not Applicable

12. Alternative Modes of Operation (Emissions Trading)
[ ] Attached, Document ID:_____ [ ] Not Applicable

13. Identification of Additional Applicable Requirements
[ ] Attached, Document ID:_____ [ ] Not Applicable

14. Compliance Assurance Monitoring Plan
[ ] Attached, Document ID:_____ [ ] Not Applicable

15. Acid Rain Part Application (Hard-copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID:_____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID:_____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID:_____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID:_____

[ ] Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
Attached, Document ID:_____

[ ] Phase NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
Attached, Document ID:_____

[ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through J as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION
(All Emissions Units)

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in This Section: (Check one)

[✔] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Regulated or Unregulated Emissions Unit? (Check one)

[✔] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

4. Description of Emissions Unit Addressed in This Section (limit to 60 characters):
Emission unit consists of planermill planing and trimming operations.

4. Emissions Unit Identification Number:
ID: **004**
[ ] No ID
[ ] ID Unknown

5. Emissions Unit Status Code:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
C		**24**	[ ]

9. Emissions Unit Comment: (Limit to 500 Characters)

Emissions Unit Control Equipment

1. Control Equipment/Method Description (Limit to 200 characters per device or method):

Planermill planing and trimming operations are equipped with local exhaust ventilation (LEV) to collect PM/PM_{10} shavings. Collected shavings are conveyed pneumatically to a cyclone/baghouse control system.

Control Codes:

Medium Efficiency Centrifugal Collector = 008
Low Temperature Fabric Filter = 018

2. Control Device or Method Code(s): **008 and 018**

Emissions Unit Details

1. Package Unit:
   Manufacturer: Model Number:

2. Generator Nameplate Rating: MW

3. Incinerator Information:
   Dwell Temperature: °F
   Dwell Time: seconds
   Incinerator Afterburner Temperature: °F

B. EMISSIONS UNIT CAPACITY INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:	mmBtu/hr			
2. Maximum Incineration Rate:	lb/hr		tons/day	
3. Maximum Process or Throughput Rate:				
4. Maximum Production Rate: **225 MM Board Feet Per Year**				
5. Requested Maximum Operating Schedule:				
	24	hours/day	**7**	days/week
	52	weeks/year	**8,760**	hours/year
7. Operating Capacity/Schedule Comment (limit to 200 characters):				

C. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

List of Applicable Regulations

See Attachment A-1	

D. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? **DC-1**	2. Emission Point Type Code: **1**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): **N/A**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **N/A**		
5. Discharge Type Code: **W**	6. Stack Height: **23.0** feet	7. Exit Diameter: **3.2** feet
8. Exit Temperature: **77** °F	9. Actual Volumetric Flow Rate: **60,000** acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates: Zone:	East (km):	North (km):
14. Emission Point Comment (limit to 200 characters):		

E. SEGMENT (PROCESS/FUEL) INFORMATION
(All Emissions Units)

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **Planing and trimming of dried lumber.**		
2. Source Classification Code (SCC): **30700898**	3. SCC Units: **1,000 Board Feet**	
4. Maximum Hourly Rate: **25.7**	5. Maximum Annual Rate: **225,000**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters):		

Segment Description and Rate: Segment ___ of ___

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters):		

F. EMISSIONS UNIT POLLUTANTS
(All Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 – PM	**008**	**018**	**EL**
2 – PM10	**008**	**018**	**EL**

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control: **99+**
3. Potential Emissions: **2.1** lb/hour **9.0** tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **0.004 gr/scf** Reference: **Vendor data**	7. Emissions Method Code: **0**
8. Calculation of Emissions (limit to 600 characters): **Hourly emission rate = 0.004 gr/scf x 60,000 scf/min x (1 lb / 7,000 gr) x 60 min/hr = 2.06 lb/hr** **Annual emission rate = 2.06 lb/hr x 8,760 hr/yr x (1 ton / 2,000 lb) = 9.0 tpy**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: **ESCPSD**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **2.1 lb/hr**	4. Equivalent Allowable Emissions: **2.1** lb/hour **9.0** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Reference Method 5 (Initial Only)**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **10% Opacity**	4. Equivalent Allowable Emissions: **2.1** lb/hour **9.0** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Reference Method 9 (Annual)**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):	

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **PM10**	2. Total Percent Efficiency of Control: **99+**
3. Potential Emissions: **2.1** lb/hour **9.0** tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **0.004 gr/scf** Reference: **Vendor data**	7. Emissions Method Code: **0**
8. Calculation of Emissions (limit to 600 characters): **Hourly emission rate = 0.004 gr/scf x 60,000 scf/min x (1 lb / 7,000 gr) x 60 min/hr = 2.06 lb/hr** **Annual emission rate = 2.06 lb/hr x 8,760 hr/yr x (1 ton / 2,000 lb) = 9.0 tpy**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: **ESCPSD**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **2.1 lb/hr**	4. Equivalent Allowable Emissions: **2.1** lb/hour **9.0** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Reference Method 5 (Initial Only)**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):	

Emissions Unit Information Section 4 of 5

Pollutant Detail Information Page 4 of 4

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **10% Opacity**	4. Equivalent Allowable Emissions: **2.1** lb/hour **9.0** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Reference Method 9 (Annual)**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):	

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation 1 of 2

2. Visible Emissions Subtype: **VE10**	2. Basis for Allowable Opacity: [ ] Rule [✔] Other
3. Requested Allowable Opacity: Normal Conditions: 10 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
6. Method of Compliance: **EPA Reference Method 9**	
7. Visible Emissions Comment (limit to 200 characters):	

Visible Emissions Limitation: Visible Emissions Limitation 2 of 2

2. Visible Emissions Subtype: **VE100**	2. Basis for Allowable Opacity: [✔] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: % Exceptional Conditions: **100 %** Maximum Period of Excess Opacity Allowed: **60** min/hour	
6. Method of Compliance: **EPA Reference Method 9 (every 5 years)**	
7. Visible Emissions Comment (limit to 200 characters): **Excess emissions resulting from startup, shutdown, or malfunction not-to-exceed 2 hours in any 24 hour period unless authorized by FDEP for a longer duration. Rule 62-210.700(1), F.A.C.**	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor ____ of ____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	[ ] Rule [ ] Other
4. Monitor Information: Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
8. Continuous Monitor Comment (limit to 200 characters):	

Continuous Monitoring System: Continuous Monitor ____ of ____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	[ ] Rule [ ] Other
4. Monitor Information: Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
8. Continuous Monitor Comment (limit to 200 characters):	

J. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements

1. Process Flow Diagram [✔] Attached, Document ID: **Fig. 2-2** [ ] Not Applicable [ ] Waiver Requested
2. Fuel Analysis or Specification [ ] Attached, Document ID:_____ [✔] Not Applicable [ ] Waiver Requested
3. Detailed Description of Control Equipment [✔] Attached, Document ID: **Sect. 5.0** [ ] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities **To be provided** [ ] Attached, Document ID:_____ [ ] Not Applicable [ ] Waiver Requested
5. Compliance Test Report [ ] Attached, Document ID:_____ [ ] Previously submitted, Date:_____ [✔] Not Applicable
6. Procedures for Startup and Shutdown [ ] Attached, Document ID:_____ [✔] Not Applicable [ ] Waiver Requested
7. Operation and Maintenance Plan [ ] Attached, Document ID:_____ [✔] Not Applicable [ ] Waiver Requested
8. Supplemental Information for Construction Permit Application **See PSD application** [ ] Attached, Document ID:_____ [ ] Not Applicable
9. Other Information Required by Rule or Statute [ ] Attached, Document ID:_____ [✔] Not Applicable
10. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

11. Alternative Methods of Operation
[ ] Attached, Document ID:_____ [ ] Not Applicable

12. Alternative Modes of Operation (Emissions Trading)
[ ] Attached, Document ID:_____ [ ] Not Applicable

13. Identification of Additional Applicable Requirements
[ ] Attached, Document ID:_____ [ ] Not Applicable

14. Compliance Assurance Monitoring Plan
[ ] Attached, Document ID:_____ [ ] Not Applicable

15. Acid Rain Part Application (Hard-copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID:_____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID:_____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID:_____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID:_____

[ ] Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
Attached, Document ID:_____

[ ] Phase NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
Attached, Document ID:_____

[ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through J as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION
(All Emissions Units)

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in This Section: (Check one)

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[✔] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Regulated or Unregulated Emissions Unit? (Check one)

[ ] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[✔] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

5. Description of Emissions Unit Addressed in This Section (limit to 60 characters):
Emission unit consists of facility-wide fugitive PM/PM_{10} activities including log preparation (sawing and debarking), wood by-product handling and storage (conveying, screening, chipping, enclosed [bin] and outdoor storage, and truck loading), and truck traffic on paved roadways.

4. Emissions Unit Identification Number:
ID: **005 (F-1 through F-35)**
[ ] No ID
[ ] ID Unknown

5. Emissions Unit Status Code:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
C		**24**	[ ]

9. Emissions Unit Comment: (Limit to 500 Characters)

Emissions Unit Control Equipment

2. Control Equipment/Method Description (Limit to 200 characters per device or method):

Fugitive PM/PM_{10} control methods include handling of moist materials, enclosures, and periodic sweeping and watering of facility roadways, as necessary.

2. Control Device or Method Code(s): **099 (Miscellaneous)**

Emissions Unit Details

1. Package Unit:
   Manufacturer: Model Number:

2. Generator Nameplate Rating: MW

3. Incinerator Information:
   Dwell Temperature: °F
   Dwell Time: seconds
   Incinerator Afterburner Temperature: °F

B. EMISSIONS UNIT CAPACITY INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:	mmBtu/hr	
2. Maximum Incineration Rate:	lb/hr	tons/day
3. Maximum Process or Throughput Rate:		
4. Maximum Production Rate:		
5. Requested Maximum Operating Schedule:		
	hours/day	days/week
	weeks/year	hours/year
8. Operating Capacity/Schedule Comment (limit to 200 characters):		

C. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

List of Applicable Regulations

D. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram?	6. Emission Point Type Code:	
7. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point):		
8. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
9. Discharge Type Code:	6. Stack Height: feet	7. Exit Diameter: feet
8. Exit Temperature: °F	9. Actual Volumetric Flow Rate: acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates: Zone: East (km): North (km):		
14. Emission Point Comment (limit to 200 characters):		

E. SEGMENT (PROCESS/FUEL) INFORMATION
(All Emissions Units)

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **Log preparation (sawing and debarking), wood by-product handling and storage (conveying, screening, chipping, enclosed [bin] and outdoor storage, and truck loading), and truck traffic on paved roadways.**		
3. Source Classification Code (SCC): **30700898**	3. SCC Units: **1,000 Board Feet**	
6. Maximum Hourly Rate: **25.7**	7. Maximum Annual Rate: **225,000**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	10. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters):		

Segment Description and Rate: Segment ___ of ___

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
3. Source Classification Code (SCC):	3. SCC Units:	
6. Maximum Hourly Rate:	7. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
11. Maximum % Sulfur:	12. Maximum % Ash:	13. Million Btu per SCC Unit:
14. Segment Comment (limit to 200 characters):		

F. EMISSIONS UNIT POLLUTANTS
(All Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 – PM			**NS**
2 – PM10			**NS**

Pollutant Detail Information Page 1 of 2

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted:	2. Total Percent Efficiency of Control:	
3. Potential Emissions: lb/hour tons/year		4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year		
6. Emission Factor: Reference:		7. Emissions Method Code:
8. Calculation of Emissions (limit to 600 characters):		
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):		

Allowable Emissions Allowable Emissions ____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):	

Emissions Unit Information Section 5 of 5

Pollutant Detail Information Page 2 of 2

Allowable Emissions Allowable Emissions____of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):	

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation ____of ____

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: [ ] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment (limit to 200 characters):	

Visible Emissions Limitation: Visible Emissions Limitation ____of ____

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: [ ] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment (limit to 200 characters):	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor ____ of ____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	[ ] Rule [ ] Other
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
9. Continuous Monitor Comment (limit to 200 characters):	

Continuous Monitoring System: Continuous Monitor ____ of ____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	[ ] Rule [ ] Other
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
9. Continuous Monitor Comment (limit to 200 characters):	

J. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements

1. Process Flow Diagram [ ] Attached, Document ID: _____ [ ] Not Applicable [ ] Waiver Requested
2. Fuel Analysis or Specification [ ] Attached, Document ID: _____ [ ] Not Applicable [ ] Waiver Requested
3. Detailed Description of Control Equipment [ ] Attached, Document ID: _____ [ ] Not Applicable [ ] Waiver Requested
4. Description of Stack Sampling Facilities [ ] Attached, Document ID: _____ [ ] Not Applicable [ ] Waiver Requested
5. Compliance Test Report [ ] Attached, Document ID: _____ [ ] Previously submitted, Date: _____ [ ] Not Applicable
6. Procedures for Startup and Shutdown [ ] Attached, Document ID: _____ [ ] Not Applicable [ ] Waiver Requested
7. Operation and Maintenance Plan [ ] Attached, Document ID: _____ [ ] Not Applicable [ ] Waiver Requested
8. Supplemental Information for Construction Permit Application [ ] Attached, Document ID: _____ [ ] Not Applicable
9. Other Information Required by Rule or Statute [ ] Attached, Document ID: _____ [ ] Not Applicable
10. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

11. Alternative Methods of Operation
[ ] Attached, Document ID:_____ [ ] Not Applicable

12. Alternative Modes of Operation (Emissions Trading)
[ ] Attached, Document ID:_____ [ ] Not Applicable

13. Identification of Additional Applicable Requirements
[ ] Attached, Document ID:_____ [ ] Not Applicable

14. Compliance Assurance Monitoring Plan
[ ] Attached, Document ID:_____ [ ] Not Applicable

15. Acid Rain Part Application (Hard-copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID:_____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID:_____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID:_____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID:_____

[ ] Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
Attached, Document ID:_____

[ ] Phase NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
Attached, Document ID:_____

[ ] Not Applicable

ATTACHMENT A-1

REGULATORY APPLICABILITY ANALYSES

Table A-1. Summary of Federally EPA Regulatory Applicability and Corresponding Requirements (Page 1 of 5)

Regulation	Citation	Not Applicable	Applicable Emission Units	Applicable Requirement or Non-Applicability Rationale
40 CFR Part 60 - Standards of Performance for New Stationary Sources.				
Subpart A - General Provisions				
General Requirements	§60.1 thru §60.6	X		Contains no applicable requirements.
Notification and Recordkeeping	§60.7		B-1, B-2	General recordkeeping and reporting requirements.
Performance Tests	§60.8	X		Performance tests not required by Subpart Dc for gas-fired units.
Availability of Information	§60.9	X		Contains no applicable requirements.
State Authority	§60.10	X		Contains no applicable requirements.
Compliance with Standards	§60.11		B-1, B-2	General compliance requirements.
Circumvention	§60.12		B-1, B-2	Cannot conceal an emission which would otherwise constitute a violation of an applicable standard.
Monitoring Requirements	§60.13	X		Requirements pertaining to continuous monitoring systems.
Modification, Reconstruction, Priority List, References, General Control Device Requirements	§60.14 thru §60.18	X		Requirements not applicable to package boilers
General notification and reporting requirements	§60.19		B-1, B-2	General procedures regarding reporting deadlines.
Subpart Dc - Standard of Performance for Small Industrial-Commercial-Institutional Steam Generating Units				
Standard for Sulfur Dioxide	§60.42c	X		Not applicable to gas-fired units.
Standard for Particulate Matter	§60.43c	X		Not applicable to gas-fired units.

Table A-1. Summary of Federally EPA Regulatory Applicability and Corresponding Requirements (Page 2 of 5)

Regulation	Citation	Not Applicable	Applicable Emission Units	Applicable Requirement or Non-Applicability Rationale
Subpart Dc - Subpart Dc - Standard of Performance for Small Industrial-Commercial-Institutional Steam Generating Units (continued)				
Compliance and Test Procedures for Sulfur Dioxide	§60.44c	X		Not applicable to gas-fired units.
Compliance and Test Procedures for Particulate Matter	§60.45c	X		Not applicable to gas-fired units.
Emission Monitoring for Sulfur Dioxide	§60.46c	X		Not applicable to gas-fired units.
Emission Monitoring for Particulate Matter	§60.47c	X		Not applicable to gas-fired units.
Reporting and Recordkeeping Requirements	§60.48c(a)(1), (3)		B-1, B-2	Notification requirements
Reporting and Recordkeeping Requirements	§60.48c(a)(2), (4)	X		Not applicable to gas-fired units.
Reporting and Recordkeeping Requirements	§60.48c(b), (c), (d), (e), and (f)	X		Not applicable to gas-fired units.
Reporting and Recordkeeping Requirements	§60.48c(i)		B-1, B-2	All required records must be maintained for a period of two years following the date of the record.
40 CFR Part 60 - Standards of Performance for New Stationary Sources: Subparts B, C, Cb, Cc, Cd, Ce, D, Da, Db, E, Ea, Eb, Ec, F, G, H, I, J, K, Ka, Kb, L, M, N, Na, O, P, Q, R, S, T, U, V, W, X, Y, Z, AA, AAa, BB, CC, DD, EE, GG, HH, KK, LL, MM, NN, PP, QQ, RR, SS, TT, UU, VV, WW, XX, AAA, BBB, DDD, FFF, GGG, HHH, III, JJJ, KKK, LLL, NNN, OOO, PPP, QQQ, RRR, SSS, TTT, UUU, VVV, and WWW		X		None of the listed NSPS' contain requirements which are applicable to the McDavid Sawmill.
40 CFR Part 61 - National Emission Standards for Hazardous Air Pollutants: Subparts A, B, C, D, E, F, H, I, J, K, L, M, N, O, P, Q, R, T, V, W, Y, BB, and FF		X		None of the listed NESHAPS' contain requirements which are applicable to the McDavid Sawmill.

Table A-1. Summary of Federally EPA Regulatory Applicability and Corresponding Requirements (Page 3 of 5)

Regulation	Citation	Not Applicable	Applicable Emission Units	Applicable Requirement or Non-Applicability Rationale
40 CFR Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories: Subparts A, B, C, D, E, F, G, H, I, L, M, N, O, Q, R, S, T, U, W, X, Y, CC, DD, EE, GG, II, JJ, KK, LL, OO, PP, QQ, RR, VV, EEE, GGG, III, and JJJ		X		None of the listed NESHAPS' contain requirements which are applicable to the McDavid Sawmill.
40 CFR Part 82 - Protection of Stratospheric Ozone				
Production and Consumption Controls	Subpart A	X		The McDavid Sawmill will not produce or consume ozone depleting substances.
Servicing of Motor Vehicle Air Conditioners	Subpart B	X		Champion personnel will not perform servicing of motor vehicles which involves refrigerant in the motor vehicle air conditioner. All such servicing will be conducted by persons who comply with Subpart B requirements.
Ban on Nonessential Products Containing Class I Substances and Ban on Nonessential Products Containing or Manufactured with Class II Substances	Subpart C	X		Champion will not sell or distribute any banned nonessential substances.
The Labeling of Products Using Ozone-Depleting Substances	Subpart E	X		The McDavid Sawmill will not produce any products containing ozone depleting substances.
Subpart F - Recycling and Emissions Reduction				
Prohibitions	§82.154	X		Champion personnel will not maintain, service, repair, or dispose of any appliances. All such activities will be performed by independent parties in compliance with §82.154 prohibitions.
Required Practices	§82.156 except §82.156(i)(5), (6), (9), (10), and (11)	X		Contractors will maintain, service, repair, and dispose of any appliances in compliance with §82.156 required practices.

Table A-1. Summary of Federally EPA Regulatory Applicability and Corresponding Requirements (Page 4 of 5)

Regulation	Citation	Not Applicable	Applicable Emission Units	Applicable Requirement or Non-Applicability Rationale
Subpart F - Recycling and Emissions Reduction				
Required Practices	§82.156(i)(5), (6), (9), (10), and (11)		Appliances as defined by §82.152- any device which contains and uses a Class I or II substance as a refrigerant and which is used for household or commercial purposes, including any air conditioner, refrigerator, chiller, or freezer	Owner/operator requirements pertaining to repair of leaks.
Technician Certification	§82.161	X		Champion personnel will not maintain, service, repair, or dispose of any appliances and therefore are not subject to technician certification requirements.
Certification By Owners of Recovery and Recycling Equipment	§82.162	X		Champion personnel will not maintain, service, repair, or dispose of any appliances and therefore do not use recovery and recycling equipment.
Reporting and Recordkeeping Requirements	§82.166(k), (m), and (n)		Appliances as defined by §82.152	Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep servicing records documenting the date and type of service, as well as the quantity of refrigerant added.
40 CFR Part 50 - National Primary and Secondary Ambient Air Quality Standards		X		State agency requirements - not applicable to individual emission sources.

Table A-1. Summary of Federally EPA Regulatory Applicability and Corresponding Requirements (Page 5 of 5)

Regulation	Citation	Not Applicable	Applicable Emission Units	Applicable Requirement or Non-Applicability Rationale
40 CFR Part 51 - Requirements for Preparation, Adoption, and Submittal of Implementation Plans		X		State agency requirements - not applicable to individual emission sources.
40 CFR Part 52 - Approval and Promulgation of Implementation Plans		X		State agency requirements - not applicable to individual emission sources.
40 CFR Part 62 - Approval and Promulgation of State Plans for Designated Facilities and Pollutants		X		State agency requirements - not applicable to individual emission sources.
40 CFR Part 64 - Compliance Assurance Monitoring			Planermill (DC-1)	Program applies to emission units which are equipped with control devices and have pre-control emissions greater than major source thresholds. Monitoring plan required to be submitted as part of initial Part 70 (Title V) permit application.
40 CFR Part 70 - State Operating Permit Programs.		X		State agency requirements - not applicable to individual emission sources.
40 CFR Parts 53, 54, 55, 56, 57, 58, 59, 66, 67, 68, 69, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 85, 86, 87, 88, 89, 90, 91, 92, 93, 95, and 96		X		The listed regulations do not contain any requirements which are applicable to the McDavid Sawmill.

Source: ECT, 1999.

Table A-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 1 of 11)

Regulation	Citation	Not Applicable	Applicable: Facility-Wide	Applicable: Emission Units	Applicable Requirement or Non-Applicability Rationale
Chapter 62-4, F.A.C. - Permits: Part I General					
Scope of Part I	62-4.001, F.A.C.	X			Contains no applicable requirements.
Definitions	62-4.020, .021, F.A.C.	X			Contains no applicable requirements.
Transferability of Definitions	62-4.021, .021, F.A.C.	X			Contains no applicable requirements.
General Prohibition	**62-4.030, F.A.C[1]**		X		All stationary air pollution sources must be permitted, unless otherwise exempted.
Exemptions	**62-4.040, F.A.C[1]**		X		Certain structural changes exempt from permitting. Other stationary sources exempt from permitting upon FDEP insignificance determination.
Procedures to Obtain Permits	**62-4.050, F.A.C.[1]**		X		General permitting requirements.
Surveillance Fees	62-4.052, F.A.C.	X			Not applicable to air emission sources.
Permit Processing	62-4.055, F.A.C.	X			Contains no applicable requirements.
Consultation	62-4.060, F.A.C.	X			Consultation is encouraged, not required.
Standards for Issuing or Denying Permits; Issuance; Denial	62-4.070, F.A.C	X			Establishes standard procedures for FDEP. Requirement is not applicable to Smith Unit 3.
Modification of Permit Conditions	62-4.080, F.A.C	X			Application is for initial construction permit. Modification of permit conditions is not being requested.
Renewals	**62-4.090, F.A.C.[1]**		X		Establishes permit renewal criteria. Additional criteria are cited at 62-213.-430(3), F.A.C. **(future requirement)**
Suspension and Revocation	**62-4.100, F.A.C.[1]**		X		Establishes permit suspension and revocation criteria.

Table A-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 2 of 11)

Regulation	Citation	Not Applicable	Applicable: Facility-Wide	Applicable: Emission Units	Applicable Requirement or Non-Applicability Rationale
Financial Responsibility	62-4.110, F.A.C.	X			Contains no applicable requirements.
Transfer of Permits	62-4.120, F.A.C.	X			A sale or legal transfer of a permitted facility is not included in this application.
Plant Operation - Problems	**62-4.130, F.A.C.**[1]		X		Immediate notification is required whenever the permittee is temporarily unable to comply with any permit condition. Notification content is specified. **(potential future requirement)**
Review	62-4.150, F.A.C.	X			Contains no applicable requirements.
Permit Conditions	62-4.160, F.A.C.	X			Contains no applicable requirements.
Scope of Part II	62-4.200, F.A.C.	X			Contains no applicable requirements.
Construction Permits	62-4.210, F.A.C.	X			General requirements for construction permits.
Operation Permits for New Sources	62-4.220, F.A.C.	X			General requirements for initial new source operation permits. **(future requirement)**
Water Permit Provisions	62-4.240 - 250, F.A.C.	X			Contains no applicable requirements.
Chapter 62-17, F.A.C. - Electrical Power Plant Siting		X			Power Plant Siting Act provisions.
Chapter 62-102, F.A.C. - Rules of Administrative Procedure - Rule Making			X		General administrative procedures.
Chapter 62-103, F.A.C. - Rules of Administrative Procedure - Final Agency Action			X		General administrative procedures.

Table A-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 3 of 11)

Regulation	Citation	Not Applicable	Applicable: Facility-Wide	Applicable: Emission Units	Applicable Requirement or Non-Applicability Rationale
Chapter 62-204, F.A.C. - State Implementation Plan					
State Implementation Plan	62-204.100, .200, .220(1)-(3), .240, .260, .320, .340, .360, .400, and .500, F.A.C.	X			Contains no applicable requirements.
Ambient Air Quality Protection	62-204.220(4), F.A.C.		X		Assessments of ambient air pollutant impacts must be made using applicable air quality models, data bases, and other requirements approved by FDEP and specified in 40 CFR Part 51, Appendix W.
State Implementation Plan	62-204.800(1) - (6), F.A.C.	X			Referenced federal regulations contain no applicable requirements.
State Implementation Plan	**62-204.800(7)(a), (b)4., (c), (d), and (e), F.A.C.**[1]			B-1, B-2	NSPS Subpart Dc; see Table A-1 for detailed federal regulatory citations.
State Implementation Plan	62-204.800(8) - (13), (15), (17), (20), and (22) F.A.C.	X			Referenced federal regulations contain no applicable requirements.
State Implementation Plan	62-204.800 (14), (15), (16), (17), (18), (19), F.A.C.	X			Acid Rain Program
State Implementation Plan	**62-204.800(21), F.A.C.**[1]		X		Protection of Stratospheric Ozone; see Table A-1 for detailed federal regulatory citations.
Chapter 62-210, F.A.C. - Stationary Sources - General Requirements					
Purpose and Scope	62-210.100, F.A.C.	X			Contains no applicable requirements.
Definitions	62-210.200, F.A.C.	X			Contains no applicable requirements.
Small Business Assistance Program	62-210.220, F.A.C.	X			Contains no applicable requirements.

Table A-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 4 of 11)

Regulation	Citation	Not Applicable	Applicable: Facility-Wide	Applicable: Emission Units	Applicable Requirement or Non-Applicability Rationale
Permits Required	62-210.300(1) and (3), F.A.C.		X		Air construction permit required. Exemptions from permitting specified for certain facilities and sources.
Permits Required	62-210.300(2), F.A.C.		X		Air operation permit required. **(future requirement)**
Air General Permits	62-210.300(4), F.A.C.	X			Not applicable to the McDavid Sawmill.
Notification of Startup	62-210.300(5), F.A.C.	X			Sources which have been shut down for more than one year shall notify the FDEP prior to startup.
Emission Unit Reclassification	62-210.300(6), F.A.C.		X		Emission unit reclassification **(potential future requirement)**
Public Notice and Comment Public Notice of Proposed Agency Action	62-210.350(1), F.A.C.		X		All permit applicants required to publish notice of proposed agency action.
Additional Notice Requirements for Sources Subject to Prevention of Significant Deterioration or Nonattainment Area New Source Review	62-210.350(2), F.A.C.		X		Additional public notice requirements for PSD and nonattainment area NSR applications.
Additional Public Notice Requirements for Sources Subject to Operation Permits for Title V Sources	62-210.350(3), F.A.C.		X		Notice requirements for Title V operating permit applicants **(future requirement)**.
Public Notice Requirements for FESOPS and 112(g) Emission Sources	62-210.350(4) and (5), F.A.C.	X			Not applicable to the McDavid Sawmill.
Administrative Permit Corrections	62-210.360, F.A.C.	X			An administrative permit correction is not requested in this application.

Table A-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 5 of 11)

Regulation	Citation	Not Applicable	Applicable: Facility-Wide	Applicable: Emission Units	Applicable Requirement or Non-Applicability Rationale
Reports Notification of Intent to Relocate Air Pollutant Emitting Facility	62-210.370(1), F.A.C.	X			Project does not have any relocatable emission units.
Annual Operating Report for Air Pollutant Emitting Facility	62-210.370(3), F.A.C.		X		Specifies annual reporting requirements. **(future requirement)**.
Stack Height Policy	62-210.550, F.A.C.		X		Limits credit in air dispersion studies to good engineering practice (GEP) stack heights for stacks constructed or modified since 12/31/70.
Circumvention	62-210.650, F.A.C.			Units with control equipment	An applicable air pollution control device cannot be circumvented and must be operated whenever the emission unit is operating.
Excess Emissions	62-210.700(1), F.A.C.		X		Excess emissions due to startup, shut down, and malfunction are permitted for no more than two hours in any 24 hour period unless specifically authorized by the FDEP for a longer duration.
Excess Emissions	62-210.700(2) and (3), F.A.C.	X			Not applicable to the McDavid Sawmill.
Excess Emissions	62-210.700(4), F.A.C.		X		Excess emissions caused entirely or in part by poor maintenance, poor operations, or any other equipment or process failure which may reasonably be prevented during startup, shutdown, or malfunction are prohibited. **(potential future requirement)**.
Excess Emissions	62-210.700(5), F.A.C.	X			Contains no applicable requirements.

Table A-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 6 of 11)

Regulation	Citation	Not Applicable	Applicable: Facility-Wide	Applicable: Emission Units	Applicable Requirement or Non-Applicability Rationale
Excess Emissions	62-210.700(6), F.A.C.		X		Excess emissions resulting from malfunctions must be reported to the FDEP in accordance with 62-4.130, F.A.C. **(potential future requirement)**.
Forms and Instructions	62-210.900(5), F.A.C.		X		Contains AOR requirements.
Notification Forms for Air General Permits	62-210.920, F.A.C.	X			Contains no applicable requirements.
Chapter 62-212, F.A.C. - Stationary Sources - Preconstruction Review					
Purpose and Scope	62-212.100, F.A.C.	X			Contains no applicable requirements.
General Preconstruction Review Requirements	62-212.300, F.A.C.		X		General air construction permit requirements.
Prevention of Significant Deterioration	62-212.400, F.A.C.		X		PSD permit required prior to construction of the McDavid Sawmill.
New Source Review for Nonattainment Areas	62-212.500, F.A.C.	X			McDavid Sawmill is not located in a nonattainment area or a nonattainment area of influence.
Sulfur Storage and Handling Facilities	62-212.600, F.A.C.	X			Applicable only to sulfur storage and handling facilities.
Air Emissions Bubble	62-212.710, F.A.C.	X			Not applicable to the McDavid Sawmill.
Chapter 62-213, F.A.C. - Operation Permits for Major Sources of Air Pollution					
Purpose and Scope	62-213.100, F.A.C.	X			Contains no applicable requirements.
Annual Emissions Fee	62-213.205(1), and (4), F.A.C.		X		Annual emissions fee and documentation requirements. **(future requirement)**
Annual Emissions Fee	62-213.205(2) and (3), F.A.C.	X			Contains no applicable requirements.
Title V Air General Permits	62-213.300, F.A.C.	X			No eligible facilities

Table A-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 7 of 11)

Regulation	Citation	Not Applicable	Applicable: Facility-Wide	Applicable: Emission Units	Applicable Requirement or Non-Applicability Rationale
Permits and Permit Revisions Required	62-213.400, F.A.C.		X		Title V operation permit required. **(future requirement)**
Changes Without Permit Revision	62-213.410, F.A.C.		X		Certain changes may be made if specific notice and recordkeeping requirements are met **(potential future requirement)**.
Immediate Implementation Pending Revision Process	62-213.412, F.A.C.		X		Certain modifications can be implemented pending permit revision if specific criteria are met **(potential future requirement)**.
Fast-Track Revisions of Acid Rain Parts	62-213.413, F.A.C.	X			Optional provisions for Acid Rain permit revisions.
Trading of Emissions within a Source	62-213.415, F.A.C.	X			Applies only to facilities with a federally enforceable emissions cap.
Permit Applications	62-213.420(1)(a)2. and (1)(b), (2), (3), and (4), F.A.C.		X		Title V operating permit application required no later than 180 days after commencing operation. **(future requirement)**
Permit Issuance, Renewal, and Revision					
Action on Application	62-213.430(1), F.A.C.	X			Contains no applicable requirements.
Permit Denial	62-213.430(2), F.A.C.	X			Contains no applicable requirements.
Permit Renewal	62-213.430(3), F.A.C.		X		Permit renewal application requirements **(future requirement)**.
Permit Revision	62-213.430(4), F.A.C.		X		Permit revision application requirements **(potential future requirement)**.
EPA Recommended Actions	62-213.430(5), F.A.C.	X			Contains no applicable requirements.
Insignificant Emission Units	62-213.430(6), F.A.C.		X		Contains no applicable requirements.
Permit Content	62-213.440, F.A.C.	X			Agency procedures, contains no applicable requirements.

Table A-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 8 of 11)

Regulation	Citation	Not Applicable	Applicable: Facility-Wide	Applicable: Emission Units	Applicable Requirement or Non-Applicability Rationale
Permit Review by EPA and Affected States	62-213.450, F.A.C.	X			Agency procedures, contains no applicable requirements.
Permit Shield	62-213.460, F.A.C.		X		Provides permit shield for facilities in compliance with permit terms and conditions. **(future requirement)**
Forms and Instructions	62-213.900(1), F.A.C.		X		Contains annual emissions fee form requirements.
Chapter 62-214—Requirements for Sources Subject to the Federal Acid Rain Program		X			Acid Rain Program requirements.
Chapter 62-242 - Motor Vehicle Standards and Test Procedures	62-242, F.A.C.	X			Not applicable to the McDavid Sawmill.
Chapter 62-243 - Tampering with Motor Vehicle Air Pollution Control Equipment	62-243, F.A.C.	X			Not applicable to the McDavid Sawmill.
Chapter 62-252 - Gasoline Vapor Control	62-252, F.A.C.	X			Not applicable to the McDavid Sawmill.
Chapter 62-256 - Open Burning and Frost Protection Fires					
Declaration and Intent	62-256.100, F.A.C.	X			Contains no applicable requirements.
Definitions	62-256.200, F.A.C.	X			Contains no applicable requirements.
Prohibitions	**62-256.300, F.A.C.**[1]		X		Prohibits open burning.
Burning for Cold and Frost Protection	62-256.450, F.A.C.	X			Limited to agricultural protection.
Land Clearing	**62-256.500, F.A.C.**[1]		X		Defines allowed open burning for non-rural land clearing and structure demolition.
Industrial, Commercial, Municipal, and Research Open Burning	**62-256.600, F.A.C.**[1]		X		Prohibits industrial open burning

Table A-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 9 of 11)

Regulation	Citation	Not Applicable	Applicable: Facility-Wide	Applicable: Emission Units	Applicable Requirement or Non-Applicability Rationale
Open Burning allowed	**62-256.700, F.A.C.**[1]		X		Specifies allowable open burning activities. **(potential future requirement)**
Effective Date	**62-256.800, F.A.C.**[1]	X			Contains no applicable requirements.
Chapter 62-257 - Asbestos Fee	62-257, F.A.C.	X			Not applicable to the McDavid Sawmill.
Chapter 62-281 - Motor Vehicle Air Conditioning Refrigerant Recovery and Recycling	62-281, F.A.C.	X			Not applicable to the McDavid Sawmill.
Chapter 62-296 - Stationary Source - Emission Standards					
Purpose and Scope	62-296.100, F.A.C.	X			Contains no applicable requirements
General Pollutant Emission Limiting Standard, Volatile Organic Compounds Emissions	62-296.320(1), F.A.C.		X		Known and existing vapor control devices must be applied as required by the Department.
General Pollutant Emission Limiting Standard, Objectionable Odor Prohibited	**62-296.320(2), F.A.C.**[1]		X		Objectionable odor release is prohibited.
General Pollutant Emission Limiting Standard, Industrial, Commercial, and Municipal Open Burning Prohibited	**62-296.320(3), F.A.C.**[1]		X		Open burning in connection with industrial, commercial, or municipal operations is prohibited.
General Particulate Emission Limiting Standard, Process Weight Table	62-296.320(4)(a), F.A.C.	X			McDavid Sawmill does not have any applicable emission units. Combustion emission units are exempt per 62-296.320(4)(a)1a.
General Particulate Emission Limiting Standard, General Visible Emission Standard	62-296.320(4)(b), F.A.C.		X		Opacity limited to 20 percent, unless otherwise permitted. Test methods specified.
General Particulate Emission Limiting Standard, Unconfined Emission of Particulate Matter	62-296.320(4)(c), F.A.C.		X		Reasonable precautions must be taken to prevent unconfined particulate matter emission.

Table A-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 10 of 11)

Regulation	Citation	Not Applicable	Applicable: Facility-Wide	Applicable: Emission Units	Applicable Requirement or Non-Applicability Rationale
Specific Emission Limiting and Performance Standards	62-296.401 through 62-296.417, F.A.C.	X			None of the referenced standards are applicable to the McDavid Sawmill.
Reasonably Available Control Technology (RACT) Volatile Organic Compounds (VOC) and Nitrogen Oxides (NO_x) Emitting Facilities	62-296.500 through 62-296.516, F.A.C.	X			McDavid Sawmill is not located in an ozone nonattainment area or an ozone air quality maintenance area.
Reasonably Available Control Technology (RACT) - Requirements for Major VOC- and NO_x-Emitting Facilities	62-296.570, F.A.C.	X			McDavid Sawmill is not located in a specified ozone nonattainment area or a specified ozone air quality maintenance area (i.e., is not located in Broward, Dade or Palm Beach Counties)
Reasonably Available Control Technology (RACT) - Lead	62-296.600 through 62-296.605, F.A.C.	X			McDavid Sawmill is not located in a lead nonattainment area or a lead air quality maintenance area.
Reasonably Available Control Technology (RACT)—Particulate Matter	§62-296.700 through 62-296.712, F.A.C.	X			McDavid Sawmill is not located in a PM nonattainment area or a PM air quality maintenance area.

Table A-2. Summary of FDEP Regulatory Applicability and Corresponding Requirements (Page 11 of 11)

Regulation	Citation	Not Applicable	Applicable: Facility-Wide	Applicable: Emission Units	Applicable Requirement or Non-Applicability Rationale
Chapter 62-297 - Stationary Sources - Emissions Monitoring					
Purpose and Scope	62-297.100, F.A.C.	X			Contains no applicable requirements.
General Compliance Test Requirements	62-297.310, F.A.C.		X		Specifies general compliance test requirements.
Compliance Test Methods	62-297.401, F.A.C.	X			Contains no applicable requirements.
Supplementary Test Procedures	62-297.440, F.A.C.	X			Contains no applicable requirements.
EPA VOC Capture Efficiency Test Procedures	62-297.450, F.A.C.	X			Not applicable to the McDavid Sawmill.
CEMS Performance Specifications	62-297.520, F.A.C.	X			Contains no applicable requirements.
Exceptions and Approval of Alternate Procedures and Requirements	62-297.620, F.A.C.	X			Exceptions or alternate procedures have not been requested.

[1] - State requirement only; not federally enforceable.

Source: ECT, 1999.

ATTACHMENT A-2

II.E.4—PRECAUTIONS TO PREVENT EMISSIONS OF UNCONFINED PARTICULATE MATTER

PRECAUTIONS TO PREVENT EMISSIONS OF UNCONFINED PARTICULATE MATTER

Unconfined particulate matter emissions that may result from McDavid Sawmill operations include:

- Vehicular traffic on paved and unpaved roads.
- Wind-blown dust from yard areas.
- Periodic abrasive blasting.

The following techniques may be used to control unconfined particulate matter emissions on an as needed basis:

- Chemical or water application to:
  - Paved yard areas
  - Unpaved yard areas
- Paving and maintenance of roads, parking areas and yards.
- Landscaping or planting of vegetation.
- Confining abrasive blasting where possible.
- Other techniques, as necessary

ATTACHMENT A-3

III.L.2—FUEL ANALYSES OR SPECIFICATIONS

Typical Natural Gas Composition

Component	Mole Percent (by volume)
Gas Composition	
Hexane+	0.061
Propane	0.890
I-butane	0.189
N-butane	0.168
I-pentane	0.038
N-pentane	0.026
Nitrogen	0.527
Methane	93.813
CO_2	1.024
Ethane	3.2820
Other Characteristics	
Heat content (HHV)	1,050 Btu/ft^3 at 14.73 psia, dry
Real specific gravity	0.5999
Sulfur content (maximum)	2.0 gr/100 scf

Note: Btu/ft^3 = British thermal units per cubic foot.
psia = pounds per square inch absolute.
gr/100 scf = grains per 100 standard cubic foot.

Source: Koch, 1999.
Champion, 1999.

ATTACHMENT B

EMISSION RATE CALCULATIONS

POINT SOURCES

EMISSION INVENTORY WORKSHEET

Champion International - McDavid Sawmill

B-1

EMISSION SOURCE TYPE

NATURAL GAS COMBUSTION - CRITERIA POLLUTANTS | Figure: 2-2

FACILITY AND SOURCE DESCRIPTION

Emission Source Description:	Boiler No. 1
Emission Control Method(s)/ID No.(s):	None
Emission Point ID:	B-1

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = Heat Input (MMBtu/hr) x Pollutant Emission Factor (lb/MMBtu)

Emission (ton/yr) = Heat Input (MMBtu/hr) x Pollutant Emission Factor (lb/MMBtu) x Operating Period (hrs/yr) x (1 ton/ 2,000 lb)

Source: ECT, 1999.

INPUT DATA AND EMISSIONS CALCULATIONS

Operating Hours:	24 Hrs/Day	7 Days/Wk	8,760 Hrs/Yr	
Heat Input:	55 10^6 Btu/hr	389,820 10^6 Btu/yr (LHV)		
Natural Gas Usage:	0.058 10^6 ft^3/hr	Natural Gas Heat Content (LHV):	950 Btu/ft^3	

Criteria Pollutant	Pollutant Emission Factor ($lb/10^6$ ft^3)	Pollutant Emission Factor ($lb/10^6$ Btu)	Potential Emission Rates (lb/hr)	Potential Emission Rates (tpy)
SO_2	0.60	0.0006	0.035	0.12
NO_x	95.0	0.1000	5.5	19.5
PM/PM_{10}	3.3	0.0035	0.19	0.7
CO	171.0	0.1800	9.9	35.1
VOC	15.2	0.0160	0.88	3.1
Lead	5.00E-04	5.26E-07	2.89E-05	1.27E-04

SOURCES OF INPUT DATA

Parameter	Data Source
Operating Hours	Champion, 1999.
Maximum Heat Input	Champion, 1999.
Emission Factor; NO_2, CO, VOC, PM/PM_{10}	Boiler Vendor Data, 1999.
Emission Factors; SO_2 and Lead	Table 1.4-2, AP-42, EPA, March 1998.

NOTES AND OBSERVATIONS

DATA CONTROL

Data Collected by:	T. Davis	**Date:**	5/99
Evaluated by:	T. Davis	**Date:**	5/99
Data Entered by:	T. Davis	**Date:**	5/99

EMISSION INVENTORY WORKSHEET

Champion International - McDavid Sawmill

B-1

EMISSION SOURCE TYPE

NATURAL GAS COMBUSTION - HAZARDOUS AIR POLLUTANTS | Figure: 2-2

FACILITY AND SOURCE DESCRIPTION

Emission Source Description:	Boiler No. 1
Emission Control Method(s)/ID No.(s):	None
Emission Point ID:	B-1

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = Heat Input (MMBtu/hr) x Pollutant Emission Factor (lb/MMBtu)

Emission (ton/yr) = Heat Input (MMBtu/hr) x Pollutant Emission Factor (lb/MMBtu) x Operating Period (hrs/yr) x (1 ton/ 2,000 lb)

Source: ECT, 1999.

INPUT DATA AND EMISSIONS CALCULATIONS

Operating Hours:	24	Hrs/Day	7	Days/Wk	8,760 Hrs/Yr
Heat Input:	55	10^6 Btu/hr	389,820	10^6 Btu/yr (LHV)	
Natural Gas Usage:	0.058	10^6 ft^3/hr	Natural Gas Heat Content (LHV):		950 Btu/ft^3

Hazardous Air Pollutant	Pollutant Emission Factor ($lb/10^6$ ft^3)	Pollutant Emission Factor ($lb/10^6$ Btu)	Potential Emission Rates (lb/hr)	Potential Emission Rates (tpy)
Arsenic	2.00E-04	2.11E-07	1.16E-05	4.10E-05
Benzene	2.10E-03	2.21E-06	1.22E-04	4.31E-04
Beryllium	1.20E-05	3.50E-03	6.95E-07	6.82E-01
Cadmium	1.10E-03	1.16E-06	6.37E-05	2.26E-04
Chromium VI	1.40E-03	1.47E-06	8.11E-05	2.87E-04
Cobalt	8.40E-05	8.84E-08	4.86E-06	1.72E-05
Dichlorobenzene	1.20E-03	1.26E-06	6.95E-05	2.46E-04
Formaldehyde	7.50E-02	7.89E-05	4.34E-03	1.54E-02
Hexane	1.80E+00	1.89E-03	1.04E-01	3.69E-01
Manganese	3.80E-04	4.00E-07	2.20E-05	7.80E-05
Mercury	2.60E-04	2.74E-07	1.51E-05	5.33E-05
Naphthalene	6.10E-04	6.42E-07	3.53E-05	1.25E-04
Nickel	2.10E-03	2.21E-06	1.22E-04	4.31E-04
Selenium	2.40E-05	2.53E-08	1.39E-06	4.92E-06
Toluene	3.40E-03	3.58E-06	1.97E-04	6.98E-04

SOURCES OF INPUT DATA

Parameter	Data Source
Operating Hours	Champion, 1999.
Maximum Heat Input	Champion, 1999.
Emission Factors; All	Tables 1.4-3 and 1.4-4, AP-42, EPA, March 1998.

NOTES AND OBSERVATIONS

DATA CONTROL

Data Collected by:	T. Davis	**Date:**	5/99
Evaluated by:	T. Davis	**Date:**	5/99
Data Entered by:	T. Davis	**Date:**	5/99

EMISSION INVENTORY WORKSHEET

Champion International - McDavid Sawmill

B-2

EMISSION SOURCE TYPE

NATURAL GAS COMBUSTION - CRITERIA POLLUTANTS | Figure: 2-2

FACILITY AND SOURCE DESCRIPTION

Emission Source Description:	Boiler No. 2
Emission Control Method(s)/ID No.(s):	None
Emission Point ID:	B-2

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = Heat Input (MMBtu/hr) x Pollutant Emission Factor (lb/MMBtu)

Emission (ton/yr) = Heat Input (MMBtu/hr) x Pollutant Emission Factor (lb/MMBtu) x Operating Period (hrs/yr) x (1 ton/ 2,000 lb)

Source: ECT, 1999.

INPUT DATA AND EMISSIONS CALCULATIONS

Operating Hours:	24 Hrs/Day	7 Days/Wk		8,760 Hrs/Yr
Heat Input:	55 10^6 Btu/hr	389,820 10^6 Btu/yr (LHV)		
Natural Gas Usage:	0.058 10^6 ft^3/hr	Natural Gas Heat Content (LHV):		950 Btu/ft^3

Criteria Pollutant	Pollutant Emission Factor (lb/10^6 ft^3)	Pollutant Emission Factor (lb/10^6 Btu)	Potential Emission Rates (lb/hr)	Potential Emission Rates (tpy)
SO_2	0.60	0.0006	0.035	0.12
NO_x	95.0	0.1000	5.5	19.5
PM/PM_{10}	3.3	0.0035	0.19	0.7
CO	171.0	0.1800	9.9	35.1
VOC	15.2	0.0160	0.88	3.1
Lead	5.00E-04	5.26E-07	2.89E-05	1.27E-04

SOURCES OF INPUT DATA

Parameter	Data Source
Operating Hours	Champion, 1999.
Maximum Heat Input	Champion, 1999.
Emission Factor; NO_2, CO, VOC, PM/PM_{10}	Boiler Vendor Data, 1999.
Emission Factors; SO_2 and Lead	Table 1.4-2, AP-42, EPA, March 1998.

NOTES AND OBSERVATIONS

DATA CONTROL

Data Collected by:	T. Davis	**Date:**	5/99
Evaluated by:	T. Davis	**Date:**	5/99
Data Entered by:	T. Davis	**Date:**	5/99

EMISSION INVENTORY WORKSHEET

Champion International - McDavid Sawmill

B-2

EMISSION SOURCE TYPE

NATURAL GAS COMBUSTION - HAZARDOUS AIR POLLUTANTS | Figure: 2-2

FACILITY AND SOURCE DESCRIPTION

Emission Source Description:	Boiler No. 2
Emission Control Method(s)/ID No.(s):	None
Emission Point ID:	B-2

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = Heat Input (MMBtu/hr) x Pollutant Emission Factor (lb/MMBtu)

Emission (ton/yr) = Heat Input (MMBtu/hr) x Pollutant Emission Factor (lb/MMBtu) x Operating Period (hrs/yr) x (1 ton/ 2,000 lb)

Source: ECT, 1999.

INPUT DATA AND EMISSIONS CALCULATIONS

Operating Hours:	24	Hrs/Day	7	Days/Wk	8,760 Hrs/Yr
Heat Input:	55	10^6 Btu/hr	389,820	10^6 Btu/yr (LHV)	
Natural Gas Usage:	0.058	10^6 ft^3/hr	Natural Gas Heat Content (LHV):		950 Btu/ft^3

Hazardous Air Pollutant	Pollutant Emission Factor ($lb/10^6$ ft^3)	Pollutant Emission Factor ($lb/10^6$ Btu)	Potential Emission Rates (lb/hr)	Potential Emission Rates (tpy)
Arsenic	2.00E-04	2.11E-07	1.16E-05	4.10E-05
Benzene	2.10E-03	2.21E-06	1.22E-04	4.31E-04
Beryllium	1.20E-05	1.26E-08	6.95E-07	2.46E-06
Cadmium	1.10E-03	1.16E-06	6.37E-05	2.26E-04
Chromium VI	1.40E-03	1.47E-06	8.11E-05	2.87E-04
Cobalt	8.40E-05	8.84E-08	4.86E-06	1.72E-05
Dichlorobenzene	1.20E-03	1.26E-06	6.95E-05	2.46E-04
Formaldehyde	7.50E-02	7.89E-05	4.34E-03	1.54E-02
Hexane	1.80E+00	1.89E-03	1.04E-01	3.69E-01
Manganese	3.80E-04	4.00E-07	2.20E-05	7.80E-05
Mercury	2.60E-04	2.74E-07	1.51E-05	5.33E-05
Naphthalene	6.10E-04	6.42E-07	3.53E-05	1.25E-04
Nickel	2.10E-03	2.21E-06	1.22E-04	4.31E-04
Selenium	2.40E-05	2.53E-08	1.39E-06	4.92E-06
Toluene	3.40E-03	3.58E-06	1.97E-04	6.98E-04

SOURCES OF INPUT DATA

Parameter	Data Source
Operating Hours	Champion, 1999.
Maximum Heat Input	Champion, 1999.
Emission Factors; All	Tables 1.4-3 and 1.4-4, AP-42, EPA, March 1998.

NOTES AND OBSERVATIONS

DATA CONTROL

Data Collected by:	T. Davis	**Date:**	5/99
Evaluated by:	T. Davis	**Date:**	5/99
Data Entered by:	T. Davis	**Date:**	5/99

EMISSION INVENTORY WORKSHEET

Champion International - McDavid Sawmill

K1 - K3

EMISSION SOURCE TYPE

INDIRECT-FIRED KILNS | Figure: 2-2

FACILITY AND SOURCE DESCRIPTION

Emission Source Description:	Kilns 1 - 3
Emission Control Method(s)/ID No.(s):	None
Emission Point ID:	K1 - K3

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = Production Rate (MBF/hr) x Pollutant Emission Factor (lb/MBF)

Emission (ton/yr) = Production Rate (MBF/hr) x Pollutant Emission Factor (lb/MBF) x Operating Period (hrs/yr) x (1 ton/ 2,000 lb)

Source: ECT, 1999.

INPUT DATA AND EMISSIONS CALCULATIONS

Operating Hours:	24	Hrs/Day	7	Days/Wk	8,760 Hrs/Yr
Production Rates:	25.68	MBF/hr	225,000	MBF/yr	

Criteria Pollutant	Pollutant Emission Factor (lb/MBF)	Potential Emission Rates (lb/hr)	Potential Emission Rates (tpy)
PM/PM_{10}	0.037	0.95	4.2
VOC (Hourly)	3.32	85.3	N/A
VOC (Annual)	2.84	72.9	319.5
Methanol	0.037067	0.95	4.2
Formaldehyde	0.002867	0.074	0.32

SOURCES OF INPUT DATA

Parameter	Data Source
Operating Hours	Champion, 1999.
Production Rates	Champion, 1999.
Emission Factor; VOC, PM/PM_{10}	NCASI, 1999.
Emission Factor; Methanol	NCASI, 1999.
Emission Factor; Formaldehyde	NCASI, 1999.

NOTES AND OBSERVATIONS

DATA CONTROL

Data Collected by:	T. Davis	**Date:**	5/99
Evaluated by:	T. Davis	**Date:**	5/99
Data Entered by:	T. Davis	**Date:**	5/99

EMISSION INVENTORY WORKSHEET

Champion International - McDavid Sawmill

DC-1

EMISSION SOURCE TYPE

PLANERMILL PARTICULATE MATTER DUST COLLECTOR | Figure: 2-2

FACILITY AND SOURCE DESCRIPTION

Emission Source Description:	Planermill Shavings Dust Collection System
Emission Control Method(s)/ID No.(s):	Cyclone/Baghouse
Emission Point ID:	DC-1

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = Exhaust Flow Rate (scfm) x (grains PM/scf) x (1 lb/7,000 grains) x (60 min/hr)

Emission (ton/yr) = Exhaust Flow Rate (scfm) x (grains PM/scf) x (1 lb/7,000 grains) x (60 min/hr) x (hrs/yr) x (1 ton/2,000 lb)

Source: ECT, 1999.

INPUT DATA AND EMISSIONS CALCULATIONS

Operating Hours: 24 Hrs/Day | 7 Days/Wk | 8,760 Hrs/Yr

Criteria Pollutant	Exhaust Flow Rate (scfm)	Exit PM Concentration (gr/scf)	Potential Emission Rates (lb/hr)	Potential Emission Rates (tpy)
PM/PM_{10}	60,000	0.004	2.06	9.0

SOURCES OF INPUT DATA

Parameter	Data Source
Operating Hours	Champion, 1999.
Exhaust Flow Rate	Champion, 1999.
Exit PM Concentration (gr/scf)	Baghouse Vendor Data, 1999.

NOTES AND OBSERVATIONS

DATA CONTROL

Data Collected by:	T. Davis	**Date:**	5/99
Evaluated by:	T. Davis	**Date:**	5/99
Data Entered by:	T. Davis	**Date:**	5/99

Maximum Criteria Pollutant Emission Rates - Point Sources

Emission Source Description	Emission Source ID	Emission Rates									
		PM/PM_{10}		NO_x		SO_2		CO		VOCs	
		(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)
Package Boiler 1	B-1	0.19	0.68	5.50	19.49	0.03	0.12	9.90	35.08	0.88	3.12
Package Boiler 2	B-2	0.19	0.68	5.50	19.49	0.03	0.12	9.90	35.08	0.88	3.12
Kilns 1-3	K1-K3	0.95	4.16	N/A	N/A	N/A	N/A	N/A	N/A	85.27	319.50
Planermill Dust Collector	DC-1	2.06	9.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Totals		**3.39**	**14.54**	**11.00**	**38.98**	**0.07**	**0.25**	**19.80**	**70.17**	**87.03**	**325.74**

Sources: Champion, 1999.
ECT, 1999.

Maximum Noncriteria Pollutant Emission Rates - Point Sources

Hazardous Air Pollutant	Emission Source						Facility Totals	
	Boiler 1		Boiler 1		Kilns 1-3			
	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)
Arsenic	1.16E-05	4.10E-05	1.16E-05	4.10E-05	N/A	N/A	2.32E-05	0.00008
Benzene	1.22E-04	4.31E-04	1.22E-04	4.31E-04	N/A	N/A	2.43E-04	0.00086
Beryllium	6.95E-07	6.82E-01	6.95E-07	2.46E-06	N/A	N/A	1.39E-06	0.68219
Cadmium	6.37E-05	2.26E-04	6.37E-05	2.26E-04	N/A	N/A	1.27E-04	0.00045
Chromium VI	8.11E-05	2.87E-04	8.11E-05	2.87E-04	N/A	N/A	1.62E-04	0.00057
Cobalt	4.86E-06	1.72E-05	4.86E-06	1.72E-05	N/A	N/A	9.73E-06	0.00003
Dichlorobenzene	6.95E-05	2.46E-04	6.95E-05	2.46E-04	N/A	N/A	1.39E-04	0.00049
Formaldehyde	4.34E-03	1.54E-02	4.34E-03	1.54E-02	7.36E-02	3.23E-01	8.23E-02	0.35331
Hexane	1.04E-01	3.69E-01	1.04E-01	3.69E-01	N/A	N/A	2.08E-01	0.73861
Manganese	2.20E-05	7.80E-05	2.20E-05	7.80E-05	N/A	N/A	4.40E-05	0.00016
Methanol	N/A	N/A	N/A	N/A	9.52E-01	4.17E+00	9.52E-01	4.17004
Mercury	1.51E-05	5.33E-05	1.51E-05	5.33E-05	N/A	N/A	3.01E-05	0.00011
Naphthalene	3.53E-05	1.25E-04	3.53E-05	1.25E-04	N/A	N/A	7.06E-05	0.00025
Nickel	1.22E-04	4.31E-04	1.22E-04	4.31E-04	N/A	N/A	2.43E-04	0.00086
Selenium	1.39E-06	4.92E-06	1.39E-06	4.92E-06	N/A	N/A	2.78E-06	0.00001
Toluene	1.97E-04	6.98E-04	1.97E-04	6.98E-04	N/A	N/A	3.94E-04	0.00140
Totals	**0.11**	**1.07**	**0.11**	**0.39**	**1.03**	**4.49**	**1.24**	**5.95**

Sources: Champion, 1999.
ECT, 1999.

FUGITIVE SOURCES

EMISSION INVENTORY WORKSHEET

FUG-PM

Champion International - McDavid Sawmill

EMISSION SOURCE TYPE

FUGITIVE PM - LOG DEBARKING, SAWING, SCREENING, AND CHIPPING — Figure: 2-3

FACILITY AND SOURCE DESCRIPTION

Emission Source Description:	Fugitive PM - Log Debarking, Sawing, Screening, and Chipping
Emission Control Method(s)/ID No.(s):	Moist Material, Enclosures
Emission Point ID:	FUG-PM

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = Emission Factor (lb PM/production level) x (Production level/hr)

Emission (lb/hr) = Emission Factor (lb PM/production level) x (Production level/yr) x (1 ton/2,000 lb)

Source: ECT, 1999.

INPUT DATA AND EMISSIONS CALCULATIONS

Fugitive Source Description	Source ID	Production Levels (lb/hr)	Production Levels (tpy)	Uncontrolled Emission Factor (lb PM/ton)	Control Efficiency (%)	Controlled Emission Factor (lb PM/ton)	Potential Emission Rates (lb/hr)	Potential Emission Rates (tpy)
Chain Saw - North Line	F-1	5,081	13,339	0.3500	90.0	0.0350	0.09	0.23
Chain Saw - South Line	F-2	5,081	13,339	0.3500	90.0	0.0350	0.09	0.23
Log Debarking - North Line	F-3	254,069	666,931	0.0240	70.0	0.0072	0.91	2.4
Log Debarking - South Line	F-4	254,069	666,931	0.0240	70.0	0.0072	0.91	2.4
Cut-Up Saw 1	F-5	113,237	297,246	0.3500	90.0	0.0350	1.98	5.2
Cut-Up Saw 2	F-6	113,237	297,246	0.3500	90.0	0.0350	1.98	5.2
Cut-Up Saw 3	F-7	113,237	297,246	0.3500	90.0	0.0350	1.98	5.2
Cut-Up Saw 4	F-8	113,237	297,246	0.3500	90.0	0.0350	1.98	5.2
Bark Disc Screening	F-11	55,048	144,502	0.0150	44.0	0.0084	0.23	0.61
Bark Hog (Chipper)	F-12	55,048	144,502	0.0007	96.0	0.00003	0.00077	0.0020
Chips Rechipper	F-20	20,997	55,116	0.0007	96.0	0.00003	0.00029	0.0008
Chips Screening	F-21	230,963	606,279	0.0150	44.0	0.0084	0.97	2.5
Sawmill Chipper	F-25	20,997	55,116	0.0007	96.0	0.00003	0.00029	0.00077
Planermill Hog	F-26	6,130	16,090	0.0007	96.0	0.00003	0.000086	0.00023

SOURCES OF INPUT DATA

Parameter	Data Source
Fugitive Source Identification	Champion, 1999.
Production Levels	Champion, 1999.
Uncontrolled Emission Factors	
Log Debarking and Sawing	Section 10.3-1, AP-42, February 1980.
Chipping	Section 11.19.2-1, AP-42, January 1995.
Screening	Section 11.19.2-1, AP-42, January 1995.
Control Efficiency (all except sawing)	Estimate based on high moisture content, Texas Natural Resources Conservation Commission, 1999.
Control Efficiency (sawing)	Estimate based on high moisture content and visual observations of similar operation, ECT, 1999.

NOTES AND OBSERVATIONS

DATA CONTROL

Data Collected by:	T. Davis	Date:	5/99
Evaluated by:	T. Davis	Date:	5/99
Data Entered by:	T. Davis	Date:	5/99

EMISSION INVENTORY WORKSHEET

FUG-PM

Champion International - McDavid Sawmill

EMISSION SOURCE TYPE

FUGITIVE PM_{10} - LOG DEBARKING, SAWING, SCREENING, AND CHIPPING — Figure: 2-3

FACILITY AND SOURCE DESCRIPTION

Emission Source Description:	Fugitive PM_{10} - Log Debarking, Sawing, Screening, and Chipping
Emission Control Method(s)/ID No.(s):	Moist Material, Enclosures
Emission Point ID:	FUG-PM

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = Emission Factor (lb PM/production level) x (Production level/hr)

Emission (lb/hr) = Emission Factor (lb PM/production level) x (Production level/yr) x (1 ton/2,000 lb)

Source: ECT, 1999.

INPUT DATA AND EMISSIONS CALCULATIONS

Fugitive Source Description	Source ID	Production Levels (lb/hr)	Production Levels (tpy)	Uncontrolled Emission Factor (lb PM_{10}/ton)	Control Efficiency (%)	Controlled Emission Factor (lb PM_{10}/ton)	Potential Emission Rates (lb/hr)	Potential Emission Rates (tpy)
Chain Saw - North Line	F-1	5,081	13,339	0.0560	90.0	0.0056	0.01	0.04
Chain Saw - South Line	F-2	5,081	13,339	0.0560	90.0	0.0056	0.01	0.04
Log Debarking - North Line	F-3	254,069	666,931	0.0038	70.0	0.0012	0.15	0.4
Log Debarking - South Line	F-4	254,069	666,931	0.0038	70.0	0.0012	0.15	0.4
Cut-Up Saw 1	F-5	113,237	297,246	0.0560	90.0	0.0056	0.32	0.8
Cut-Up Saw 2	F-6	113,237	297,246	0.0560	90.0	0.0056	0.32	0.8
Cut-Up Saw 3	F-7	113,237	297,246	0.0560	90.0	0.0056	0.32	0.8
Cut-Up Saw 4	F-8	113,237	297,246	0.0560	90.0	0.0056	0.32	0.8
Bark Disc Screening	F-11	55,048	144,502	0.0150	44.0	0.0084	0.23	0.61
Bark Hog (Chipper)	F-12	55,048	144,502	0.0007	96.0	0.00003	0.00077	0.0020
Chips Rechipper	F-20	20,997	55,116	0.0007	96.0	0.00003	0.00029	0.0008
Chips Screening	F-21	230,963	606,279	0.0150	44.0	0.0084	0.97	2.5
Sawmill Chipper	F-25	20,997	55,116	0.0007	96.0	0.00003	0.00029	0.00077
Planermill Hog	F-26	6,130	16,090	0.0007	96.0	0.00003	0.000086	0.00023

SOURCES OF INPUT DATA

Parameter	Data Source
Fugitive Source Identification	Champion, 1999.
Production Levels	Champion, 1999.
Uncontrolled Emission Factors	
Log Debarking and Sawing	Section 10.3-1, AP-42, February 1980.
Chipping	Section 11.19.2-1, AP-42, January 1995.
Screening	Section 11.19.2-1, AP-42, January 1995.
Control Efficiency (all except sawing)	Estimate based on high moisture content, Texas Natural Resources Conservation Commission, 1999.
Control Efficiency (sawing)	Estimate based on high moisture content and visual observations of similar operation, ECT, 1999.

NOTES AND OBSERVATIONS

Note: Uncontrolled PM_{10} emission factor for sawing operations based on 16% of PM (TSP) emission factor based on available particle size data for sawdust.

DATA CONTROL

Data Collected by:	T. Davis	Date:	5/99
Evaluated by:	T. Davis	Date:	5/99
Data Entered by:	T. Davis	Date:	5/99

EMISSION INVENTORY WORKSHEET

FUG-PM

Champion International - McDavid Sawmill

EMISSION SOURCE TYPE

FUGITIVE PM - MATERIAL TRANSFER (DROPS) — Figure: 2-3

FACILITY AND SOURCE DESCRIPTION

Emission Source Description:	Fugitive PM - Material Transfer (Drops)
Emission Control Method(s)/ID No.(s):	Enclosures
Emission Point ID:	FUG-PM

EMISSION ESTIMATION EQUATIONS

PM Emission (lb/hr) = 0.74 x 0.0032 x [(Wind Speed/5)$^{1.3}$ / (Material Moisture Content/2)$^{1.4}$] x Material Handled (ton/hr)

PM Emission (ton/yr) = 0.74 x 0.0032 x [(Wind Speed/5)$^{1.3}$ / (Material Moisture Content/2)$^{1.4}$] x Material Handled (ton/yr) x (1 ton/2,000 lb)

Source: ECT, 1999.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed: 8.3 mph — Material Moisture Content: 50.0 weight %

Material Transfer Point	Source ID	Material Transfer Rates (lb/hr)	Material Transfer Rates (tpy)	Uncontrolled Emission Factor (lb PM/ton)	Control Efficiency (%)	Controlled Emission Factor (lb PM/ton)	Potential Emission Rates (lb/hr)	Potential Emission Rates (tpy)
Bark Transfers								
Main Conveyor to Screen/Hog Conveyor	F-9	55,048	144,502	0.000051	70.0	0.000015	0.00042	0.0011
Screen/Hog Conveyor to Screen/Hog	F-10	55,048	144,502	0.000051	70.0	0.000015	0.00042	0.0011
Screen/Hog to Bark Bin Conveyor	F-13	55,048	144,502	0.000051	70.0	0.000015	0.00042	0.0011
Bark Bin Conveyor to Bark Bin	F-14	55,048	144,502	0.000051	70.0	0.000015	0.00042	0.0011
Bark Bin Truck Loading	F-15	55,048	144,502	0.000051	0.0	0.000051	0.0014	0.0036
Fines (Sawdust) Transfers								
Fines Chip Screen Conveyor to Fines Bin Conveyor	F-16	27,827	73,046	0.000051	70.0	0.000015	0.00021	0.0006
Fines Bin Conveyor to Fines Bin	F-17	27,827	73,046	0.000051	70.0	0.000015	0.00021	0.0006
Fines Bin Truck Loading	F-18	27,827	73,046	0.000051	0.0	0.000051	0.00070	0.0018
Baghouse Fines Truck Loading	F-35	4,719	12,387	0.000051	0.0	0.000051	0.00012	0.0003
Chips Transfers								
Oversize Chips Conveyor to Rechipper Conveyor	F-19	20,997	55,116	0.000051	70.0	0.000015	0.00016	0.00042
Chips Screen to Chips Bin Conveyor	F-22	230,963	606,279	0.000051	70.0	0.000015	0.0018	0.0046
Chips Bin Conveyor to Chips Bin	F-23	230,963	606,279	0.000051	70.0	0.000015	0.0018	0.0046
Chips Bin Truck Loading	F-24	230,963	606,279	0.000051	0.0	0.000051	0.0058	0.015
Planermill Shavings Transfers								
Cyclone Bin Truck Loading	F-27	23,595	61,937	0.000051	0.0	0.000051	0.0006	0.002

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed, mph	Gale Research, Pensacola, FL.
Material Moisture Content	Champion, 1999.
Material Transfer Point Identification	Champion, 1999.
Material Transfer Rates	Champion, 1999.
Control Efficiency	Table 3.2.3-2, Workbook on Estimation and Dispersion Modeling
	For Fugitive Particulate Sources, Utility Air Regulatory Group, September 1981.

NOTES AND OBSERVATIONS

DATA CONTROL

Data Collected by:	T. Davis	Date:	5/99
Evaluated by:	T. Davis	Date:	5/99
Data Entered by:	T. Davis	Date:	5/99

EMISSION INVENTORY WORKSHEET

FUG-PM

Champion International - McDavid Sawmill

EMISSION SOURCE TYPE

FUGITIVE PM_{10} - MATERIAL TRANSFER (DROPS) Figure: 2-3

FACILITY AND SOURCE DESCRIPTION

Emission Source Description:	Fugitive PM_{10} - Material Transfer (Drops)
Emission Control Method(s)/ID No.(s):	Enclosures
Emission Point ID:	FUG-PM

EMISSION ESTIMATION EQUATIONS

PM Emission (lb/hr) = 0.35 x 0.0032 x [(Wind Speed/5)$^{1.3}$ / (Material Moisture Content/2)$^{1.4}$] x Material Handled (ton/hr)

PM Emission (ton/yr) = 0.35 x 0.0032 x [(Wind Speed/5)$^{1.3}$ / (Material Moisture Content/2)$^{1.4}$] x Material Handled (ton/yr) x (1 ton/2,000 lb)

Source: ECT, 1999.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed: 8.3 mph

Material Moisture Content: 50.0 weight %

Material Transfer Point	Source ID	Material Transfer Rates (lb/hr)	Material Transfer Rates (tpy)	Uncontrolled Emission Factor (lb PM/ton)	Control Efficiency (%)	Controlled Emission Factor (lb PM/ton)	Potential Emission Rates (lb/hr)	Potential Emission Rates (tpy)
Bark Transfers								
Main Conveyor to Screen/Hog Conveyor	F-9	55,048	144,502	0.000024	70.0	0.000007	0.00020	0.0005
Screen/Hog Conveyor to Screen/Hog	F-10	55,048	144,502	0.000024	70.0	0.000007	0.00020	0.0005
Screen/Hog to Bark Bin Conveyor	F-13	55,048	144,502	0.000024	70.0	0.000007	0.00020	0.0005
Bark Bin Conveyor to Bark Bin	F-14	55,048	144,502	0.000024	70.0	0.000007	0.00020	0.0005
Bark Bin Truck Loading	F-15	55,048	144,502	0.000024	0.0	0.000024	0.0007	0.0017
Fines (Sawdust) Transfers								
Fines Chip Screen Conveyor to Fines Bin Conveyor	F-16	27,827	73,046	0.000024	70.0	0.000007	0.00010	0.0003
Fines Bin Conveyor to Fines Bin	F-17	27,827	73,046	0.000024	70.0	0.000007	0.00010	0.0003
Fines Bin Truck Loading	F-18	27,827	73,046	0.000024	0.0	0.000024	0.00033	0.0009
Baghouse Fines Truck Loading	F-35	4,719	12,387	0.000024	0.0	0.000024	0.00006	0.0001
Chips Transfers								
Oversize Chips Conveyor to Rechipper Conveyor	F-19	20,997	55,116	0.000024	70.0	0.000007	0.00008	0.00020
Chips Screen to Chips Bin Conveyor	F-22	230,963	606,279	0.000024	70.0	0.000007	0.0008	0.0022
Chips Bin Conveyor to Chips Bin	F-23	230,963	606,279	0.000024	70.0	0.000007	0.0008	0.0022
Chips Bin Truck Loading	F-24	230,963	606,279	0.000024	0.0	0.000024	0.0028	0.007
Planermill Shavings Transfers								
Cyclone Bin Truck Loading	F-27	23,595	61,937	0.000024	0.0	0.000024	0.0003	0.001

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed, mph	Gale Research, Pensacola, FL.
Material Moisture Content	Champion, 1999.
Material Transfer Point Identification	Champion, 1999.
Control Efficiency	Table 3.2.3-2, Workbook on Estimation and Dispersion Modeling
	For Fugitive Particulate Sources, Utility Air Regulatory Group, September 1981.

NOTES AND OBSERVATIONS

DATA CONTROL

Data Collected by:	T. Davis	Date:	5/99
Evaluated by:	T. Davis	Date:	5/99
Data Entered by:	T. Davis	Date:	5/99

EMISSION INVENTORY WORKSHEET

FUG-PM

Champion International - McDavid Sawmill

EMISSION SOURCE TYPE

FUGITIVE PM - TRUCK TRAFFIC ON PAVED ROADS — Figure: 2-3

FACILITY AND SOURCE DESCRIPTION

Emission Source Description:	Fugitive PM - Truck Traffic on Paved Roads
Emission Control Method(s)/ID No.(s):	Periodic Sweeping and Watering, As Necessary
Emission Point ID:	FUG-PM

EMISSION ESTIMATION EQUATIONS

PM Emission (lb/hr) = 0.082 x [(Silt Loading Factor/2)$^{0.65}$] x (Truck Weight/3)$^{1.5}$ x Vehicle Miles Traveled (VMT)/hr

PM Emission (ton/yr) = 0.082 x [(Silt Loading Factor/2)$^{0.65}$] x (Truck Weight/3)$^{1.5}$ x Vehicle Miles Traveled (VMT)/yr x (1 ton/2,000 lb)

Source: Section 13.2-1, AP-42, January 1996.

INPUT DATA AND EMISSIONS CALCULATIONS

Silt Loading Factor: 8

Truck Traffic Type	Source ID	Vehicle Miles Traveled (VMT/hr)	Vehicle Miles Traveled (VMT/yr)	Vehicle Weight (ton)	Control Efficiency (%)	Potential Emission Rates (lb/hr)	Potential Emission Rates (tpy)
Raw Material Wood Trucks (Empty)	F-28	3.213	9,524	15.5	90.0	0.76	1.13
Raw Material Wood Trucks (Full)	F-28	3.213	9,524	40.0	90.0	3.16	4.68
Product Lumber Trucks (Empty)	F-29	2.011	4,614	15.5	90.0	0.48	0.55
Product Lumber Trucks (Full)	F-29	2.011	4,614	40.0	90.0	1.98	2.27
Wood By-Product Trucks (Empty)	F-30	2.630	12,981	15.5	90.0	0.62	1.54
Wood By-Product Trucks (Full)	F-30	2.630	12,981	40.0	90.0	2.59	6.38

SOURCES OF INPUT DATA

Parameter	Data Source
Silt Loading Factor	Champion, 1999.
Vehicle Miles Traveled, VMT	Champion, 1999.
Truck Weights, ton	Champion, 1999.
Control Efficiency	Estimated, ECT 1999.

NOTES AND OBSERVATIONS

Truck travel distances (one-way) are 950 ft (log), 2,055 ft (lumber), and 1,970 ft (bark, chips, sawdust, and shavings).

Maximum daily truck counts are 250 (log), 62 (lumber), and 141 (wood by-products).

Maximum hourly VMT based on 14 hrs/dy (log), 12 hrs/dy (lumber), and 20 hrs/dy (wood by-products).

Average annual truck counts are 52,931 (log), 11,856 (lumber), and 34,793 (wood by-products).

DATA CONTROL

Data Collected by:	T. Davis	**Date:**	5/99
Evaluated by:	T. Davis	**Date:**	5/99
Data Entered by:	T. Davis	**Date:**	5/99

EMISSION INVENTORY WORKSHEET

FUG-PM

Champion International - McDavid Sawmill

EMISSION SOURCE TYPE

FUGITIVE PM_{10} - TRUCK TRAFFIC ON PAVED ROADS — Figure: 2-3

FACILITY AND SOURCE DESCRIPTION

Emission Source Description:	Fugitive PM_{10} - Truck Traffic on Paved Roads
Emission Control Method(s)/ID No.(s):	Periodic Sweeping and Watering, As Necessary
Emission Point ID:	FUG-PM

EMISSION ESTIMATION EQUATIONS

PM_{10} Emission (lb/hr) = 0.016 x [(Silt Loading Factor/2)$^{0.65}$] x (Truck Weight/3)$^{1.5}$ x Vehicle Miles Traveled (VMT)/hr

PM_{10} Emission (ton/yr) = 0.016 x [(Silt Loading Factor/2)$^{0.65}$] x (Truck Weight/3)$^{1.5}$ x Vehicle Miles Traveled (VMT)/yr x (1 ton/2,000 lb)

Source: Section 13.2-1, AP-42, January 1996.

INPUT DATA AND EMISSIONS CALCULATIONS

Silt Loading Factor: 8

Truck Traffic Type	Source ID	Vehicle Miles Traveled (VMT/hr)	Vehicle Miles Traveled (VMT/yr)	Vehicle Weight (ton)	Control Efficiency (%)	Potential Emission Rates (lb/hr)	Potential Emission Rates (tpy)
Raw Material Wood Trucks (Empty)	F-28	3.213	9,524	15.5	90.0	0.15	0.22
Raw Material Wood Trucks (Full)	F-28	3.213	9,524	40.0	90.0	0.62	0.91
Product Lumber Trucks (Empty)	F-29	2.011	4,614	15.5	90.0	0.09	0.11
Product Lumber Trucks (Full)	F-29	2.011	4,614	40.0	90.0	0.39	0.44
Wood By-Product Trucks (Empty)	F-30	2.630	12,981	15.5	90.0	0.12	0.30
Wood By-Product Trucks (Full)	F-30	2.630	12,981	40.0	90.0	0.50	1.24

SOURCES OF INPUT DATA

Parameter	Data Source
Silt Loading Factor	Champion, 1999.
Vehicle Miles Traveled, VMT	Champion, 1999.
Truck Weights, ton	Champion, 1999.
Control Efficiency	Estimated, ECT 1999.

NOTES AND OBSERVATIONS

Truck travel distances (one-way) are 950 ft (log), 2,055 ft (lumber), and 1,970 ft (bark, chips, sawdust, and shavings).

Maximum daily truck counts are 250 (log), 62 (lumber), and 141 (wood by-products).

Maximum hourly VMT based on 14 hrs/dy (log), 12 hrs/dy (lumber), and 20 hrs/dy (wood by-products).

Average annual truck counts are 52,931 (log), 11,856 (lumber), and 34,793 (wood by-products).

DATA CONTROL

Data Collected by:	T. Davis	**Date:**	5/99
Evaluated by:	T. Davis	**Date:**	5/99
Data Entered by:	T. Davis	**Date:**	5/99

EMISSION INVENTORY WORKSHEET

FUG-PM

Champion International - McDavid Sawmill

EMISSION SOURCE TYPE

FUGITIVE PM - ACTIVE OUTDOOR STORAGE — Figure: 2-3

FACILITY AND SOURCE DESCRIPTION

Emission Source Description:	Fugitive PM - Active Outdoor Storage Piles
Emission Control Method(s)/ID No.(s):	Moist Material
Emission Point ID:	FUG-PM

EMISSION ESTIMATION EQUATIONS

PM Emission (lb/hr) = Emission Factor (lb PM/acre/day) x Storage Pile Area (acres) x (1 day/24 hrs)

PM Emission (ton/yr) = Emission Factor (lb PM/acre/day) x Storage Pile Area (acres) x Storage Period (dys/yr) x (1 ton/2,000 lb)

Source: ECT, 1999.

INPUT DATA AND EMISSIONS CALCULATIONS

Storage Pile Material Type	Source ID	Period of Storage (dys/yr)	Pile Area (acre)	Uncontrolled Emission Factor (lb PM/acre/dy)	Control Efficiency (%)	Controlled Emission Factor (lb PM/acre/dy)	Potential Emission Rates (lb/hr)	Potential Emission Rates (tpy)
Chip Storage	F-31	10	0.770	13.2	70.0	3.96	0.127	0.015
Bark Storage	F-32	10	0.224	13.2	70.0	3.96	0.037	0.004
Sawdust Storage	F-33	10	0.200	13.2	70.0	3.96	0.033	0.004
Shavings Storage	F-34	5	0.157	13.2	70.0	3.96	0.026	0.002

SOURCES OF INPUT DATA

Parameter	Data Source
Storage Pile Identification	Champion, 1999.
Uncontrolled Emission Factors	Section 8.19.1-1, AP-42, September 1991.
Control Efficiency	Based on high moisture content, Texas Natural Resources Conservation Commission, 1999.

NOTES AND OBSERVATIONS

DATA CONTROL

Data Collected by:	T. Davis	**Date:**	5/99
Evaluated by:	T. Davis	**Date:**	5/99
Data Entered by:	T. Davis	**Date:**	5/99

EMISSION INVENTORY WORKSHEET

FUG-PM

Champion International - McDavid Sawmill

EMISSION SOURCE TYPE

FUGITIVE PM_{10} - ACTIVE OUTDOOR STORAGE — Figure: 2-3

FACILITY AND SOURCE DESCRIPTION

Emission Source Description:	Fugitive PM_{10} - Active Outdoor Storage Piles
Emission Control Method(s)/ID No.(s):	Moist Material
Emission Point ID:	FUG-PM

EMISSION ESTIMATION EQUATIONS

PM_{10} Emission (lb/hr) = Emission Factor (lb PM/acre/day) x Storage Pile Area (acres) x (1 day/24 hrs)

PM_{10} Emission (ton/yr) = Emission Factor (lb PM/acre/day) x Storage Pile Area (acres) x Storage Period (dys/yr) x (1 ton/2,000 lb)

Source: ECT, 1999.

INPUT DATA AND EMISSIONS CALCULATIONS

Storage Pile Material Type	Source ID	Period of Storage (dys/yr)	Pile Area (acre)	Uncontrolled Emission Factor (lb PM/acre/dy)	Control Efficiency (%)	Controlled Emission Factor (lb PM/acre/dy)	Potential Emission Rates (lb/hr)	Potential Emission Rates (tpy)
Chip Storage	F-31	10	0.770	6.3	70.0	1.89	0.061	0.007
Bark Storage	F-32	10	0.224	6.3	70.0	1.89	0.018	0.002
Sawdust Storage	F-33	10	0.200	6.3	70.0	1.89	0.016	0.002
Shavings Storage	F-34	5	0.157	6.3	70.0	1.89	0.012	0.001

SOURCES OF INPUT DATA

Parameter	Data Source
Storage Pile Identification	Champion, 1999.
Uncontrolled Emission Factors	Section 8.19.1-1, AP-42, September 1991.
Control Efficiency	Based on high moisture content, Texas Natural Resources Conservation Commission, 1999.

NOTES AND OBSERVATIONS

DATA CONTROL

Data Collected by:	T. Davis	**Date:**	5/99
Evaluated by:	T. Davis	**Date:**	5/99
Data Entered by:	T. Davis	**Date:**	5/99

Champion International
McDavid Sawmill
Storage Pile Dimensions

For 30° angle of repose, pile height/pile diameter ratio = 0.289

Pile Dimension Calculations:

Pile	Pile Dia. (ft)	Pile Height (ft)	Pile Radius (ft)	Pile Base Area (ft^2)	Pile Base Area (acre)	Pile Volume (ft^3)	Pile Surface Area (ft^2)	Pile Slope Length (ft)	Angle of Repose (o)
Chips	206.7	59.7	103.3	33,553	0.770	661,396	38,754	119.4	30.028
Bark	111.5	32.2	55.7	9,759	0.224	103,745	11,272	64.4	30.028
Sawdust	105.4	30.5	52.7	8,722	0.200	87,655	10,074	60.9	30.028
Shavings	93.2	26.9	46.6	6,827	0.157	60,699	7,885	53.8	30.028

Sources: Champion, 1999.
ECT, 1999.

Maximum PM/PM_{10} Pollutant Emission Rates - Fugitive Sources

Emission Source Description	Emission Source ID	Emission Rates			
		PM		PM_{10}	
		(lb/hr)	(tpy)	(lb/hr)	(tpy)
Log Preparation					
Chain Saw - North Line	F-1	0.0889	0.2334	0.0142	0.0373
Chain Saw - South Line	F-2	0.0889	0.2334	0.0142	0.0373
Log Debarking - North Line	F-3	0.9146	2.4010	0.1463	0.3842
Log Debarking - South Line	F-4	0.9146	2.4010	0.1463	0.3842
Barking Saw 1	F-5	1.9816	5.2018	0.3171	0.8323
Barking Saw 2	F-6	1.9816	5.2018	0.3171	0.8323
Barking Saw 3	F-7	1.9816	5.2018	0.3171	0.8323
Barking Saw 4	F-8	1.9816	5.2018	0.3171	0.8323
Bark Processing/Handling					
Conveyor Transfer; Main Conveyor to Disc Screen/Hog Conveyor	F-9	0.0004	0.0011	0.0002	0.0005
Conveyor Transfer; Disc Screen/Hog Conveyor to Disc Screen/Hog	F-10	0.0004	0.0011	0.0002	0.0005
Bark Disc Screen	F-11	0.2312	0.6069	0.2312	0.6069
Bark Disc Hog	F-12	0.0008	0.0020	0.0008	0.0020
Conveyor Transfer; Disc Screen/Hog to Bark Bin Conveyor	F-13	0.0004	0.0011	0.0002	0.0005
Conveyor Transfer; Bark Bin Conveyor to Bark Bin	F-14	0.0004	0.0011	0.0002	0.0005
Bark Bin Truck Loading	F-15	0.0014	0.0036	0.0007	0.0017
Fines (Sawdust) Processing/Handling					
Conveyor Transfer; Fines Chip Screen Conveyor to Fines Bin Conveyor	F-16	0.0002	0.0006	0.0001	0.0003
Conveyor Transfer; Fines Bin Conveyor to Fines Bin	F-17	0.0002	0.0006	0.0001	0.0003
Fines Bin Truck Loading	F-18	0.0007	0.0018	0.0003	0.0009
Baghouse Fines Truck Loading	F-35	0.0001	0.0003	0.0001	0.0001
Chips Processing/Handling					
Conveyor Transfer; Oversize Chips Conveyor to Rechipper Conveyor	F-19	0.0002	0.0004	0.0001	0.0002
Rechipper	F-20	0.0003	0.0008	0.0003	0.0008
Chips Screen	F-21	0.9700	2.5464	0.9700	2.5464
Conveyor Transfer; Chips Screen to Chips Bin Conveyor	F-22	0.0018	0.0046	0.0008	0.0022
Conveyor Transfer; Chips Bin Conveyor to Chips Bin	F-23	0.0018	0.0046	0.0008	0.0022
Chips Bin Truck Loading	F-24	0.0058	0.0153	0.0028	0.0072
Sawmill Chipper	F-25	0.0003	0.0008	0.0003	0.0008
Planermill Shavings					
Hog	F-26	0.0001	0.0002	0.0001	0.0002
Cyclone Bin Truck Loading	F-27	0.0006	0.0016	0.0003	0.0007
Truck Traffic on Paved Roadways					
Raw Material Wood Trucks	F-28	3.9202	5.8100	0.7649	1.1337
Product Lumber Trucks	F-29	2.4536	2.8151	0.4787	0.5493
Wood By-Product Trucks	F-30	3.2094	7.9196	0.6262	1.5453
Outdoor Storage Piles					
Chip Storage	F-31	0.1271	0.0153	0.0607	0.0073
Bark Storage	F-32	0.0370	0.0044	0.0176	0.0021
Sawdust Storage	F-33	0.0330	0.0040	0.0158	0.0019
Shavings Storage	F-34	0.0259	0.0016	0.0123	0.0007
Totals		**20.9570**	**45.8408**	**4.7752**	**10.5874**

Sources: Champion, 1999.
ECT, 1999.

ATTACHMENT C

CONTROL DEVICE VENDOR INFORMATION

May 11, 1999

Mr. Terry Kassabaum
Champion
P.O. Box 200
Camden, TX 75934

SENT VIA FAX

RE: Budget Price Proposal A80-796, R1 for Lumber kiln exhaust

Dear Mr. Kassabaum:

Thank you for the opportunity to provide a budgetary quote for your lumber kiln exhausts. The following proposal provides a complete equipment proposal for an Eisenmann Valveless Regenerative Thermal Oxidizer system. Key advantages of the VRTO include:

1. Only one moving part and a system with two failure points,
2. Very low maintenance requirements leading to high uptime reliability,
3. High destruction efficiency with constant purge,
4. Small footprint with treatment provided in a single vessel.

Mr. Kassabaum if you have any questions before your meeting tomorrow you can reach Charles Reich at 281.852.7206. If you have any questions or comments that Charles is unable to answer please do not hesitate to contact me at 630.681.9604 or call Eisenmann direct for information.

Thank you for the opportunity to be of service to Champion-Camden.

Sincerely,

Howard Hohl
Sales Manager
Eisenmann Corporation

Cc: Mark West EN, Charles Reich, The Reich Co.

BUDGET PROPOSAL NO. A80-796, REVISION 1

FOR

VALVELESS
REGENERATIVE THERMAL OXIDATION SYSTEM

CHAMPION
CAMDEN, TX

MAY 11, 1999

VRTO SYSTEM TECHNICAL DATA

Exhaust Flow Rate	:	3 vessels at 46,000 acfm each
Solvent Loading	:	85.3 lb./hr average each
Exhaust Inlet Temperature	:	150 to 180°F range
Combustion Temperature	:	1500°F min.
Clean Air Outlet Temperature	:	120°F above inlet
System Thermal Efficiency	:	93%
Burner Installed	:	3 at 9.0 mmbtu/hr each
Burner Operating	:	3 at 6.0 mmbtu/hr
Fan Motor Operating (at max. flow and includes -2.0" duct drop)	:	3 at 254 bhp
Fan Motor Installed	:	3 at 300 hp
Foundation Size	:	100 X 28 ft. (L X W)
Equipment Weight	:	100 tons each
Vessel Diameter	:	Approx. 25 ft.

DESIGN DESCRIPTION

The exhaust flow from the process is directed to a central duct header that is located at the inlet of the abatement system fan. After exiting the abatement system fan, the exhaust air is propelled to the Valveless Regenerative Thermal Oxidizer (VRTO).

Once within the VRTO unit, the exhaust is directed by the rotating distributor to the appropriate sections of hot ceramic heat exchanger media. The exhaust will then pass vertically upward through this media taking on the heat and raising the air temperature close to the combustion temperature.

In the combustion area, the burner will provide additional energy to reach the combustion temperature of approximately 1500°F. At this temperature, the solvents are oxidized and purified. Then the clean hot air passes down through separate sections of the exchanger media returning its heat back to the system. This air exits the VRTO at approximately 120°F above the inlet exhaust temperature depending on the application.

A third section of the VRTO between the effluent and clean sides is utilized for purging. This is accomplished by taking clean air from the VRTO combustion area it through the purge zone and recirculating it into the fan inlet. The EISENMANN rotating distributor continuously turns shifting which section of the media is in the upward, downward or purge cycles. In this manner, a constant thermal efficiency and pressure drop is maintained.

SCOPE OF DELIVERY

By EISENMANN:

Three (3) Valveless Regenerative Thermal Oxidizers - complete with burner, gas train, combustion air blower, purge system, system finish paint, ceramic media, rotary exhaust distributor, platform & ladder, insulation as described in technical data.

Three (3) 300 H.P. Process Blower with TEFC Motor, Direct Drive and OSHA Guards.

Three (3) Blower Motor with VFD (Variable Frequency Drive).

Interconnecting ductwork between Eisenmann supplied components

Flexible connectors to allow for thermal expansion as required

Insulation and cladding to maintain OSHA standards

One Turnkey control panel with Allen Bradley PLC and graphic interface

Optional on-line, clean bake out for each vessel

Field services, start-up and operator training

Freight from the Factory to Camden, TX

By Others:

Concrete pad

Utility drops to system tie-in points

Duct from the process equipment to the system inlet

All permits as required to meet local requirements

Mechanical and electrical installation

Clean Air stack

Inlet air filter, if necessary

ADVANTAGES OVER OTHER RTO SYSTEMS

- EISENMANN's design is the only damperless, single vessel unit proven in the market. A rotating distributor shifts the exhaust through the heat exchanger eliminating the pressure shocks associated with dampers.
- The high maintenance associated with damper type RTOs is eliminated. The Eisenmann system replaces the pneumatics, actuators, dampers, linkage and lubricants with a simple rotating distributor that is driven by one exterior mounted 0.75 hp motor and gearbox.
- A simpler design with fewer moving parts results in higher uptime reliability.
- The damperless design enables the fan to be located at the inlet to the oxidizer which reduces the cost of the fan and lowers the motor sizing by 15%.

BUDGETARY PRICING

Budgetary pricing is for the Regenerative Thermal Oxidation System as described in this document.

- Regenerative Thermal Oxidizer
- Freight to site is included
- Full package of start up services and operator training classes is included

Base Price

Lumber Kiln Exhaust
Budget for equipment, freight, plus field services .....$ 1,900,000.00

Optional on-line, clean bake-out feature .....$ 150,000.00

Schedule

Time to delivery	:	22 weeks
Installation	:	6 weeks
Start up and Testing	:	2 weeks
Total Duration	:	30 weeks

EISENMANN CORPORATION

Howard Hohl
Sales Manager
Clean Air Technology

GEOENERGY International Corporation

101 North Virginia Street
Suite 210
Crystal Lake, IL 60014 USA
(815) 477-9175
FAX (815) 477-9174

June 7,1999

Champion
PO Box 200
Camden, TX 75941

Attn: Mr. Terry Kassabaum

Subject: VOC Emission Control Equipment

Reference: Geoenergy Proposal Number 9999-05-259-RCO

Dear Mr. Kassabaum:

Geoenergy International Corporation is pleased to provide you with our revised budgetary proposal as referenced above. This revision is for a GeoTherm® Regenerative Catalytic Oxidizer (RCO) system to control VOC emissions from your wood drying kilns in Camden, TX.

The RCO system is the same design as the RTO with the addition of catalyst as the top layer of heat exchange media. The design will allow the unit to operate under a full range of combustion chamber temperature (800-1500°F). This is important for the long-term operation of the RCO. As the catalyst degrades the combustion chamber temperature can be increased to maintain destruction efficiency, and should the removal and/or replacement become necessary the system can then operate as an RTO with a combustion chamber temperature of 1500°F.

Based on your process requirements we have designed the RCO with 95% thermal efficiency to minimized fuel consumption during normal operation.

The following is a brief summary of our recommendations for a GeoTherm RCO system to treat the gas stream that you have described. Included are a description of the recommended scope-of-supply, the estimated operating costs, a suggested project schedule and a budget price estimate.

DESIGN CONDITIONS

Our proposal and design is based on preliminary information supplied for this project as follows:

GeoTherm Design Volume (ACFM)	138,000
Oxidizer Thermal Efficiency (%)	95
Oxidation Temperature (°F)	800
Process Exhaust Temperature (°F)	205
Moisture content (% by volume)	56
VOC Loading (#/hr)	85
VOC Gross Heating Value (BTU/#)	12,500
VOC Destruction Requirements (%)	95

Note: The process exhaust air stream is assumed not to contain acids, caustic or halogenated hydrocarbons.

SYSTEM OPERATING COST

RCO SYSTEM

	THREE SYSTEMS @ 46,000 ACFM ea.
Process Exhaust Volume (ACFM)	46,000/unit
Oxidizer Inlet Temperature (°F)	205°F
Oxidation Temperature (°F)	800°F
Oxidizer Outlet Temperature (°F)	235°F
Heat Load Requirement @ 28.4 #/hr VOC	1,203,000 BTU/hr
Heat Load Requirement @ 0 #/hr VOC	1,611,000 BTU/hr
Oxidizer Force Draft Fan (Bhp)	134
Power Requirement (kW)	110
Fuel Cost @ $3.50/MMBTU (@ 28.4#/hr)	$4.21/hr
Fuel Cost @ $3.50/MMBTU (@ 0 #/hr)	$5.64/hr
Power Cost @ $0.037/kW-hr	$4.07/hr

SCOPE OF SUPPLY

	Included	Excluded	N/A	Option
• RCO housing including transition, recovery and combustion chambers	X			
• Oxidizer ceramic blanket internal insulation	X			
• Heat recovery media for 95% T.E.	X			
• Catalyst	X			
• Burner system with fuel train	X			
• Two-way fast action poppet valves with pneumatic actuators	X			
• Forced draft supply fan and motor	X			
• Variable frequency drive	X			
• Inlet and outlet manifold	X			
• External manifold insulation		X		
• Main exhaust stack 50'-0" high	X			
• Burner access platform and ladder	X			
• Main control panel pre-wired and shop tested (A-B PLC supplied)	X			
• All motor starters	X			
• Local disconnects		X		
• Process exhaust ductwork to RCO		X		
• Foundations		X		
• Mechanical and electrical installation	X			
• Start-up and operator training	X			
• Freight to job site	X			
• O&M manuals (3)	X			
• Compliance testing		X		

BUDGETARY PRICING

Geoenergy will supply one (1) 46,000 ACFM GeoTherm Regenerative Catalytic Oxidizer System per the attached scope of supply for the budgetary price of.....**$685,000.00/system**

Cost for replacement catalyst for the RCO systems.....**$90,000.00/system**

PROPOSAL SCHEDULE

The following is Geoenergy's standard schedule and may be modified to meet specific project requirements.

TASK	# OF WEEKS	WEEK(s) AFTER P.O.
Contract Review	1	1
Design Engineering	3	4
Engineering Approval	1	5
Fabrication and Equipment Procurement	12-16	14-18
Deliver	1	15-19
Installation	3	18-22
Start-Up	1	19-23

We hope you find our offering to be of interest and look forward to supplying you with a more detailed proposal once your specific design criteria has been established. In the meantime, if you should have any questions regarding this proposal or require additional information please call me at (815) 477-9173.

Best regards,

Ray Elsman
Manager of Applications Engineering

CC: Ronald Lansing, Geoenergy International Corporation