

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

**MEMORANDUM**

**September 11, 2013**

**TO:** Phillip Fielder, P.E., Permits and Engineering Group Manager  
Air Quality Division

**THROUGH:** Phil Martin, P.E., Engineering Manager, Existing Source Permit Section

**THROUGH:** Peer Review

**FROM:** Jian Yue, P. E., Engineering Section

**SUBJECT:** Evaluation of Permit Application No. **2003-099-C (M-4) (PSD)**  
Huber Engineered Woods, LLC  
Broken Bow OSB Mill  
Broken Bow, McCurtain County, Oklahoma  
SW 1/4 Sec. 14, T6S, R24E IM, Latitude: 34.030°, Longitude: -94.768  
Directions: From the intersection of U.S. Highway 259 and SH 3 in Broken  
Bow, go west 2 miles on SH3, turn south into the facility.

**SECTION I. INTRODUCTION**

Huber Engineered Woods, LLC, (HEW) a subsidiary of J. M. Huber Corporation (Huber), has requested a modification to the construction permit (2003-099-C (M-3)(PSD)) issued on June 25, 2012 for its oriented strand board (OSB) mill (Mill) in Broken Bow, Oklahoma (SIC 2493). This modification is to remove the 60% control efficiency requirement from Specific Condition 1 for the Press (EUG 4) (compliance requirement D). This modification will not result in any emission changes, thus will not affect modeling results demonstrated in Permit No. 2003-099-C (M-3)(PSD). Since the modification is a relaxation of a PSD permit condition, a Tier II permit is required and BACT is briefly revisited in Section II.

Key production processes with source emissions include the OSB pressing operation (press), the wood strand drying operation (drying) and two 150 million BTU per hour (MMBtu/Hr) wood fired furnaces that supply heat for the drying process (energy system). The Mill began operation in May 2004 under Construction Permit No. 2003-099-C at a maximum production rate of 630 Million square feet on a 3/8" basis (MMSF<sub>3/8</sub>) per year. Press operations are limited under the Construction Permit to 100 thousand square feet (MSF<sub>3/8</sub>) per hour (daily average). Permit limitations on the dryers are 70.5 oven dried tons (ODT) per hour daily average and 564,000 ODT/yr. Permit Number 2003-099-C (M-2) also restricts the operating hours on the press and dryers to not more than 8,000 hours per year, regardless of actual hourly production rates. Permit Number 2003-099-C (M-3) (PSD) authorized increases of these permitted hourly and annual production rates along with other changes addressed in SECTION III.

## SECTION II. RATIONALE OF THE MODIFICATION REQUEST

Top down BACT review for the biofilter was addressed in Permit No. 2003-099-C(M-3)(PSD). Since this permit modification is considered a relaxation to the issued PSD permit, BACT for the biofilter will be briefly revisited here in this section. Two control technologies were evaluated as part of the BACT analysis for the Press, EUG 4, at the Mill: regenerative thermal oxidation (RTO)/regenerative catalytic oxidation (RCO) and biofiltration. RTO/RCO was eliminated and biofiltration was selected as BACT because it was determined that the use of an RTO/RCO is extremely energy intensive and would cause adverse environmental impacts resulting from increased NO<sub>x</sub> emissions in the area surrounding the Mill, which is a “NO<sub>x</sub>-limited area” where there is a high potential for additional ozone formation from relatively small increases in NO<sub>x</sub> emissions. In NO<sub>x</sub>-limited area, ozone formation is actually reduced more effectively through NO<sub>x</sub> reductions than VOC reductions.

In an attempt to compare similar control technologies, The RBLC database was reviewed and only one other OSB mill has installed a biofilter to control VOC emissions, the Louisiana Pacific (LP) Clarke County Mill and BACT was accepted as an estimated press VOC emission rate of 0.79 lb/MSF<sub>3/8</sub>.

DEQ has confirmed that the control efficiency requirement in Specific Condition 1 for the Press was carried over from the original State BACT review (Initial construction permit was a state major, not a PSD permit). The estimated control efficiency (60% DRE) was not relied upon in the original PSD permit application submitted October 1, 2009, when HEW developed its own emission factor using stack test data to determine an appropriate emission rate of 0.42 lb/MSF<sub>3/8</sub> for the Press and has shown through stack testing it is achievable. Because of the dependence of DRE on inlet VOC concentration, DEQ concurred that an output based emission factor can more accurately determine the control effectiveness of the unit and is a more accurate representation of BACT. The PSD BACT review should override the state BACT review, thus DEQ agrees to remove the 60% control efficiency requirement from Specific Condition 1 for the Press (EUG 4) (compliance requirement D).

Even though requesting to remove DRE as a compliance requirement from Specific Condition 1, HEW has initiated a project to evaluate the impact of variation associated with VOC inlet loading as it relates to the overall performance of the biofilter. The scope of the project includes obtaining data to assist in determining special cause variation and/or natural variation in the process, the gathering of information on the nutrient level and heterotrophic plate count of the biofilter sump water and a sample of the inlet and outlet concentrations of VOC, each being sampled on a predetermined basis. The project is designed to enable the facility to analyze the data that is collected and to ensure appropriate measures are taken to achieve the highest efficiency possible through the biofilter.

## SECTION III. FACILITY DESCRIPTION

The OSB mill manufactures structural panels made from wood wafers, or strands, produced from logs at the plant. The facility uses varying proportions of softwood and hardwood in the

manufacturing of OSB. Wood strands are mixed with various resins, liquid phenol formaldehyde (LPF), methylene diphenyl diisocyanate (MDI), and/or phenol formaldehyde (PF), and formed into a layered mat. Strands in each layer can be aligned perpendicularly to adjacent layers to provide structural properties superior to that of randomly oriented strandboard; or they can be aligned in parallel to achieve properties associated with composite strand lumber. The following subsections / activities describe the processes in the OSB plant.

The major activities at the Broken Bow facility include the following:

- Raw Material Handling
- Strand Production
- Strand Drying
- Blending
- OSB Forming
- Product Finishing
- Heat Source
- Process Storage Tanks
- Particulate Handling
- Fuel Storage

#### Raw Material Handling

OSB manufacturing consists of a series of operations, which convert whole logs into strands that are then blended with resin and either slack or emulsion wax and formed into mats. Logs are delivered to the facility by truck or rail and stored in the wood yard.

#### Strand Production

Logs arrive in the wood yard via trucks and are transferred into storage piles. A crane transfers the logs from the piles to two debarkers where the bark is removed. Wood waste from debarkers is collected and transferred by conveyers to the bark hog and then onto either a wet fuel bin or bark storage pile.

Once the wood is debarked, the logs are moved to the stranding area. The strander cuts the logs to produce thin green wood strands having typical dimensions of 1.5 inches wide by 5 inches long and 0.002-0.004 inches thick. The strands are then conveyed to green storage bins. No changes to this area are planned in this permit modification.

#### Strand Drying

From the green storage bins, the strands are conveyed to one of two single-pass rotary dryers to remove moisture from the strands. Air leaving the dryers is passed through two product recovery cyclones where the wood strands are separated from the gas stream. The gas streams from both of the dryers' cyclones are ducted to a wet electrostatic precipitator (WESP) to remove particulate matter and some volatile organic compounds (VOC) and then to a regenerative thermal oxidizer (RTO) to destroy organic compounds.

The dried strands are then screened to remove fines and for further classification. The screened strands are stored in one of three dry bins. Fines are pneumatically conveyed to the dry fuel bin or the truck-loading bin. An emergency bypass discharge area is available in the event of a startup, shutdown or malfunction of related equipment. Material from the bypass area can either be reclaimed as process material or as fuel for the wood-fired heat source.

Tests on the dryer control system, including the RTO, have demonstrated compliance with the 95% DRE requirements of the VOC control system and 90% HAP removal required by MACT. HEW has recently observed increased VOC inlet loading to the RTO. HEW believes this increased loading is attributable to variability in the wood species and seasonal variation of VOC content in the wood. The degree of this variability is unpredictable and was previously unknown. HEW is seeking an increase in the allowable VOC emission rate from the dryer system to accommodate this high variability.

### Blending

The dried strands are conveyed from the dry storage bins to one of three blenders where they are mixed under negative pressure with resins, wax, and other additives. Reclaimed wood fines are mixed with wax and resin in a separate fines blender. Wax and resins are stored in bulk storage containers and tanks and piped directly into the blender.

HEW is interested in emerging resin technologies. The use of soybean based phenol formaldehyde (SoyPF) resin offers promise. It is conceivable that better resins and/or technologies (e.g., lower HAPs and VOCs) may be available in the near future. HEW seeks the flexibility to change to resins and/or catalysts that will not cause allowable emissions to be exceeded, or that result in emissions of new regulated pollutants.

### Forming

From the blender, the strands are transported via conveyors to bulk storage forming bins. From these bins, the resinated strands are metered out onto a continuously moving forming line belt. During this process, the strands are mechanically oriented in one direction as they fall to the forming belt below. Subsequent forming heads form distinct layers in which the strands are oriented perpendicular to the previous layer of strands. Trim saws continuously cut the edges of the mat and the waste material is conveyed to the dry bins for recycling.

### Pressing

The trimmed mat is conveyed into the preheater, which conditions the mat with steam. The mat then continues into the hot press, where the resinated fibers are compressed; heat and pressure activate the resins and bond the strands into a solid product.

The exhaust gases from the press area are captured from the points located at the pre-heater, the front entrance into the press, the exit from the press, and along the entire press length by a series of collection hoods. Exhaust from the pre-heater is routed through a dry cyclone and a WESP to collect particulate matter, then to the biofilter to remove VOCs. The gases from the press fume

hood are directly conveyed to the biofilter. Exhaust gases from direct pickup points along the press and heat tunnel are conveyed to a WESP to remove particulates, then to the biofilter to remove VOCs.

The biofilter is designed to remove VOCs from the press vent stream by absorbing the gas molecules onto a media bed and degrading the VOCs using microbes. These microbes live in a aqueous environment and convert VOCs to carbon dioxide and water.

From the press, the OSB product is then cut into master mats by a traveling saw and moved into the finishing area for further processing. Emissions from the section of the building that includes the board cooler are subject to NESHAP Subpart DDDD, *National Emission Standards for Hazardous Air Pollutants for Plywood and Composite Wood Products*. The Broken Bow Mill completed a case-by-case MACT determination in the initial construction permit application and complies with the MACT by maintaining negative air pressure within the press and board cooler room and using an add-on control system with HAP percent reduction limits at the outlet. With this application, the Mill does not seek a change in the MACT compliance method. However, the board cooler is not in use at this time. Therefore, the MACT standard will apply to this area of the Mill when the board cooler is in use.

#### Product Finishing

The work in progress (WIP) panels are trimmed to final dimensions, sawed and sanded to various lengths, depending on product specifications. In some cases, an edge sealant is applied to the edges of the boards in a paint booth to prevent moisture absorption from occurring.

Some products produced at the Mill go through a “branding” operation where the product logo and nailing guidelines are sprayed onto the panels. HEW believes this branding process is a unique and differentiating feature of HEW’s OSB products. In the permit modification 2003-099-C (M-1), HEW requested substitution of a zero VOC content branding ink in place of the high VOC content branding ink.

Although HEW is continuing to use the zero VOC content branding ink the mill is constantly evaluating new inks for performance and cost. HEW is requesting the flexibility to switch to ink formulations that will not cause allowable emissions to be exceeded, or that result in emissions of new regulated pollutants.

#### Energy System

Energy for the strand dryers and thermal oil heater is provided by two combustion furnaces fueled by bark and wood residuals, including sander dust and board from the process. Huber also burns miscellaneous process biomass and process materials including wood pallets, paper, cardboard, resinated board covered with paper overlay, used oil/grease, wax, off-specification resins, release agent, stamp ink, and other non-hazardous materials. A portion of flue gas (approximately 25%) exiting from the combustion furnaces passes through convection heat exchangers (Thermal Oil Heaters) that transfer heat to thermal fluid for use in heating the press and wax storage tanks. The remaining heat from the flue gas is conserved, as the flue gas is

returned to the inlet of the dryer or the furnace with other combustion air. Ash from the furnaces is collected in a wet bin and shipped offsite for disposal. The use of MUPF resin and associated catalysts will result in increased NO<sub>x</sub> and SO<sub>2</sub> emissions due to the increased nitrogen and sulfur content in the wood waste that is used in the energy system. HEW applied emissions data from MUPF trials to estimate the additional emissions.

#### Miscellaneous Combustion Units

The Mill is equipped with a diesel fire pump, two emergency generators, a railcar steam generator and several air makeup units. These sources are operated intermittently on an as-needed basis. In a prior permit application, emissions from the fire pump engine and the two emergency generators were based on operating 52 hours per year, the rail steam generator 8,760 hrs per year, and air make up units 5,040 hrs per year. In this permit, emissions for the fire pump and emergency generators are calculated based on 240 hours of operation per year for each unit; HEW requests the authority to run these units at those levels, should the need arise.

#### Storage Tanks

The site includes wax storage tanks, resin storage tanks, catalyst storage tanks, resin bulk containers, release agent storage tanks, a release agent mix tank, a release agent recycle tank, and a caustic storage tank. The Mill also has storage tanks for gasoline, diesel, and propane used in vehicles that operate onsite. The Mill recently converted five of the existing tanks to liquid resin storage. The affected tanks include: Resin Storage Tank Nos. 1, 3, and 5 (EP-RES1TK, EP-RES3TK, EP-RES5TK), Wax Storage Tank No. 1 (EP-WAX1TK) and Release Agent Storage Tank No. 2 (EP-RA2TK). As shown in the minor permit modification application submitted on September 19, 2006, the conversion of the storage tanks to LPF resins will add up to 1.89 TPY of VOC. MUPF resin MSDS indicate a formaldehyde content of 0.1% to 1.0%, (versus 0.1% for LPF resins), so annual formaldehyde emissions are estimated at an additional 34 pounds per year (0.01 TPY). No additional storage tanks are planned at this time.

#### Particulate Handling

Particulates are collected from various pneumatic conveying systems throughout the Mill. The separate systems include screening, forming, saws, sander, fuel, and the fines reclaim silo. Collected material is pneumatically conveyed to either the Dry Fuel Silo or Sander Dust Silo, where the material is stored before transfer to the heat source. No physical changes or changes in the method of operation to the particulates handling system are planned in this permit modification. However, the results of engineering tests at the Mill indicate that the baghouses that control particulates emit less PM<sub>10</sub> than previously characterized. Accordingly, this permit application includes a 45% reduction in particulate emissions to more closely reflect actual baghouse outlet concentrations.

HEW has learned (through diagnostic and engineering testing of emissions from various experimental resins) that certain wood products (strands) emit VOC through the baghouses. These unexpected baghouse VOC emissions were disclosed to the Oklahoma DEQ in a letter dated May 5, 2005. Limited emissions data from these tests and research indicates that the

amount of VOC varies depending on the season (when the wood was cut), species (e.g., natural yellow pine vs. plantation pine), and other factors. Using conservative emission factors developed from these emission test data, HEW has included within this permit application the new information on VOC emissions in the BACT analysis for various baghouses.

Fuel Storage Tanks

The site includes storage tanks for gasoline, diesel, and propane.

**SECTION IV. EQUIPMENT**

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

<b>EUG 2 - COMBUSTION UNITS</b>				
<b>Emission Unit</b>	<b>Point</b>	<b>EU Name/Model</b>	<b>Size</b>	<b>Construction</b>
EU-EG1	EP-EG1	Diesel Fired Emergency Generator #1	900-hp	2003
EU-EG2	EP-EG2	Diesel Fired Emergency Generator #2	900-hp	2003
EU-FP1	EP-FP1	Diesel Fired Fire Pump Engine	210-hp	2003
EU-SG1	EP-SG1	Gas Fired Rail Steam Generator	1.5 MMBTUH	2003
EU-AMU1 - 18	EP-AMU1 - 18	Gas Fired Air Make Up Units (18)	24.7 MMBTUH	2003

<b>EUG3 – Energy System/ Dryers</b>				
<b>Emission 1Unit</b>	<b>Point</b>	<b>EU Name/Model</b>	<b>Size(MMBTUH)</b>	<b>Construction Date</b>
EU-HS1	EP-RTO1	Heat Source No. 1	150	2003
EU-DR1		Dryer No. 1	-	2003
EU-HS2		Heat Source No. 2	150	2003
EU-DR2		Dryer No. 2	-	2003

<b>EUG 4 – PRESS</b>				
<b>Emission</b>	<b>Point</b>	<b>EU Name/Model</b>	<b>Maximum Throughputs</b>	<b>Construction</b>
EU-PR1	EP-BF1	Press No. 1	110 MSF/hr OSB 3/8”	2003

<b>EUG 5 - PM SYSTEMS</b>				
<b>Emission</b>	<b>Point</b>	<b>EU Name/Model</b>	<b>Control</b>	<b>Const. Date</b>
EU-SYS9120	EP-FF2	Screening – System 9120	CD-FF2 <sup>1</sup>	2003
EU-SYS9130	EP-FF3	Forming – System 9130	CD-FF3 <sup>2</sup>	2003
EU-SYS9140	EP-FF4	Saws – System 9140	CD-FF4 <sup>3</sup>	2003
EU-SYS9150	EP-FF5	Sander – System 9150	CD-FF5 <sup>4</sup>	2003
EU-SYS9195	EP-FF6	Fuel – System 9195	CD-FF6 <sup>5</sup>	2003

<sup>1</sup>Screening Fabric Filter, <sup>2</sup>Forming Fabric Filter, <sup>3</sup>Saws Fabric Filter, <sup>4</sup>Sander Fabric Filter, <sup>5</sup>Fuel Fabric Filter.

<b>EUG 6 – TANKS</b>				
<b>Emission Unit</b>	<b>Point</b>	<b>EU Name</b>	<b>Capacity/ Throughputs</b>	<b>Const. Date</b>
EU-GAS1TK	EP-GAS1TK	Gasoline Storage Tank No. 1	550-gal/ 20000 gal/yr	2003
EU-EG1TK	EP-EG1TK	Emergency Gen. No. 1 Diesel Tank	500-gal/ 13,850 gal/yr	2003
EU-EG2TK	EP-EG2TK	Emergency Gen. No. 2 Diesel Tank	500-gal/ 13,850 gal/yr	2003
EU-FP1TK	EP-FP1TK	Fire Pump Engine No. 1 Diesel Tank	250-gal/ 6,920 gal/yr	2003
EU-ME1TK	EP-ME1TK	Mobile Equipment Diesel Tank No. 1	1,000-gal 40,000 gal/yr	2003
EU-WAX2TK	EP-WAX2TK	Wax Storage Tank No. 2	25,000-gal each 41,000,000 lb/yr total	2003
EU-WAX3TK	EP-WAX3TK	Wax Storage Tank No. 3		2003
EU-RES2TK	EP-RES2TK	Resin Storage Tank No. 2	25,000-gal each 50,000,000 lb/yr	2003
EU-RES4TK	EP-RES4TK	Resin Storage Tank No. 4		2003
EU-RES6TK	EP-RES6TK	Resin Storage Tank No. 6		2003
EU-LPFRESIN	EP-WAX1TK	Wax or Resin Storage Tank	25,000-gal each 51,100,000 lb/yr total	2003
	EP-RES1TK	Resin Storage Tank No. 1		2003
	EP-RES3TK	Resin Storage Tank No. 3		2003
	EP-RES5TK	Resin Storage Tank No. 5		2003
	EP-RA2TK	Release Agent or Resin Storage Tank		2003
EU-RA1TK	EP-RA1TK	Release Agent Storage Tank No. 1	25,000-gal 3,200,000 lb/yr	2003
EU-CAU1TK	EP-CAU1TK	Caustic Storage Tank No. 1	10,000-gal/ 800,000 lb/yr	2003
EU-RAMIX1TK	EP-RAMIX1TK	Release Agent Mix Tank No. 1	1,000-gal/ 3,200,000 lb/yr	2003
EU-RAR1TK	EP-RAR1TK	Release Agent Recycle Tank 1	500-gal/ 3,200,000 lb/yr	2003



<b>EUG 7 – BRANDING AND COATING OPERATIONS</b>				
<b>Emission Unit</b>	<b>Point</b>	<b>EU Name/Model</b>	<b>Control</b>	<b>Const. Date</b>
EU-Coatings	Coating Fugitive	Paint Booth No. 1 Rim Board	Does not exhaust outside the building except for building vents	2003
		Paint Booth No. 2 Sander		2003
		Paint Booth No. 3 Finish/hand		2003
EU-Stamping	Stamp Fugitive	Stamp Fugitive		2003
EU-BRAND	EP-BRANDB1F	Branding operations	To atmosphere	2003

<b>EUG 8 – BUILDING FUGITIVES</b>				
<b>Emission Unit</b>	<b>Point</b>	<b>EU Name/Model</b>	<b>Control</b>	<b>Const. Date</b>
EU-WH1	EU-WH1	Warehouse Area	None	2003
EU-BL2	EU-BL2	Blending Area		2003
EU-FRM3	EU-FRM3	Forming Area		2003
EU-SRN4	EU-SRN4	Screening Area		2003
EU-GE5	EU-GE5	Green End Area		2003

<b>EUG 9 – DRYER ABORT STACKS</b>				
<b>Emission Unit</b>	<b>Point</b>	<b>EU Name/Model</b>	<b>Control</b>	<b>Const. Date</b>
EU-DA1	EU-DA1	Dryer 1 Abort Stack	None	2003
EU-DA2	EU-DA2	Dryer 2 Abort Stack		2003

**SECTION V. EMISSIONS**

**Emission calculation methodology**

VOC as emitted:

VOC emissions to show compliance with permit limits are calculated as follows:

- Subtract the methane determined by Method 18 from the THC as propane.
- Subtract predetermined responses of formaldehyde, phenol, and methanol from the THC as propane less methane. The remaining VOCs are assumed to be alpha and beta pinene, which fully respond on the THC monitor. The VOC mass emission rate is then calculated using the molecular weight of pinene.
- Determine the concentrations and rates of methanol, formaldehyde, and phenol using the Method 320 measured concentrations.
- Sum the pinenes, methanol, formaldehyde, and phenol rates and the resulting total is VOC as emitted rate.

However, MACT testing and emission calculation for MACT purposes will be based on the MACT specific methods.

PM<sub>10</sub> as a Surrogate for PM<sub>2.5</sub>

HEW has historically relied on the PM<sub>10</sub> BACT and NAAQS analyses as a surrogate for PM<sub>2.5</sub>. However, EPA has recently proposed rules to require applicants to demonstrate that it is reasonable to use PM<sub>10</sub> as a surrogate for PM<sub>2.5</sub>. EPA suggested two steps as a possible approach to demonstrating that PM<sub>10</sub> is a reasonable surrogate for PM<sub>2.5</sub>. First, the source should establish in the record “a strong statistical relationship between PM<sub>10</sub> and PM<sub>2.5</sub> emissions from the proposed unit, both with and without the proposed control technology in operation.” Second, the permittee should show “that the degree of control of PM<sub>2.5</sub> by the control technology selected in the PM<sub>10</sub> BACT analysis will be at least as effective as the technology that would have been selected if a BACT analysis specific to PM<sub>2.5</sub> emissions had been conducted.” An analysis for the sources at the Broken Bow Mill is shown below:

**Stranding, Debarking, and Green Bins**

There are no data available (ie., AP-42, industry factors) that quantify PM<sub>10</sub> emissions from these operations. HEW assumed that these emissions are negligible due to the high moisture content of the wood. Therefore, the emissions of PM<sub>2.5</sub> from these sources are negligible and no additional analysis is required.

**Energy Systems/Dryers**

The only PM speciation data Huber was able to identify for wood-fired furnaces is that in AP-42 (9/03), Chapter 1.6, Wood Residue Combustion in Boilers. This section provides uncontrolled PM speciation data from underfeed stokers in Table 1.6-5 that may be applicable to wood-fired units. Table 1.6-5 demonstrates that PM<sub>2.5</sub> emissions are approximately 84% of PM<sub>10</sub> emissions. The BACT analysis identifies that the existing wet electrostatic precipitators at 75% for PM<sub>10</sub> emissions from the wood-fired energy system. In addition, the furnace and dryers at the Mill are routed to RTOs to control VOC and CO emissions. Since the RTOs achieve some destruction of condensable PM, some additional control of PM<sub>2.5</sub> is expected.

**OSB Press Vent**

AP-42 (3/2002), Chapter 10.6.1-Waferboard Oriented Strandboard provides no estimate of PM speciation for OSB presses. The BACT analysis for the OSB press indicates that PM<sub>10</sub> control is cost prohibitive. Due to the lack of available data related to PM<sub>2.5</sub> emissions, Huber assumes that PM<sub>10</sub> is an appropriate surrogate for PM<sub>2.5</sub> on OSB Press Vent.

**PM Control Systems (Baghouses)**

HEW was able to identify several sources of information related to the particle size distribution of wood dust. However, the distributions varied based on the testing equipment used, the type of wood sampled, and manner in which the wood was processed. Due to the lack of standardization in the particle size distribution determination process, Huber is unable to accurately determine PM<sub>2.5</sub> emissions using the particle size distribution data. The BACT analysis for PM control systems identifies baghouses as the best control type for these sources. Collection efficiencies in excess of 99.5% are achievable with fabric filters for particle sizes down to 1.0 micron. HEW expects nearly all PM generated to be larger than 1.0 micron in aerodynamic diameter, resulting in equivalent control for PM<sub>2.5</sub> and PM<sub>10</sub>.

HEW concluded that it is reasonable to use PM<sub>10</sub> as a surrogate for PM<sub>2.5</sub> for the sources at the Broken Bow Mill. The limited available data shows a consistent relationship between PM<sub>2.5</sub> and PM<sub>10</sub> emissions and the pollution control technologies selected for PM<sub>10</sub> are also the best technologies for controlling direct PM<sub>2.5</sub> emissions. The data presented is the best available until issues with the reference test methods for PM<sub>2.5</sub> direct emissions can be resolved and the EPA promulgates PM<sub>2.5</sub> increments for PSD analyses.

On February 11, 2010, EPA published a proposed rule in the Federal Register that would end EPA's 1997 policy that allows a demonstration of compliance with the Prevention of Significant Deterioration (PSD) requirements for particulate matter less than 10 micrometers (PM<sub>10</sub>) as a surrogate for meeting PM<sub>2.5</sub> requirements. However, for those states with EPA approved PSD programs, the 1997 NSR guidance to use PM<sub>10</sub> as a surrogate for PM<sub>2.5</sub> is allowed during the SIP development period. This permit still incorporates the PM<sub>10/2.5</sub> surrogate evaluation since there is insufficient PM<sub>2.5</sub> data for this area of Oklahoma to allow an evaluation."

However, PM<sub>2.5</sub> modeling was conducted subsequently and results are addressed in SECTION VII.

**EMISSION POINTS**

Discharge	Point	Height ft	Diameter ft	Temp °F	Velocity ft/sec
Regen. Thermal Oxidizer No. 1	EP-RTO1	80	10.00	240	51.60
Biofilter No. 1 Exhaust	EP-BF1	80	8.00	100	70.07
Screening Fabric Filter Exhaust	EP-FF2	43	3.17	70	71.95
Forming Fabric Filter Exhaust	EP-FF3	55	4.17	70	76.23
Saws Fabric Filter Exhaust	EP-FF4	55	4.17	70	67.80
Sander Fabric Filter Exhaust	EP-FF5	55	4.17	70	73.09
Fuel Fabric Filter Exhaust	EP-FF6	64	1.83	70	63.14
Fire Pump Engine #1 Exhaust	EP-FP1	12	0.67	1,030	214.86
Emergency Generator #1 Exhaust	EP-EG1	12	0.83	932	153.22
Emergency Generator #2 Exhaust	EP-EG2	12	0.83	932	153.22
Rail Steam Generator	EP-SG1	42	1.00	575	9.32
Branding Booth Exhaust	EP-BRANDB1F	73	1.33	70	226.35
Dryer 1 Abort Stack	EP-DA1	56	6.30	293	118.50
Dryer 2 Abort Stack	EP-DA2	56	6.30	293	118.50

**EUG 2 – MISCELLANEOUS COMBUSTION UNITS**

Emissions from the miscellaneous combustion sources (including a 210-hp diesel fire pump engine, two 900-hp diesel emergency generators, a rail steam generator and 19 air makeup units) were revised to accommodate more hours of operation for the fire pumps (EP-FP1) and emergency generators (EP-EG1 and -EG2). The pumps and generators were calculated operating 240 hours per year (versus 52 hrs/yr used previously). The allowable hours of operation for the other miscellaneous combustion units are 8,760 hrs/yr for the steam generator (EP-SG1) and 5,040 hrs/yr for the air make-up units (EP-AMU1 through -AMU18). Emission

factors are based on AP-42 (10/96), Table 3.3-1 for diesel engines and AP-42 (7/98), Tables 1.4-1 and 1.4-2 for natural gas combustion units.

Emission Unit	Point	NO <sub>x</sub>		CO		Total PM <sub>10</sub>		VOC		SO <sub>2</sub>	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
210-hp Fire Pump Engine	EP-FP1	6.50	0.80	1.40	0.20	0.50	0.06	0.50	0.06	0.40	0.05
900-hp Emergency Generator #1	EP-EG1	27.90	3.30	6.00	0.70	2.00	0.20	2.20	0.30	1.80	0.20
900-hp Emergency Generator #2	EP-EG2	27.90	3.30	6.00	0.70	2.00	0.20	2.20	0.30	1.80	0.20
1.5 MMBtu/hr Rail Steam Generator	EP-SG1	0.10	0.60	0.10	0.50	0.01	0.05	0.08	0.03	0.001	0.004
24.7 MMBtu/hr Air Make Up Units (19)	EP-AMU1-19	2.40	6.10	2.00	5.10	0.20	0.50	0.10	0.30	0.01	0.04
<b>Total</b>		<b>64.8</b>	<b>14.2</b>	<b>15.6</b>	<b>7.2</b>	<b>4.6</b>	<b>1.01</b>	<b>5.08</b>	<b>0.99</b>	<b>4.01</b>	<b>0.49</b>

**EUG 3 – ENERGY SYSTEM/DRYER UNITS**

Emissions from this group are based on the following emission factors, maximum combined process rate of 80 ODT/hr (ODT means oven dried ton), 300 MMBtu/hr total heat input and operating hours of 8,760 hrs/yr. The dryer VOC emission factor has been increased to account for the seasonal variability of VOC in process woods. Other emission factors have been revised to reflect the fuel-bound nitrogen and sulfur content of the MUPF resin and information from other OSB Mills.

**Energy System/Dryer Emission Factor Summary**

Emission Units	Pollutants	Emission Factors
RTO for Energy System and Dryers <sup>1</sup>	PM <sub>10</sub>	0.23 lb/ODT
	NO <sub>x</sub>	2.57 lb/ODT
	CO	1.16 lb/ODT
	VOC	0.77 lb/ODT
	SO <sub>2</sub>	0.18 lb/ODT
	HCOH	0.06 lb/ODT
	MeOH	0.06 lb/ODT
	Acetal	0.02 lb/ODT
	Phenol	0.07 lb/ODT
Uncontrolled Energy System <sup>2</sup>	Lead	4.80E-05 lb/MMBTU
	SO <sub>2</sub>	0.11 lb/MMBTU
	PM <sub>10</sub>	0.1 lb/MMBTU

<sup>1</sup> Emission factors calculated from MUPF trial stack test data with highest emission rates at Commerce GA except: PM from Broken Bow, Phenol from NCASI, and SO<sub>2</sub> calculated from mass balance representing emissions exiting the RTO outlet, after the primary cyclone and emission control devices and includes the contribution from the bark burner. <sup>2</sup> Emission factors from AP-42, Tables 1.6-2 and 1.6-4.

**Energy System/Dryer RTO Criteria Pollutant Emissions**

		NO <sub>x</sub>		CO		Total PM <sub>10</sub>		VOC as Emitted		SO <sub>2</sub>	
Emission Unit	Point	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
No. 1 Heat Source/Dryer	EP-RTO1	205.60	900.53	92.8	406.5	18.7	82.0	61.60	269.81	14.1	61.6
No. 2 Heat Source/Dryer											

**Energy System/Dryer RTO Criteria HAP Emissions**

		Formaldehyde		Methanol		Acetal		Phenol	
Emission Unit	Point	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
No. 1 Heat Source/Dryer	EP-RTO1	4.80	21.0	4.60	19.90	1.20	5.30	5.30	23.10
No. 2 Heat Source/Dryer									

**EUG 4 – PRESS**

The use of MUPF resins will result in higher VOC and formaldehyde emission rates than the petroleum-based MDI resin mixed with PF resin currently in use at the plant. Updated estimates of VOC emissions from the press are based upon engineering data at Broken Bow and other Huber mills across the country, which indicate uncontrolled VOC emissions from the press of 1.05 lb VOC/MSF<sub>3/8</sub>. Existing allowable VOC emissions (based on MDI resin usage) are listed in Permit No. 2003-99-C (M-2) at 0.31 lb VOC/MSF<sub>3/8</sub> (as emitted). HEW believes that the addition of water soluble VOC to the biofilter will improve overall removal efficiency. Engineering test data accumulated during MUPF trial production runs indicate a DRE ranging from 68 percent to 84.7 percent while using MUPF. MUPF will also impact the emissions of other criteria pollutants. MUPF requires catalysts that contain both nitrogen and sulfur compounds. HEW expects increased emissions of NO<sub>x</sub>, ammonia and SO<sub>2</sub> from the press.

**Press Emission Factors**

Emission Units	Pollutants	Emission Factors	Sources
Press	Total PM <sub>10</sub>	0.122 lb/MSF 3/8" basis	Avg. uncontrolled factors from other OSB facilities
	VOC as propane	1.06 lb/MSF 3/8" basis	
	NO <sub>x</sub>	0.020 lb/MSF 3/8" basis	
	CO	0.024 lb/MSF 3/8" basis	
	SO <sub>x</sub>	0.010 lb/MSF 3/8" basis	
	HCOH	0.348 lb/MSF 3/8" basis	
	Phenol	0.06 lb/MSF 3/8" basis	
	Methanol	0.36 lb/MSF 3/8" basis	

**Press Operating Parameters**

Maximum Production Capacity (MSF <sub>3/8</sub> /hr)	110
Hours of Operation (hrs/yr)	8,760
Biofilter VOC Control Efficiency (%)	60
Biofilter HAP Control Efficiency (%)	90
Biofilter Phenol Control Efficiency (%)	50

**Press Criteria Pollutant Emissions**

Emission Unit	Point	NO <sub>x</sub>		CO		Total PM <sub>10</sub>		VOC as Emitted		SO <sub>x</sub>	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Press No. 1 (post control)	EP-BF1	2.20	9.60	2.60	11.60	13.40	58.7	46.6	204.3	1.1	4.80

**Press HAP Emissions**

Emission Unit	Point	Formaldehyde		Phenol		Methanol	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Press No. 1 (post control)	EP-BF1	3.80	16.80	3.00	13.20	3.90	17.20

**EUG 5 – PM CONTROL SYSTEMS (Baghouses)**

PM<sub>10</sub> emissions from this group are based on 0.005 gr/dscf grain loading tests at the OSB Mill and applicable flow rates and operating hours of 8,760 hrs/yr. Emission testing of the PM control systems indicates that VOC in addition to PM<sub>10</sub> emissions are being emitted from the baghouses. Estimates of emissions from the various baghouses have been updated in accordance with available engineering test data. This permit includes a 46% reduction in particulate emissions to more closely reflect actual baghouse outlet concentrations.

**VOC Emission Factors Obtained Through Stack Tests**

Emission Unit	Point	VOC	Formaldehyde	Methanol
Screening – System 9120	EP-FF2	0.133 lb/ODT	0.002 lb/ODT	0.002 lb/ODT
Forming – System 9130	EP-FF3	0.124 MSF <sub>3/8</sub> /hr	0.005 MSF <sub>3/8</sub> /hr	0.062 MSF <sub>3/8</sub> /hr
Saws – System 9140	EP-FF4	0.117 MSF <sub>3/8</sub> /hr	0.006 MSF <sub>3/8</sub> /hr	0.113 MSF <sub>3/8</sub> /hr
Sander – System 9150	EP-FF5	0.102 MSF <sub>3/8</sub> /hr	0.001 MSF <sub>3/8</sub> /hr	0.002 MSF <sub>3/8</sub> /hr

**Baghouse Criteria Pollutant Emissions**

Emission Unit	Point	PM <sub>10</sub> Emissions		VOC Emissions	
		lb/hr	TPY	lb/hr	TPY
Screening – System 9120	EP-FF2	1.46	6.40	25.30	110.90
Forming – System 9130	EP-FF3	2.68	11.73	17.40	76.20
Saws – System 9140	EP-FF4	2.38	10.43	29.20	127.70
Sander – System 9150	EP-FF5	2.57	11.24	9.70	42.40
Fuel – System 9195	EP-FF6	0.43	1.87	0.90	3.90
<b>Subtotal</b>		<b>9.51</b>	<b>41.66</b>	<b>82.50</b>	<b>361.10</b>

**Baghouse HAP Emissions**

Emission Unit	Point	Formaldehyde		Methanol	
		lb/hr	TPY	lb/hr	TPY
Screening – System 9120	EP-FF2	0.20	0.60	0.40	1.70
Forming – System 9130	EP-FF3	1.30	5.80	8.60	37.80
Saws – System 9140	EP-FF4	1.20	5.30	15.90	69.40
Sander – System 9150	EP-FF5	0.60	2.20	0.90	4.20
Fuel – System 9195	EP-FF6	0	0	0	0
<b>Subtotal</b>		<b>3.30</b>	<b>13.90</b>	<b>25.80</b>	<b>113.10</b>

**EUG 6 – TANKS**

Permit No. 2003-099-C (M-2) authorized HEW to convert five 25,000-gallon storage tanks (EP-RES1TK, EP-RES3TK, EP-RES5TK, EP-WAX1TK, and EP-RA2TK) to LPF storage. HEW will utilize one or more of these tanks to store MUPF. The conversion of the storage tank to MUPF from LPF resins is not expected to add significant VOC emissions. The MSDS from MUPF resin indicates that the product contains up to 1% formaldehyde, so formaldehyde emissions are expected to increase by 34 lb/year or 0.017 TPY. Storage tank VOC emissions were calculated using the EPA program, "TANKS4.0d" and the previously listed throughput limits.

Emission Unit	Point	VOC	
		lb/hr	TPY
Mobile Diesel Tank	EP-ME1TK	0.02	<0.01
Fire Pump Diesel Tank	EP-FP1TK	0.01	<0.01
Emer. Gen. 1 Diesel Tank	EP-EG1TK	0.02	<0.01
Emer. Gen. 2 Diesel Tank	EP-EG2TK	0.02	<0.01
Gasoline Tank	EP-GAS1TK	4.23	0.11
Caustic Tank	EP-CAU1TK	0.01	0.01
Urea Tank	EP-UR1TK	2.03	0.02
Resin Tank No. 2	EP-RES2TK	0.01	0.01
Resin Tank No. 4	EP-RES4TK		
Resin Tank No. 6	EP-RES6TK		
Resin Tank No. 1	EP-RES1TK	0.43 (LPF)	1.89 (LPF)
Resin Tank No. 3	EP-RES3TK		
Resin Tank No. 5	EP-RES5TK		
Resin Tank No. 7	EP-RES7TK		
Release Agent Tank No. 2	EP-RA2TK		
Wax Tank No. 1	EP-WAX1TK	0.002	<0.01
Wax Tank No. 2	EP-WAX2TK		
Release Agent Tank No. 1	EP-RA1TK	2.2	0.05
Release Agent Tank No. 2	EP-RA2TK		
Release Agent Mix Tank	EP-RAMIXTK	0.18	0.05
Release Agent Rec. Tank	EP-RAR1TK	0.09	0.05
<b>Subtotal</b>		<b>9.24</b>	<b>2.24</b>

**EUG 7 – BRANDING AND COATING OPERATIONS**

Emissions from coating and branding operations are based on a 12 month rolling average of VOC emissions calculated from a monthly mass balance. PM emissions are negligible since the coating operations are equipped with fabric filters that exhaust inside the building and the branding ink is applied with an industrial ink jet printer that has near zero PM emissions.

Branding and Coating Operations	Point	VOC	
		lb/hr	TPY
Branding	BRAND	1.8	7.5
Coatings	Coat Fugitive	0.734	3.58
Stamping	Stamp Fugitive	0.03	3.9
<b>Total</b>		<b>2.564</b>	<b>14.98</b>

**EUG 8 – FUGITIVE BUILDING EMISSIONS**

Through Industrial Hygiene (IH) testing at another mill, HEW has determined that VOCs exist inside the finishing, warehouse, and certain production areas not covered by the MACT standard. Product testing indicates that the VOCs from the wood strands and various resins may continue to be emitted as the product cures in the finishing stages and the warehouse. HEW used the available (IH) sampling data from existing HEW facilities on the assumption that they are representative of concentrations that may occur at Broken Bow Mill based on exhaust fan rates.

**Emission Factors**

Area	VOC	Methanol	Formaldehyde	PM <sub>10</sub>
	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>
Warehouse	3.45	0.23	0.0947	0.06
Blending	6.97	2.96	0.169	0.13
Forming	12.33	6.32	0.31	0.18
Screening	12.1	-	-	0.21
Green End	-	-	-	0.21

**Emissions**

Area	Flow cf/minute	VOC		Methanol		Formaldehyde		PM <sub>10</sub>	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Warehouse	240,000	3.10	13.56	0.21	0.90	0.09	0.37	0.05	0.24
Blending	180,000	4.69	20.55	1.99	8.73	0.11	0.50	0.09	0.38
Forming	90,000	4.15	18.18	2.13	9.32	0.10	0.46	0.06	0.27
Screening	60,000	2.72	11.89	--	--	--	--	0.05	0.21
Green End	10,300	2.74	12.00	--	--	--	--	0.01	0.04
<b>Total</b>		<b>17.40</b>	<b>76.18</b>	<b>4.33</b>	<b>18.95</b>	<b>0.30</b>	<b>1.33</b>	<b>0.26</b>	<b>1.14</b>



**EUG 9 – STARTUP, SHUTDOWN, AND MAINTENANCE EMISSIONS FROM DRYER ABORT STACKS (INCLUDE HEAT SOURCE EMISSIONS)**

The two rotary dryer systems each have an abort stack located after the dryer cyclones and before the WESP. These abort stacks are normally closed, but may open under various operating conditions and when control equipment is under maintenance . HAP emissions from the dryer abort events are covered by the Mill’s Startup, Shutdown, and Malfunction (SSM) plan. Emissions listed in the following table represent emissions from maintenance related aborts which will include the cleaning of facility air abatement equipment, such as ducts, dampers, fans, WESPs, RTOs, demister pads etc. This is not an exhaustive list and may include other plant maintenance activities that arise. Hourly emissions are calculated based upon the maximum dryer operating rate.

**EUG 9 Dryer Abort Stacks (Includes Heat Source)  
Startup, Shutdown, and Maintenance Emissions**

		PM <sub>10</sub>	NO <sub>x</sub>	CO	VOC	SO <sub>2</sub>
Uncontrolled Emissions Factors	lb/ODT	2.29 <sup>(1)</sup>	2.55 <sup>(2)</sup>	2.25 <sup>(3)</sup>	6.30 <sup>(4)</sup>	0.18 <sup>(5)</sup>
Maximum Dryer Emissions Rate (at 80 ODT/hr)	lb/hr	183	204	180	504	14
Allowable Annual Abort Emissions	TPY	18.3	20.4	18.0	50.4	1.4

Note (1) The PM<sub>10</sub> emission factor was derived from the average of total PM samples collected at the inlet to the WESPs in August 2004, normalized up to 80 ODT/HR and reduced by 28.6% based on the ratio of Total PM to PM<sub>10</sub> as reported in AP42 Table 1.6-1.

Note (2) NO<sub>x</sub> emission factor derived from highest HEW NO<sub>x</sub> emission factor during MUPF resin trials at Commerce, GA plus 20% safety factor.

Note (3) CO emission factor derived from AP42 Table 1.6-2 Emissions Factors for Wood Residue Combustion because these emissions are generated in the furnace.

Note (4) The VOC emission factor was derived from the average of total VOC samples collected at the inlet to the WESPs in August and October 2004 and August 2006, normalized up to 80 ODT/HR.

Note (5) The SO<sub>2</sub> emission factor was derived from a site specific mass balance.

**FACILITY WIDE CRITERIA POLLUTANT EMISSIONS**

Emission Groups	NOx		CO		Total PM <sub>10</sub>		VOC		SO <sub>2</sub>	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
EUG 2	64.8	14.2	15.6	7.2	4.6	1.01	5.08	0.99	4.01	0.49
EUG 3	205.60	900.53	92.8	406.5	18.70	82.0	61.60	269.81	14.1	61.6
EUG 4	2.20	9.60	2.60	11.60	13.40	58.70	46.60	204.30	1.10	4.80
EUG 5	0.00	0.00	0.00	0.00	9.51	41.66	82.50	361.10	0.00	0.00
EUG 6	0.00	0.00	0.00	0.00	0.00	0.00	9.24	2.24	0.00	0.00
EUG 7	0.00	0.00	0.00	0.00	0	0	2.56	14.98	0.00	0.00
EUG 8	0.00	0.00	0.00	0.00	0.26	1.13	17.40	76.21	0.00	0.00
EUG 9	204.0	20.4	180.0	18.0	182.8	18.3	504.0	50.4	14.1	1.4
<b>New Total</b>	<b>476.6</b>	<b>944.73</b>	<b>291</b>	<b>443.3</b>	<b>228.97</b>	<b>201.08</b>	<b>750.94</b>	<b>1071.09</b>	<b>33.61</b>	<b>69.76</b>
<b>Total Before Change</b>	<b>132.28</b>	<b>242.03</b>	<b>41.51</b>	<b>102.02</b>	<b>50.33</b>	<b>170.45</b>	<b>65.60</b>	<b>177.49</b>	<b>5.98</b>	<b>3.35</b>
<b>Emission Change</b>	<b>344.32</b>	<b>702.70</b>	<b>249.49</b>	<b>341.28</b>	<b>178.64</b>	<b>30.63</b>	<b>685.34</b>	<b>893.60</b>	<b>27.63</b>	<b>66.41</b>

Applicant also estimated PM<sub>2.5</sub> emissions as listed in the following table.

Emission Groups	PM <sub>2.5</sub>	
	lb/hr	TPY
EUG 2	4.61	20.19
EUG 3	16.30	71.39
EUG 4	7.50	32.85
EUG 5	4.75	20.81
EUG 6	0	0
EUG 7	0.001	0.004
EUG 8	0	0
EUG 9	39.8	3.98
<b>Total</b>	<b>72.961</b>	<b>149.224</b>

**Facility Wide HAP Emissions**

Unit	Formaldehyde		Methanol		Acetaldehyde		Phenol	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
EUG3	4.80	21.02	4.55	19.93	1.20	5.26	5.28	23.13
EUG4	3.83	16.77	3.93	17.20	-	-	3.03	13.25
EUG5	3.32	13.90	25.80	113.10	-	-	-	-
EUG 8	0.30	1.33	4.33	18.95	-	-	-	-
EUG-9	160.00	16.00	8.00	0.80	8.80	0.88	1.20	0.12
<b>Total</b>	<b>172.25</b>	<b>69.02</b>	<b>46.61</b>	<b>169.18</b>	<b>10.00</b>	<b>6.14</b>	<b>9.51</b>	<b>36.50</b>

EPA’s Tailoring rule became effective on January 2, 2011. HEW provided CO<sub>2</sub> emission estimates for each unit and BACT analysis as addressed in the last part of SECTION VI.

Combustion source CO<sub>2</sub> emissions

Emission Unit	Fuel Type	Maximum Heat Input Capacity
		MMBtu/hr <sup>a</sup>
Energy System/Dryers	Biomass	300
RTO Burners <sup>b</sup>	Natural Gas	84
Fire Pump	Diesel	1.96
Emergency Generators #1	Diesel	8.40
Emergency Generators #2	Diesel	8.40
Railcar Steam Generator	Natural Gas	0.01
Air Makeup Units (all)	Natural Gas	0.23

<sup>a</sup>Heat input for fuel burning equipment based upon 7,000 Btu/hp-hr (out[put] and a 75% engine efficiency.

<sup>b</sup>Emissions from the energy sources and dryers are controlled by five RTOs with two burners each with a maximum heat input capacity of 8.4 MMBtu/hr per burner.

Greenhouse Gas	Natural Gas Emission Factor <sup>a</sup>	Biomass Emission Factor <sup>a</sup>	Diesel Emission Factor <sup>a</sup>	Global Warming Potential <sup>b</sup>
	(Kg/MMBtu)	(Kg/MMBtu)	(Kg/MMBtu)	(GWP)
CO <sub>2</sub>	53.02	93.8	73.96	1
CH <sub>4</sub>	1.00E-03	3.20E-02	3.00E-03	21
N <sub>2</sub> O	1.00E-04	4.20E-03	6.00E-04	310

<sup>a</sup>GHG emission factors from the GHG Mandatory Reporting rule (40 CFR Part 98) Subpart C, Table C-1 and C-2.

<sup>b</sup>Global Warming Potentials are from the GHG Mandatory Reporting rule (40 CFR Part 98) Subpart A, Table A-1.

The energy system/dryers are controlled by a regenerative thermal oxidizer (RTO). Emissions from the energy source/dryers and the RTO burners are being emitted through a common exhaust stack. As such, emissions from the RTO burners cannot be separated from those of the energy source and dryers and are therefore combined together with the energy source and dryers here and in the BACT analysis.

Emission Unit	Fuel Type	CO <sub>2</sub> <sup>a</sup>	CH <sub>4</sub> <sup>b</sup>	N <sub>2</sub> O <sup>c</sup>	CO <sub>2</sub> e <sup>d</sup>
		TPY	TPY	TPY	TPY
Energy System/Dryers	Biomass	271650.1	92.67	12.16	277366.87
RTO Burners	Natural Gas	42993.69	0.81	0.08	43035.86
Fire pump & Emergency Generators	Diesel	367.07	0.01	0.00	368.30
Railcar Steam Generator	Natural Gas	7.02	0.00	0000	7.03
Air Makeup Units	Diesel	67.91	0.00	0.00	67.97
Total		315085.79	93.49	12.24	320846.03

<sup>a</sup> Based on Equation C-2a from the GHG Mandatory Reporting Rule Subpart C.

<sup>b</sup> Based on Equation C-9a from the GHG Mandatory Reporting Rule Subpart C.

<sup>c</sup> Based on Equation C-9a from the GHG Mandatory Reporting Rule Subpart C.

<sup>d</sup> Based on Equation A-1 from the GHG Mandatory Reporting Rule Subpart A.

Biofilter CO<sub>2</sub> Emissions

CO<sub>2</sub> emissions are based on worst case scenario that 100% of VOC controlled by the biofilter is converted to CO<sub>2</sub>.

Pollutant	Pre-Controlled (lb/hr)	Post-Controlled (lb/hr)	Controlled (lb/hr)	CO <sub>2</sub> Production (%)	CO <sub>2</sub> Emissions	
					lb/hr	TPY
VOC	116.6	46.64	69.96	100	69.96	306.42

**SECTION VI. INSIGNIFICANT ACTIVITIES**

The insignificant activities identified and justified in the application and listed in OAC 252:100-8, Appendix I, are listed below. Recordkeeping requirements for activities indicated with an asterisk "\*" are listed in the Specific Conditions.

- \* Stationary reciprocating engines burning natural gas, gasoline, aircraft fuels, or diesel fuel are used exclusively for emergency power generation or for peaking power service not exceeding 500 hours per year.
- Space heaters, boilers, process heaters, and emergency flares less than or equal to 5 MMBTUH heat input (commercial natural gas). Various space heaters are in this category.
- \* Emissions from fuel storage/dispensing equipment operated solely for facility-owned vehicles if fuel throughput is not more than 2,175 gallons/day, averaged over a 30-day period.

- \* Storage tanks with less than or equal to 10,000 gallons capacity that store volatile organic liquids with a true vapor pressure less than or equal to 1.0 psia at maximum storage temperature.
- Gasoline and aircraft fuel handling facilities, equipment, and storage tanks except those subject to New Source Performance Standards and standards OAC 252:100-39-30, 39-41, and 39-48.
- Emissions from storage tanks constructed with a capacity less than 39,894 gallons which store VOC with a vapor pressure less than 1.5 psia at maximum storage temperature.
- Cold degreasing operations utilizing solvents that are denser than air.
- Welding and soldering operations utilizing less than 100 pounds of solder and 53 tons per year of electrodes.
- Torch cutting and welding of less than 200,000 tons of steel fabricated per year.
- Hazardous waste and hazardous materials drum staging areas.
- Surface coating and degreasing operations which do not exceed a combined total usage of more than 60 gallons/month of coatings, thinners, clean-up solvents, and degreasing solvents at any one emissions unit.
- Activities having the potential to emit no more than 5 TPY (actual) of any criteria pollutant. These activities includes (but are not limited to):
  - Roadways;
  - Storage piles;
  - Transfer points; and
  - Debarker

## SECTION VII. OKLAHOMA AIR POLLUTION CONTROL RULES

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

OAC 252:100-2 (Incorporation by Reference) [Applicable]  
Subchapter 2 incorporates by reference applicable provisions of Title 40 of the Code of Federal Regulations as they existed on September 1, 2006 and in accordance with OAC 252:100 Appendix Q. NSPS and NESHAP will be addressed in the “Federal Regulations” section.

OAC 252:100-3 (Air Quality Standards and Increments) [Applicable]  
Primary Standards are in Appendix E and Secondary Standards are in Appendix F of the Air Pollution Control Rules. At this time, all of Oklahoma is in attainment of these standards.

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

OAC 252:100-8 (Permits for Part 70 Sources) [Applicable]  
Part 5 includes the general administrative requirements for Part 70 permits. Any planned changes in the operation of the facility which result in emissions not authorized in the permit and which exceed the “Insignificant Activities” or “Trivial Activities” thresholds require prior

notification to AQD and may require a permit modification. Insignificant activities mean individual emission units that either are on the list in Appendix I (OAC 252:100) or whose actual calendar year emissions do not exceed the following limits:

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

The applicant has fulfilled all applicable requirements relative to the construction permit application provisions. Subchapter 8-4(b)(5) requires facilities subject to requirements to submit a major source operating permit application within 180 days of commencement of operation. An application for Title V Permit Number 2003-099-TV is under review at DEQ. An update of the Title V permit will be submitted to DEQ within 180 days after this permit is issued.

OAC 252:100-9 (Excess Emission Reporting Requirements) [Applicable]  
Except as provided in OAC 252:100-9-7(a)(1), the owner or operator of a source of excess emissions shall notify the Director as soon as possible but no later than 4:30 p.m. the following working day of the first occurrence of excess emissions in each excess emission event. No later than thirty (30) calendar days after the start of any excess emission event, the owner or operator of an air contaminant source from which excess emissions have occurred shall submit a report for each excess emission event describing the extent of the event and the actions taken by the owner or operator of the facility in response to this event. Request for affirmative defense, as described in OAC 252:100-9-8, shall be included in the excess emission event report. Additional reporting may be required in the case of ongoing emission events and in the case of excess emissions reporting required by 40 CFR Parts 60, 61, or 63.

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

OAC 252:100-17 (Incinerators) [Not Applicable]  
The heat sources (EU-HS1 and EU-HS2) could potentially subject to the requirements of OAC 252-100-17, Part 11, Other Solid Waste Incineration Units (OSWI). However, EPA proposed "Identification of Non-Hazardous Secondary Materials That Are Solid Waste" on June 4, 2010 to determine which non-hazardous secondary materials that are used as fuels or ingredients in combustion units are solid wastes under the Resource Conservation and Recovery Act (RCRA). The meaning of "solid waste" as defined under RCRA is of particular importance since it will determine whether a combustion unit is required to meet emissions standards for solid waste incineration units issued under section 129 of the Clean Air Act (CAA) or emissions standards for commercial, industrial, and institutional boilers issued under CAA section 112. In this rule, EPA proposed that legitimate fuel or ingredient products that result from the processing of discarded non-hazardous secondary materials are not solid wastes. Therefore, the heat sources are not solid waste incineration unit and are not subject to this subchapter.

OAC 252:100-19 (Particulate Matter) [Applicable]

This subchapter limits emissions of particulate matter from processes other than fuel-burning equipment based on their process weight rate (Appendix G).

If the Process Rate Weight (P) is less than or equal to 30 tons/hour:

$$E_{\text{Allow lbs/hr}} = 4.10 (P)^{0.67}$$

If the Process Weight Rate (P) is greater than 30 tons/hour:

$$E_{\text{Allow lbs./hr}} = 55 (P)^{0.11} - 40$$

The allowable emissions, calculated in the following table for process units, are based on the above two formulas. No specific periodic monitoring, other than recordkeeping on the total process throughput is required to demonstrate compliance with this subchapter for the facility.

**COMPLIANCE WITH SUBCHAPTER 19**

<b>Emission Point</b>	<b>Total Process Weight Rate Related To Emission Point TPH</b>	<b>Allowable PM Emissions Per Subchap. 19-12 lb/hr</b>	<b>Permitted Total PM<sub>10</sub> Emissions, lb/hr</b>
EP-RTO1 (RTO)	80.0	49.06	18.70
EP-BF1 (Biofilter)	57.4	45.87	13.40
EP-FF2 (Screening)	70.5	47.83	1.46
EP-FF3 (Forming)	70.5	47.83	2.68
EP-FF4 (Saws)	57.4	45.87	2.38
EP-FF5 (Sander)	51.7	44.89	2.57
EP-FF6 (Fuel)	70.5	47.83	0.43

The allowable emissions for the indirect fired combustion units (subject to OAC 252:100-19-4) are determined by OAC 252:100, Appendix C. Emissions are computed based on estimated maximum particulate matter emissions.

<b>Emission Point</b>	<b>Max Heat Rating MMBtu/Hr</b>	<b>Allowable PM Emissions Per Subchapter 19.4, lb/ MMBTU</b>	<b>Estimated PM Emissions, lb/MMBTU</b>
EP-EG1 (Em Gen 1)	6.3	0.6	0.32 (diesel)
EP-EG2 (Em Gen 2)	6.3	0.6	0.32 (diesel)
EP-FP1 (Fire Pump 1)	1.5	0.6	0.33 (diesel)
EP-AMU1-18 (Air Make Up Units(18))	24.7, individual 1.5	0.6	0.006

OAC 252:100-25 (Visible Emissions and Particulates) [Applicable]

No discharge of greater than 20% opacity is allowed except for short-term occurrences which consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity. The facility will conduct observations for visible emissions from stacks and egress points on an annual basis to demonstrate compliance with this requirement.

OAC 252:100-29 (Fugitive Dust) [Applicable]  
Subchapter 29 prohibits the handling, transportation, or disposition of any substance likely to become airborne or windborne without taking “reasonable precautions” to minimize emissions of fugitive dust. No person shall cause or permit the discharge of any visible fugitive dust emissions beyond the property line on which the emissions originate in such a manner as to damage or to interfere with the use of adjacent properties, or cause air quality standards to be exceeded, or to interfere with the maintenance of air quality standards. Most of the materials handled are wood and wood waste, therefore non-brittle and not very susceptible to becoming fugitive dust. The facility will use best management practices to minimize particulate emissions from industrial activities and roads, in and around the plant site.

OAC 252:100-31 (Sulfur Compounds) [Applicable]  
Part 5 limits sulfur dioxide emissions from new equipment (constructed after July 1, 1972). This subchapter specifies an SO<sub>2</sub> emission limitation of 1.2 lb/MMBTU for solid fuel, 0.80 lb/MMBTU for liquid fuel, and 0.20 lb/MMBTU for gaseous fuel. The two heat sources (EU-HS1 and EU-HS2) are rated 150 MMBTU/H each and burn residual wood waste. Only small amounts of kerosene are used to light the wood fuel on a cold start-up, the heat sources are not equipped to fire liquid or gaseous fuels. Therefore the 1.2 lb/MMBTU limit applies to these two sources. Each heat source emits 0.047 lb/MMBTU SO<sub>2</sub>, therefore they are in compliance.

OAC 252:100-33 (Nitrogen Oxides) [Applicable]  
Subchapter 33 sets the following NO<sub>x</sub> limits for new fuel-burning equipment with a rated heat input greater than or equal to 50 MMBTUH: 0.2 lb/MMBTU for gas-fired fuel-burning equipment, 0.3 lb/MMBTU for liquid-fired fuel-burning equipment, and 0.7 lb/MMBTU for solid fossil fuel-burning equipment. The two heat sources (EU-HS1 and EU-HS2) are rated 150 MMBTU/H each and burns residual wood waste, therefore, they are subject to this subchapter. Each heat source emits 0.68 lb MMBTU NO<sub>x</sub>, therefore, is in compliance.

OAC 252:100-35 (Carbon Monoxide) [Not Applicable]  
None of the following affected processes are part of this project: gray iron cupola, blast furnace, basic oxygen furnace, petroleum catalytic cracking unit or catalytic reforming unit.

OAC 252:100-37 (Volatile Organic Compounds) [Applicable]  
Part 3 requires new (constructed after December 28, 1974) storage tanks with a capacity between 400 and 40,000 gallons holding an organic liquid with a true vapor pressure greater than 1.5 psia to be operated with a submerged fill pipe or with an organic vapor recovery system. Consistent with OAC 252:100-37-15(b), the permit will require storage tanks that are storing a VOC with vapor pressure greater than 1.5 psia and have a capacity greater than 400 gallons to be equipped with a permanent submerged fill pipe or a vapor recovery system as required in 252:100-37-15(a)(2).

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

Part 5 limits the VOC content of paints and coatings. Consistent with OAC 252-37-25, any



coating line or coating operation (that emits more than 100 pounds per 24 hour day) with VOC emissions shall use coatings that comply with the following amounts listed below. (Limits are expressed in pounds VOC per gallon coating, excluding the volume of any water and exempt organic compounds).

- 1) Alkyd primer – 4.8
- 2) Vinyls – 6.0
- 3) NC lacquers – 6.4
- 4) Acrylics – 6.0
- 5) Epoxies – 4.8
- 6) Maintenance finishes – 4.8
- 7) Custom product finishes – 6.5

The branding operations involve application of ink marking to the product (OSB). The marking applied to the product cannot be classified as one of the seven VOC coating operations listed above, therefore, the VOC limits associated with this regulation are not applicable to the branding operations. The paint booths other than branding at the facility utilize water-based coatings that have minimal or no VOC contained in the coating.

Part 7 requires all effluent water separators, openings or floating roofs to be sealed or equipped with an organic vapor recovery system. Consistent with OAC 252:100-37-37, the Huber facility will not utilize a single compartment or multiple compartment VOC/water separator that receives effluent water containing 200 gallons per day or more of VOC (with vapor pressure greater than 1.5 psia) from any equipment processing, refining, treating, storing, or handling VOCs.

Part 7 also requires fuel-burning and refuse burning equipment to be operated and maintained to minimize emissions. Temperature and available air must be sufficient to provide essentially complete combustion. The Huber facility utilizes fuel-burning and refuse-burning equipment that will handle a VOC with vapor pressure greater than 1.5 psia. The fuel-burning equipment will be operated to minimize emissions of VOC, consistent with OAC 252:100-37-36. The RTO will control VOC emissions from the Heat Sources and Dryers and the Biofilter will control VOC emissions from the Press.

OAC 252:100-42 (Toxic Air Contaminants (TAC)) [Not Applicable]

This Subchapter regulates toxic air contaminants (TAC) that are emitted into the ambient air in areas of concern (AOC). Any work practice, material substitution, or control equipment required by the Department prior to June 11, 2004, to control a TAC, shall be retained unless a modification is approved by the Director. Since no AOC has been designated anywhere in the state, there are no specific requirements for this facility at this time.

OAC 252:100-43 (Testing, Monitoring, and Recordkeeping) [Applicable]

This subchapter provides general requirements for testing, monitoring and recordkeeping and applies to any testing, monitoring or recordkeeping activity conducted at any stationary source. To determine compliance with emissions limitations or standards, the Air Quality Director may require the owner or operator of any source in the state of Oklahoma to install, maintain and operate monitoring equipment or to conduct tests, including stack tests, of the air contaminant source. All required testing must be conducted by methods approved by the Air Quality Director and under the direction of qualified personnel. A notice-of-intent to test and a testing protocol shall be submitted to Air Quality at least 30 days prior to any EPA Reference Method stack tests. Emissions and other data required to demonstrate compliance with any federal or state emission

limit or standard, or any requirement set forth in a valid permit shall be recorded, maintained, and submitted as required by this subchapter, an applicable rule, or permit requirement. Data from any required testing or monitoring not conducted in accordance with the provisions of this subchapter shall be considered invalid. Nothing shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

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

OAC 252:100-11	Alternative Emissions Reduction	not requested
OAC 252:100-15	Mobile Sources	not in source category
OAC 252:100-17	Incinerators	not type of emission unit
OAC 252:100-23	Cotton Gins	not type of emission unit
OAC 252:100-24	Grain Elevators	not in source category
OAC 252:100-39	Nonattainment Areas	not in area category
OAC 252:100-47	Municipal Solid Waste Landfills	not in source category

**SECTION VIII. FEDERAL REGULATIONS**

PSD, 40 CFR Part 52 [Applicable]  
 The total emissions of VOC, NO<sub>x</sub>, CO, PM<sub>10</sub>, and SO<sub>2</sub> exceed the threshold level of 250 TPY of any single regulated pollutant and / or exceed the significant emission rate (SER) increase for this project. Full PSD review has been conducted in previous sections.

NSPS, 40 CFR Part 60 [Subparts Db & III are Applicable]  
Subpart Db, Industrial-Commercial-Institutional Steam Generating Units. This subpart affects each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating units of greater than 100 MMBTUH. The two heat sources are subject to this subpart and shall comply with all applicable requirements.  
 §60.42b(d)(1) sets the SO<sub>2</sub> standard as 0.5 lb/MMBTU for affected facilities that have an annual capacity factor for coal and oil of 30 percent or less and are subject to a federally enforceable permit limiting the operation of the affected facility to an annual capacity factor for coal and oil of 30% or less. Percent reduction requirements are not applicable. The permit will limit the facility's annual capacity factor for oil to 30% or less, thus the facility will not be subject to the NO<sub>x</sub> standard.

§60.45b(j) and §60.47b(f) exempt facilities that combust very low sulfur oil from testing and monitoring requirements if the owner or operator obtains fuel receipts as described in §60.49b(r). §60.49b(r) requires that the owner operator of an affected facility who elects to demonstrate that the affected facility combusts only very low sulfur oil under §60.42b(j)(2) shall obtain and maintain at the affected facility fuel receipts from the fuel supplier which certify that the oil meets the definition of distillate oil as defined in §60.41b. For the purposes of this section, the oil need not meet the fuel nitrogen content specification in the definition of distillate oil. Reports shall be submitted to the Administrator certifying that only very low sulfur oil meeting this definition was combusted in the affected facility during the preceding reporting period.

§60.43b(c)(1) sets the PM standard as 0.1 lb/MMBTU for affected facilities that combust wood, or wood with other fuels, except coal, and have an annual capacity factor greater than 30% for wood.

§60.43b(f) sets the opacity limit to 20% for an affected facility that combusts coal, oil, wood, or mixtures of these fuels with any other fuels.

§60.43b(g) provides that particulate matter and opacity limits apply at all times, except during periods of startup, shutdown or malfunction.

§60.44b(d) sets the NO<sub>x</sub> standard to 0.3 lb/MMBTU for an affected facility that simultaneously combusts natural gas with wood, municipal-type solid waste, or other solid fuel, except coal, unless the affected facility has an annual capacity factor for natural gas of 10 percent or less and is subject to a federally enforceable requirement that limits operation of the affected facility to an annual capacity factor of 10 percent or less for natural gas. The permit will limit the facility's annual capacity factor for natural gas to 10% or less, thus the facility will not be subject to the NO<sub>x</sub> standard.

§60.44b(l) does not apply as the permit will limit the facility's annual capacity factor for natural gas and oil to 10% or less per §60.44b(l)(1).

§60.48b(a) requires that the owner or operator of an affected facility subject to the opacity standard under §60.43b shall install, calibrate, maintain, and operate a continuous monitoring system for measuring the opacity of emissions discharged to the atmosphere and record the output of the system.

Subpart Kb, Volatile Organic Liquids Storage Vessels. This subpart applies to volatile organic liquids storage vessels for which construction, reconstruction, or modification commenced after July 23, 1984, and which have a capacity of 19,812 gallons (75 cubic meters) or greater. Tanks EU-RES1TK, EU-RES2TK, EU-RES3TK, EU-RES4TK, EU-RES5TK, EU-RES6TK, EU-WAX1TK, EU-WAX2TK, EU-WAX3TK, EU-RA1TK, EU-RA2TK, EU-RESCAT1TK, and EU-RAR1TK exceed the 19,812 gallons capacity. Paragraph 60.110b(b) specifies that this subpart does not apply to vessels with a design capacity greater than 75 m<sup>3</sup> (19,812 gallons) but less than 151 m<sup>3</sup> (39,980 gallons) containing a VOL that, as stored, has a maximum true vapor pressure less than 15.0 kPa (2.2 psi). None of these vessels store a material with a vapor pressure greater than 15.0 kPa. Therefore, this subpart does not apply.

Subpart IIII, Stationary Compression Ignition Internal Combustion Engines. This subpart applies to certain Compression Ignition (CI or Diesel) Engines constructed (ordered) or modified after July 11, 2005. The three diesel engines at the facility were all constructed in 2003 and have not been modified. Therefore, they are not subject.

NESHAP, 40 CFR Part 61

[Not Applicable]

There will be no sources at the facility subject to any of the requirements of 40 CFR 61, National Emission Standards for HAPs (NESHAPs).

NESHAP, 40 CFR Part 63

[Subparts DDDD & ZZZZ are Applicable]

Subpart DDDD, Plywood and Composite Wood Products (PCWP), was promulgated on July 30, 2004, with amendments promulgated on February 16, 2006. This rule applies to OSB manufacturing and associated operations. The affected source, as defined by the rule, is the collection of dryers, blenders, formers, presses, board coolers, and other process units associated with the manufacturing of plywood and composite wood products at a plant site. The affected source includes, but is not limited to green end operations, drying operations, blending and

forming operations, pressing and board cooling operations, miscellaneous finishing operations (such as sanding, sawing, patching, edge sealing and other finishing operations not subject to other NESHAP), raw material storage, onsite wastewater treatment operations specifically associated with PCWP manufacturing, miscellaneous coating operations, and lumber kilns. Compliance options based on production, add-on control, and emission-averaging are described in the MACT. The initial compliance date was October 1, 2007, and then postponed to October 1, 2008 (Federal Register, February 16, 2006). However, for facilities that obtained a final and legally effective case-by-case MACT determination prior to the promulgation date of such emission standard, §63.44(b)(1) stated that “ the owner or operator shall comply with the promulgated standard as expeditiously as practicable, but not longer than 8 years after such standard is promulgated.” In this case, Huber will comply with Subpart DDDD requirements as expeditiously as possible but in no case later than July 30, 2012 per §63.44(b)(1).

Subpart ZZZZ, Reciprocating Internal Combustion Engines (RICE). This subpart previously affected only SI RICE with a site-rating greater than 500 brake horsepower that are located at a major source of HAP emissions. On March 3, 2010, EPA published new final rules in the Federal Register for existing CI RICE (diesel engines). The two emergency generators and the fire pump engine are subject to this subpart. However, EG1 and EG2 are greater than 500-hp and an emergency stationary RICE greater than 500-hp located at a major HAP source does not need to comply with the emission limitations in Tables 1a, 2a, 2c, and 2d to this subpart or operating limitations in Tables 1b and 2b to this subpart. For FP1, an emergency stationary RICE less than 500-hp located at a major HAP source shall meet the following requirement by May 3, 2013:

	<b>You must meet the following requirement, except during periods of startup</b>	<b>During periods of startup you must</b>
Emergency stationary CI RICE and black start stationary CI RICE	a. Change oil and filter every 500 hours of operation or annually, whichever comes first; <sup>2</sup> b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.

- All existing emergency rice must have non-resettable hour meter and can operate up to 100 hr/yr for maintenance checks. No performance testing is required for these engines.
- Any existing emergency CI must maintain and operate engine and control devices (if any) per manufacturer’s written instructions; no performance testing is required for these engines.

Subpart DDDDD, Industrial, Commercial, and Institutional Boilers and Process Heaters. This subpart was proposed on March 21, 2011, and becomes effective on May 20, 2011. This subpart

establishes emission limitations and work practice standards for HAP emitted from industrial, commercial, and institutional boilers and process heaters within a fuel subcategory located at major sources of HAP. A boiler or process heater is new or reconstructed if it commenced construction or reconstruction after June 4, 2010. A new or existing boiler or process heater with a heat input capacity of less than 10 MMBTUH or a limited use boiler or process heater must conduct a tune-up of the boiler or process heater biennially as specified in § 63.7540. A new or existing boiler or process heater in the gaseous fuel 1 subcategory with heat input capacity of 10 MMBTUH or greater must conduct a tune-up of the boiler or process heater annually as specified in § 63.7540. Gaseous fuel 1 category includes, but is not limited to, natural gas, process gas, landfill gas, coal derived gas, refinery gas, and biogas. Hot water heaters with a capacity of less than 120-gallons are not subject to this subpart. An existing boiler or process heater located at a major source facility must have a one-time energy assessment performed by a qualified energy assessor. Existing boilers and process heaters must comply with this subpart by May 20, 2014.

All emissions from the combustion unit pass through the dryer before being emitted to the atmosphere. Combustion unit/dryer emissions are controlled by a regenerative thermal oxidizer. In the preamble to the Federal Register (Vol. 69, No. 146 / Friday, July 30, 2004) National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products, the EPA established that combustion gasses which routinely pass through the dryer are regulated by the PCWP MACT. Emissions subject to the PCWP are exempt from other requirements under this part.

Compliance Assurance Monitoring, 40 CFR Part 64

[Applicable]

Compliance Assurance Monitoring, as published in the Federal Register on October 22, 1997, applies to any pollutant specific emission unit at a major source, which is required to obtain a Title V permit, if it meets all the following criteria:

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

The sources and pollutants that meet these three conditions are as follows:

- Heat sources/Dryers – NO<sub>x</sub>, VOC, CO, and PM
- Press – VOC
- Pneumatic conveying systems (five emission points) – PM

HAP is excluded because the major HAP sources must comply with MACT monitoring requirements.

CAM requirements will be addressed in the Title V Operating Permit.

Chemical Accident Prevention Provisions, 40 CFR Part 68

[Not Applicable]

The definition of a stationary source does not apply to transportation, including storage incident to transportation, of any regulated substance or any other extremely hazardous substance under the provisions of this part. The definition of a stationary source also does not include naturally

occurring hydrocarbon reservoirs. Naturally occurring hydrocarbon mixtures, prior to entry into a natural gas processing plant or a petroleum refining process unit, including: condensate, crude oil, field gas, and produced water, are exempt for the purpose of determining whether more than a threshold quantity of a regulated substance is present at the stationary source. This facility does not store any regulated substance above the applicable threshold limits. More information on this federal program is available on the web page: [www.epa.gov/ceppo](http://www.epa.gov/ceppo).

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

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

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

## SECTION IX. COMPLIANCE

### Tier Classification and Public Review

This application has been determined to be a **Tier II** based on the request to relax a PSD permit condition for a major facility. The applicant has submitted an affidavit that they are not seeking a permit for land use or for any operation upon land owned by others without their knowledge. The affidavit certifies that the landowner has been notified. Information on all permit actions is available for review by the public in the Air Quality Section of DEQ Web Page: <http://www.deq.state.ok.us>.

The applicant publish a "Notice of Tier II Permit Application Filing" in the McCurtain Gazette, a daily newspaper printed in the City of Idabel, McCurtain County, Oklahoma, on June 23, 2013. The notice stated that the application can be reviewed at the Broken Bow Public Library, 404 North Broadway Street, Broken Bow, OK 74728 or at the Air Quality Division's main office. A "Notice of Tier II Draft Permit" was also published in the same newspaper on August 2, 2013.

The draft permit was also available on the DEQ Web site <http://www.deq.state.ok.us/>. This facility is located within 50 miles of the borders of Texas, Arkansas, and Oklahoma. The states of Texas and Arkansas were given notices of the availability of the draft. The draft permit was also sent to EPA for a concurrent review. No comments were received from the public, the states of Texas and Arkansas, or EPA.

#### **Fees Paid**

Construction permit modification for a Part 70 source permit application fee of \$5,000. Applicant paid \$6,000 and will be refunded for \$1,000.

#### **SECTION X. SUMMARY**

The applicant has demonstrated the ability to achieve compliance with all applicable Air Quality Rules and Regulations. Ambient air quality standards are not threatened at this site. There is no other active Air Quality compliance or enforcement issues other than those noted above. Issuance of the construction permit is recommended.

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

**Huber Engineered Woods  
Broken Bow OSB Mill**

**Permit No. 2003-099-C (M-4) (PSD)**

The permittee is authorized to construct in conformity with the specifications submitted to Air Quality Division on December 13, 2012, with new updates submitted on May 31, 2013. The Evaluation Memorandum dated September 11, 2013, explains the derivation of applicable permit requirements and estimates of emissions; however, it does not contain operating limitations or permit requirements. Commencing construction or operations under this permit constitutes acceptance of, and consent to, the conditions contained herein.

1. Points of emissions and emission limitations for each point: [OAC 252:100-8-6(a)]

**EUG 2 – MISC COMBUSTION UNITS**

EU-SG1 and EU-AMU1-18 are considered insignificant because each emits less than 5 TPY.

<b>Emission Unit</b>	<b>Point</b>	<b>EU Name/Model</b>	<b>Size</b>	<b>Construction Date</b>
EU-SG1	EP-SG1	Gas Fired Rail Steam Generator	1.5 MMBTUH	2003
EU-AMU1 – 18	EP-AMU1 - 18	Air Make Up Units (18)	24.7 MMBTUH	2003

EP-AMU1 - 18 are equipped with hour meters.

The equipment items listed below are subject to NESHAP Subpart ZZZZ.

<b>Emission Unit</b>	<b>Point</b>	<b>EU Name/Model</b>	<b>Size</b>	<b>Construction Date</b>
EU-EG1	EP-EG1	Emergency Generator #1	900-hp	2003
EU-EG2	EP-EG2	Emergency Generator #2	900-hp	2003
EU-FP1	EP-FP1	Fire Pump Engine	210 hp	2003

EU-EG1, EU-EG2, and EU-FP1 are equipped with hour meters.

<b>Emission Unit</b>	<b>Point</b>	<b>NO<sub>x</sub></b>		<b>CO</b>		<b>Total PM<sub>10</sub></b>		<b>VOC</b>		<b>SO<sub>2</sub></b>	
		<b>lb/hr</b>	<b>TPY</b>	<b>lb/hr</b>	<b>TPY</b>	<b>lb/hr</b>	<b>TPY</b>	<b>lb/hr</b>	<b>TPY</b>	<b>lb/hr</b>	<b>TPY</b>
210-hp Fire Pump Engine	EP-FP1	6.50	0.80	1.40	0.20	0.50	0.06	0.50	0.06	0.40	0.05
900-hp Emergency Generator #1	EP-EG1	27.90	3.30	6.00	0.70	2.00	0.20	2.20	0.30	1.80	0.20
900-hp Emergency Generator #2	EP-EG2	27.90	3.30	6.00	0.70	2.00	0.20	2.20	0.30	1.80	0.20



Emission Unit	Point	CO <sub>2e</sub>
		TPY
210-hp Fire Pump Engine	EP-FP1	450
900-hp Emergency Generator #1	EP-EG1	
900-hp Emergency Generator #2	EP-EG2	
EU-SG1	EP-SG1	
EU-AMU1 - 18	EP-AMU1 - 18	

**EUG 3 – ENERGY SYSTEM/DRYER UNITS**

Emission Unit	Point	NO <sub>x</sub>		CO		Total PM <sub>10</sub>		VOC as Emitted		SO <sub>2</sub>	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Heat Source No. 1	EP-RTO1	205.6	900.53	92.80	406.46	18.7	82.0	61.60	269.81	14.1	61.6
Heat Source No. 2											

Emission Unit	Point	NO <sub>x</sub>	CO	VOC	PM <sub>10</sub>	SO <sub>2</sub>
		lb/ODT*				
Heat Source No. 1	EP-RTO1	2.57	1.16	0.77	0.23	0.18
Heat Source No. 2						

Emission Unit	Point	CO <sub>2e</sub>
		TPY
Heat Source No. 1	EP-RTO1	320,494.41

- A. Combined throughput of the two dryers shall not exceed 80.0 ODT/hr based on a 12 month rolling average calculated monthly (ODT means Oven Dried Ton), operating 8,760 hours per year when utilizing methylene diphenyl diisocyanate (MDI), and/or phenol formaldehyde (PF) and/or melamine urea phenol formaldehyde (MUPF) resins and/or other resins that will not cause allowable emissions to be exceeded, or that result in emissions of new regulated pollutants.
- B. The two heat sources shall be fueled with the following :
 

The majority of fuel consists of bark and wood residuals, including sander dust and waste resinated board from the process some of which will have a paper overlay. Huber also burns miscellaneous, non-hazardous housekeeping and process materials generated on-site including paper, plastic, cardboard, used motor oil, used hydraulic oil, miscellaneous oils/grease, centrifuge dust, stamp ink, stencil paint, grinding fluid, WESP recycle water/sludge, resin, release agent, wax, edge seal, and a small amount of very low sulfur diesel fuel to ignite the furnace fire during startup.
- C. All air exhausts from the heat sources/dryers shall be processed by a wet electrostatic precipitator (WESP) controlling PM<sub>10</sub> and a regenerative thermal oxidizer (RTO) controlling 95% VOC under normal operating conditions, or other equivalent air pollution control devices.

D. The annual capacity factor for municipal-type waste shall not exceed 30% and the annual capacity factor of natural gas and oil as fuel shall not exceed 10%.

**EUG 4 - PRESS**

Emission Unit	Point	NO <sub>x</sub>		CO		Total PM <sub>10</sub>		VOC as emitted		SO <sub>x</sub>	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Press No. 1 (post control)	EP-BF1	2.20	9.60	2.60	11.60	13.40	58.7	46.6	204.3	1.1	4.8

Emission Unit	Point	CO <sub>2</sub> TPY
Press No. 1	EP-BF1	306.42

- A. Throughput of the press shall not exceed 110 MSF/hr 3/8” basis (based on a 12 month rolling average calculated monthly), operating 8,760 hours per year.
- B. The press shall be operated only when a negative pressure is maintained within the press enclosure and the building housing the press while capturing decompression emissions from the product produced in the press via a press length hood. The average facial velocity of air through any open natural draft openings (NDO) in the press enclosure shall be at least 200 fpm. This shall be demonstrated by continuous monitoring of facial velocity at the press infeed and outfeed NDO. If a man door or bay door will remain open for longer than necessary for personnel egress/ingress, a portable air flow monitor will be used once per shift to monitor and document that a minimum of 200 feet per minute velocity into the press room is being maintained until the door is closed.
- C. When the board cooler is operating, all air exhausts from the board cooler room shall be routed to the press building. The board cooler shall be operated only when a negative pressure is maintained within the board cooler room.
- D. The direct press exhaust pickup points shall be processed by a wet electrostatic precipitator (WESP) and a biofilter; the air exhausts collected by the press hoods and the general room air exhausts shall be processed by the biofilter; and the air exhaust from the pre-heater shall be processed by a scrubber and the biofilter, providing a maximum VOC emission rate of 0.42 pounds per MSF<sub>3/8</sub> for VOC.

**EUG 5 – BAGHOUSE SYSTEMS**

Emission Unit	Point	Total PM <sub>10</sub>		Total VOC	
		lb/hr	TPY	lb/hr	TPY
Screening – System 9120	EP-FF2	1.46	6.40	25.30	110.90
Forming – System 9130	EP-FF3	2.68	11.73	17.40	76.20
Saws – System 9140	EP-FF4	2.38	10.43	29.20	127.70
Sander – System 9150	EP-FF5	2.57	11.24	9.70	42.40
Fuel – System 9195	EP-FF6	0.43	1.87	0.90	3.90

- A. Each operation shall be equipped with a fabric filter that controls PM<sub>10</sub> emission to the allowable emission rate, or other equivalent air pollution control devices.
- B. PM<sub>10</sub> emissions from this group are based on 0.005 gr/dscf grain loading derived from stack tests at the OSB Mill and applicable flow rates and operating hours of 8,760 hrs/yr.

**EUG 6 - TANKS**

The equipment items listed below are considered insignificant because each emits less than 5 TPY. Nominal throughputs are not limits.

<b>Emission Unit</b>	<b>Point</b>	<b>EU Name/Model</b>	<b>Capacity/ Nominal Throughputs</b>	<b>Const. Date</b>
EU-GAS1TK	EP-GAS1TK	Gasoline Storage Tank No. 1	550-gal/ 20,000 gal/yr	2003
EU-EG1TK	EP-EG1TK	Emergency Gen. No. 1 Diesel Tank	1,000-gal/ 13,850 gal/yr	2003
EU-EG2TK	EP-EG2TK	Emergency Gen. No. 2 Diesel Tank	1,000-gal/ 13,850 gal/yr	2003
EU-FP1TK	EP-FP1TK	Fire Pump Engine No. 1 Diesel Tank	500-gal/ 6,920 gal/yr	2003
EU-ME1TK	EP-ME1TK	Mobile Equipment Diesel Tank No. 1	1,000-gal 40,000 gal/yr	2003
EU-UR1TK	EP-UR1TK	Urea Storage Tank No. 1	10,000 gal/ 127,962 gal/yr	2003
EU-WAX2TK	EP-WAX2TK	Wax Storage Tank No. 2	25,000-gal each 41,000,000 lb/yr total	2003
EU-WAX3TK	EP-WAX3TK	Wax Storage Tank No. 3		2003
EU-RES2TK	EU-RES2TK	Resin Storage Tank No.2	25,000-gal each 50,000,000 lb/yr total	2003
EU-RES4TK	EU-RES4TK	Resin Storage Tank No.4		2003
EU-RES6TK	EU-RES6TK	Resin Storage Tank No.6		2003
	EU-WAX1TK	Wax or Resin Storage Tank No. 1	25,000-gal each 51,100,000 lb/yr	2003
	EP-RES1TK	Resin Storage Tank No. 1		2003
	EP-RES3TK	Resin Storage Tank No. 3		2003
	EP-RES5TK	Resin Storage Tank No. 5		2003
	EP-RA2TK	Release Agent or Resin Storage Tank		2003
EU-RA1TK	EP-RA1TK	Release Agent Storage Tank No. 1	25,000-gal each 3,200,000 lb/yr	2003
EU-CAU1TK	EP-CAU1TK	Caustic Storage Tank No. 1	10,000-gal/ 800,000 lb/yr	2003
EU-RAMIX1TK	EP-RAMIX1TK	Release Agent Mix Tank No. 1	1,000-gal/ 3,200,000 lb/yr	2003
EU-RAR1TK	EP-RAR1TK	Release Agent Recycle Tank 1	500-gal/ 3,200,000 lb/yr	2003

**EUG 7 – BRANDING & COATING OPERATIONS**

Branding and Coating Operations	Point	VOC	
		lb/hr	TPY
Branding	BRAND	1.8	7.5
Coatings Operations	Coatings Fugitive	-	7.48

A. The VOC content of coatings as applied, less water and exempt solvents, shall not exceed the following limits:

Coating	lbs/gallon
Alkyd Primers	4.8
Epoxies	4.8
Maintenance Finishes	4.8
Vinyls	6.0
Acrylics	6.0
NC lacquers	6.4
Custom Product Finishes	6.5

- B. The VOC content of branding ink shall not exceed 7.6% or 0.563 lb/gal.
- C. Paint spraying equipment shall be cleaned with solvents being drained into a closed container.
- D. The permittee shall maintain paint spray guns in good working order so as to minimize paint overspray during operations.
- E. Paint spray booths shall be equipped with filters for control of overspray. Spray booths and filter systems shall be maintained per manufacturers' recommendations.
- F. The following records shall be maintained on-site. All such records shall be made available to regulatory personnel upon request. These records shall be maintained for a period of at least five years after the time they are made. Such records may include but are not limited to the following:
  - a. Usage of coatings, solvents, and inks by type and volume (monthly and 12-month rolling total).
  - b. Material Safety Data Sheets (MSDS) or other documentation from the manufacturer including technical data sheets, product data sheets, or similar correspondence which documents the VOC content and HAP content of each coating used.
  - c. Inspection and maintenance of all air pollution control devices (weekly).
  - d. Amount of collected cleaning solvent or wastes for disposal (monthly and 12-month rolling total).
  - e. Total emissions of all VOCs and HAPs (monthly and 12-month rolling total).

**EUG 8 – FUGITIVE BUILDING EMISSIONS**

Area	Flow cf/minute	VOC		Methanol		Formaldehyde		PM <sub>10</sub>	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Warehouse	240,000	3.10	13.56	0.21	0.90	0.09	0.37	0.05	0.24
Blending	180,000	4.69	20.55	1.99	8.73	0.11	0.50	0.09	0.38
Forming	90,000	4.15	18.18	2.13	9.32	0.10	0.46	0.06	0.27
Screening	60,000	2.72	11.89	--	--	--	--	0.05	0.21
Green End	10,300	2.74	12.00	--	--	--	--	0.01	0.04

**EUG 9 – MAINTENANCE EMISSIONS FROM THE DRYER ABORT STACKS (INCLUDE HEAT SOURCE EMISSIONS)**

Emission Unit	Point	NO <sub>x</sub>		CO		Total PM <sub>10</sub>		VOC		SO <sub>x</sub>	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Dryer Abort Stacks	EUG-9	204	20.4	180	18	183	18.3	504	50.4	14	1.4

- A. These stacks are limited to operate 200 hours a year each or any combination of durations not to exceed the allowable annual and hourly emission rates up to a total of 400 hours.
  - B. Permittee shall stop feeding process material to the dryers immediately when these stacks are open.
  - C. Permittee shall maintain records of the durations each abort stack is open while the heat sources and dryers are operating.
2. Upon issuance of an operating permit, the facility shall be authorized to operate as follows based on 12-month rolling totals:
- EU-FP1, EU-EG1, and EU-EG2: 240 hrs/yr each
  - EU-AMU1-18: 5,040 hrs/yr each
  - The rest of the facility: 8,760 hrs/yr
3. The two heat sources are subject to NSPS Subpart Db and shall comply with applicable requirements including but not limited to the following: [40 CFR Part 60.40b-49b]
- A. Emissions Standards:
    - a. PM: 0.1 lb/MMBTU [40 CFR Part 60.43b(c)(1)]
    - b. Opacity: 20% (6-minute average), except for one 6-minute period per hour of not more than 27% opacity. [40 CFR Part 60.43b(f)]
  - B. Test Requirements:
    - a. Compliance with PM standard shall be determined through performance testing as described in 60.46b(d).
  - C. Emission Monitoring
    - a. 60.48b(a) requires that the owner or operator of an affected facility subject to the opacity standard under 60.43b shall install, calibrate, maintain, and operate

a continuous monitoring system for measuring the opacity of emissions discharged to the atmosphere and record the output of the system.

D. 60.49b: Reporting and Recordkeeping requirements

4. The facility is subject to NESHAP Subpart DDDD and shall comply with applicable requirements including but not limited to the following as expeditiously as possible but in no case later than July 30, 2012 per §63.44(b)(1): [40 CFR Part 63.2230 to 63.2292]

§63.2230	What is the purpose of this subpart?
§63.2231	Does this subpart apply to me?
§63.2232	What parts of my plant does this subpart cover?
§63.2233	When do I have to comply with this subpart?
§63.2240	What are the compliance options and operating requirements and how must I meet them?
§63.2241	What are the work practice requirements and how must I meet them?
§63.2250	What are the general requirements?
§63.2251	What are the requirements for the routine control device maintenance exemption?
§63.2252	What are the requirements for process units that have no control or work practice requirements?
§63.2260	How do I demonstrate initial compliance with the compliance options, operating requirements, and work practice requirements?
§63.2261	By what date must I conduct performance tests or other initial compliance demonstrations?
§63.2262	How do I conduct performance tests and establish operating requirements?
§63.2263	Initial compliance demonstration for a dry rotary dryer.
§63.2264	Initial compliance demonstration for a hardwood veneer dryer.
§63.2265	Initial compliance demonstration for a softwood veneer dryer.
§63.2266	Initial compliance demonstration for a veneer redryer.
§63.2267	Initial compliance demonstration for a reconstituted wood product press or board cooler.
§63.2268	Initial compliance demonstration for a wet control device.
§63.2269	What are my monitoring installation, operation, and maintenance requirements?
§63.2270	How do I monitor and collect data to demonstrate continuous compliance?
§63.2271	How do I demonstrate continuous compliance with the compliance options, operating requirements, and work practice requirements?
§63.2280	What notifications must I submit and when?
§63.2281	What reports must I submit and when?
§63.2282	What records must I keep?
§63.2283	In what form and how long must I keep my records?
§63.2290	What parts of the General Provisions apply to me?
§63.2291	Who implements and enforces this subpart?
§63.2292	What definitions apply to this subpart?

5. Emergency engines (EG1, EG2, and FP1) are subject to NESHAP Subpart ZZZZ and shall comply with all applicable requirements by the compliance date of May 3, 2013.

- § 63.6600 What emission limitations and operating limitations must I meet if I own or operate an existing stationary CI RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?
- § 63.6602 What emission limitations must I meet if I own or operate an existing stationary CI RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions?
- § 63.6604 What fuel requirements must I meet if I own or operate an existing stationary CI RICE?
- § 63.6610 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?
- § 63.6612 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions?

6. Compliance with emission limitations by EUG 3 and EUG 4 shall be demonstrated by performance tests by the permittee using the following test methods specified in 40 CFR 60 within 180 days of issuance of Permit No. 2003-99-C (M-3)(PSD). The permittee shall furnish a written report to Air Quality. Performance testing shall be conducted while the unit is operated within 10% of the rate at which operating permit authorization is sought, unless the permittee can sufficiently demonstrate, at the time of testing, that the facility cannot operate at 90% capacity rate, then a least of 80% capacity rate will be accepted. The following USEPA methods shall be used for testing of emissions, unless otherwise approved by Air Quality:

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

Method 1: Sample and Velocity Traverses for Stationary Sources.

Method 2: Determination of Stack Gas Velocity and Volumetric Flow Rate.

Method 3: Gas Analysis for Carbon Dioxide, Excess Air, and Dry Molecular Weight.

Method 4: Determination of Moisture in Stack Gases.

Method 5: Determination of Particulate Emissions From Stationary Sources.

Method 7 or 7E: Determination of Nitrogen Oxide Emissions From Stationary Sources

Method 10: Determination of Carbon Monoxide Emissions From Stationary Sources

Method 18 or 25A: Determination of Volatile Organic Compounds Emissions From Stationary Sources.

Method 201/201A: Determination of PM<sub>10</sub> Emissions

Method 202: Determination of condensable particulate emissions

Method 320: Measurement of Vapor Phase Organic and Inorganic Emission by Extractive FTIR, for specified compounds.

Or as an alternative to Method 320, NCASI Method CI/WP-98.01, Chilled Impinger Method for Use at Wood Products Mills to Measure Formaldehyde, Methanol, and Phenol.

MACT testing and emission calculation for MACT purposes shall be based on the MACT specific methods.

VOC as emitted shall be calculated as follows:

- Subtract the methane determined by Method 18 from the THC as propane.
  - Subtract predetermined responses of formaldehyde, phenol, and methanol from the THC as propane less methane. The remaining VOCs are assumed to be alpha and beta pinene which fully respond on the THC monitor. The VOC mass emission rate is then calculated using the molecular weight of pinene.
  - Determine the concentrations and rates of methanol, formaldehyde, and phenol using the Method 320 measured concentrations.
  - Sum the pinenes, methanol, formaldehyde, and phenol rates and the resulting total is VOC as emitted rate.
7. As part of the operating permit application, the permittee shall include a copy of the format in which required records will be kept and shall specify operating parameters which indicate proper functioning of each air pollution control device. These parameters shall include, but not be limited to, the following: [OAC 252:100-43]
- Pressure drop across fabric filters (FF2 – FF7)
  - Secondary transformer/rectifier voltage of the WESPs for dryers
  - RTO firebox temperature
  - Static pressure at the inlet of the RTO
  - Fuel flow rate for all fuels that are fed to the heat sources
  - Biofilter bed temperature for each of the six media cells
8. The permittee shall keep records as follows. Required records shall be retained on location for a period of at least five years following dates of recording and shall be made available to regulatory personnel upon request. [OAC 252:100-8-6(A)(3)]
- A. Dryer throughput expressed as ODT/hr (12 month rolling average calculated monthly) and ODT/yr (12 month rolling average calculated monthly).
  - B. Press throughput expressed as MSF/hr 3/8" basis (12 month rolling average calculated monthly) and MMSF/yr 3/8" basis (12 month rolling average calculated monthly).
  - C. Records required for branding and coating operations as specified in Specific Condition NO. 1.
  - D. Pressure drop across fabric filters (daily) for EUG5 sources maintained at least 0.2"wc for 12-hr average.
  - E. Secondary transformer/rectifier voltage at least 30 kilovolts of the WESPs on the dryer exhaust gas stream (24-hour average).



- F. RTO firebox temperature on the dryer exhaust gas stream (3-hour average).
  - G. Fuel flow rate for all fuels that are fed to the heat sources (monthly).
  - H. Operating hours for sources permitted for less than 8,760 hours per year, as specified in S.C. #2 (EU-FP1, EU-EG1, EU-EG2, and EU-AMU1-18).
  - I. Biofilter temperature (24-hr average).
9. The permittee shall amend the Title V operating permit application within 180 days of the issuance of this permit.
10. The following records shall be maintained on-site to verify insignificant activities.  
[OAC 252:100-43]
- A. Fuel dispensing to vehicles: throughput (monthly and 12-month rolling totals, for gasoline and for diesel)
  - B. Vapor pressures and capacities of all storage tanks with less than or equal to 10,000 gallons capacity that store volatile organic liquids with a true vapor pressure less than or equal to 1.0 psia at maximum storage temperature.
11. The permittee shall be authorized to use MUPF resin or other resins that will not cause emission increases or result in emissions of new regulated pollutant. The following records shall be maintained on-site. All such records shall be made available to regulatory personnel upon request. These records shall be maintained for a period of at least five years after the time they are made. Such records may include but are not limited to the following:
- a. Usage of resins and catalyst by type and volume (monthly and 12-month rolling total).
  - b. Material Safety Data Sheets (MSDS) or other documentation from the manufacturer including technical data sheets, product data sheets, or similar correspondence which documents the VOC content and HAP content of each coating used.
12. Per Table 7 to Part 63 NESHAP, Subpart DDDD, process unit equipped with a biofilter shall conduct a repeat performance test using the applicable method(s) specified in Table 4 to this subpart within 2 years following the previous performance test and within 180 days after each replacement of any portion of the biofilter bed media with a different type of media or each replacement of more than 50 percent (by volume) of the biofilter bed media with the same type of media.
13. The Permit Shield (Standard Conditions, Section VI) is extended to the following requirements that have been determined to be inapplicable to this facility.  
[OAC 252:100-8-6(d)(2)]
- A. OAC 252:100-11 Alternative Emissions Reduction
  - B. OAC 252:100-15 Mobile Sources
  - C. OAC 252:100-23 Cotton Gins
  - D. OAC 252:100-24 Grain Elevators

- E. OAC 252:100-39 Non-attainment Areas
- F. OAC 252:100-47 Landfills
- G. 40 CFR Part 61 NESHAP
- H. 40 CFR Part 60 NSPS Subpart Kb.
- I. 40 CFR Parts 72, 73, 74, 75 & 76 Acid Rain

J.M. Huber Corporation  
Huber Engineered Woods Division  
Attn: Mr. Mike Kenna  
1000 J.T. Tucker Road  
Broken Bow, OK 74728

SUBJECT: Construction Permit No. 2003-099-C (M-4) (PSD)  
Huber Engineered Woods, Broken Bow  
Broken Bow, McCurtain County, Oklahoma  
Permit Writer: Jian Yue

Dear Mr. Kenna:

Air Quality Division has completed the initial review of your permit application referenced above. This application has been determined to be a **Tier II**. In accordance with 27A O.S. § 2-14-301 & 302 and OAC 252:4-7-13(c) the application and enclosed draft permit are now ready for public review. The requirements for public review include the following steps which you must accomplish:

1. Publish at least one legal notice (one day) of "Notice of Tier II Draft Permit" and at least one legal notice (one day) of "Notice of Filing Tier II Application" in at least one newspaper of general circulation within the county where the facility is located. (Instructions enclosed)
2. Provide for public review (for a period of 30 days following the date of the newspaper announcement) a copy of this draft permit and a copy of the application at a convenient location (preferably a public location) within the county of the facility.
3. Send to AQD a copy of the proof of publication notice from Item #1 above together with any additional comments or requested changes which you may have on the draft permit.

Thank you for your cooperation. If you have any questions, please refer to the permit number above and contact me at (405) 702-4100 or the permit writer, Jian Yue, at (405) 702-4205.

Sincerely,

Phillip Fielder, P.E., Permits and Engineering Group Manager  
**AIR QUALITY DIVISION**  
Enclosures

Arkansas Dept. of Pollution Control and Ecology  
P.O. Box 8913  
Little Rock, AR 72219-8913

SUBJECT: Construction Permit No. 2003-099-C (M-4) (PSD)  
Huber Engineered Woods, Broken Bow  
Broken Bow, McCurtain County, Oklahoma  
Permit Writer: Jian Yue

Dear Sir / Madame:

The subject facility has requested a construction permit modification. Air Quality Division has completed the initial review of the application and prepared a draft permit for public review. Since this facility is within 50 miles of the Oklahoma - Arkansas border, a copy of the proposed permit will be provided to you upon request. Information on all permit and a copy of this draft permit are available for review by the public in the Air Quality Section of DEQ Web Page: <http://www.deq.state.ok.us>.

Thank you for your cooperation. If you have any questions, please refer to the permit number above and contact me or the permit writer at (405) 702-4100.

Sincerely,

Phillip Fielder, P.E., Permits and Engineering Group Manager  
**AIR QUALITY DIVISION**

Texas Commission on Environmental Quality  
Operating Permits Division (MC 163)  
P.O. Box 13087  
Austin, TX 78711-3087

SUBJECT: Construction Permit No. 2003-099-C (M-4) (PSD)  
Huber Engineered Woods, Broken Bow  
Broken Bow, McCurtain County, Oklahoma  
Permit Writer: Jian Yue

Dear Sir / Madame:

The subject facility has requested a construction permit modification. Air Quality Division has completed the initial review of the application and prepared a draft permit for public review. Since this facility is within 50 miles of the Oklahoma - Texas border, a copy of the proposed permit will be provided to you upon request. Information on all permit and a copy of this draft permit are available for review by the public in the Air Quality Section of DEQ Web Page: <http://www.deq.state.ok.us>.

Thank you for your cooperation. If you have any questions, please refer to the permit number above and contact me or the permit writer at (405) 702-4100.

Sincerely,

Phillip Fielder, P.E., Permits and Engineering Group Manager  
**AIR QUALITY DIVISION**

J.M. Huber Corporation  
Huber Engineered Woods Division  
Attn: Mr. Mike Kenna  
1000 J.T. Tucker Road  
Broken Bow, OK 74728

SUBJECT: Construction Permit No. 2003-099-C (M-4) (PSD)  
Huber Engineered Woods, Broken Bow  
Broken Bow, McCurtain County, Oklahoma  
Permit Writer: Jian Yue

Dear Mr. Kenna:

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

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

Thank you for your cooperation. If you have any questions, please refer to the permit number above and contact the permit writer at (405) 702-4100.

Sincerely,

Jian Yue, P.E.  
Engineering Section  
**AIR QUALITY DIVISION**



# PERMIT

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

Permit No. 2003-99-C (M-4) (PSD)

Huber Engineered Woods, LLC

having complied with the requirements of the law, is hereby granted permission to **make modifications as listed in the memorandum and specifications at the Broken Bow Facility at Broken Bow, McCurtain County, Oklahoma, Subject to standard conditions dated July 21, 2009 and specific conditions, both attached.**

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

\_\_\_\_\_  
Division Director, Air Quality Division

\_\_\_\_\_  
Date