

**STATEMENT OF BASIS  
WEST FRASER, INC.  
OPELIKA, LEE COUNTY, ALABAMA  
FACILITY/PERMIT NO. 206-S004**

This draft renewal Title V Major Source Operating Permit (MSOP) is proposed under the provisions of ADEM Admin. Code r. 335-3-16. The above named applicant has requested authorization to perform the work or operate the facility shown on the application and drawings, plans, and other documents attached hereto or on file with the Air Division of the Alabama Department of Environmental Management, in accordance with the terms and conditions of this permit. The current MSOP was issued on September 9, 2013, and expired on September 21, 2018.

**Current Facility Operations**

West Fraser, Inc. (West Fraser) operates a softwood lumber mill in Opelika, Lee County. The significant sources of air pollutants include two (2) 40 MMBtu/hr wood-fired suspension burners that provide direct heat, independently, to two (2) 87.5 MMBF/yr continuous dry kilns (CDK) (OPLK01 and OPLK02), a 25 MMBtu/hr wood-fired suspension burner that supplies direct heat to a 60 MMBF/yr batch dry kiln (OPLK03), a planer mill with residual biomass transfer system controlled by a high efficiency cyclofilter (OPCY05), a fuel storage silo with a cyclone (OPCY04), fully enclosed sawmill operations, a 300 Hp diesel-fired emergency fire pump engine (OPEG01), and a 238 bHp compression ignition, diesel-fired emergency fire pump engine (OPEG02). Insignificant emission sources at this facility include diesel, gasoline, and hydraulic storage tanks.

**Proposed Changes for MSOP Renewal**

The MSOP Renewal would reflect and incorporate the following changes:

1. Air Permit Nos. 206-S004-X005 through X008 were issued under Prevention of Significant Deterioration (PSD) regulations for the following units:
  - Two 87.5 MMBF/yr continuous direct-fired lumber kilns with 35 MMBtu/hr wood-fired burners (X005);
  - Sawmill operations (X006);
  - Compression ignition, diesel-fired emergency fire water pump engine (X007);
  - Trim block chipper with cyclone (X008)
2. Air Permit Nos. 206-S004-X009 through X010 were issued for several changes to the planer mill wood transfer system (X009) and fuel silo (X010). The planer mill changes included replacing the existing hammermill with a new hammermill, moving the existing fuel silo to replace the planer mill silo, and the addition of a new closed-loop cyclone to that silo, which replaced the existing cyclone. The project also included the installation of a new fuel storage silo for the kilns, a new vented cyclone associated with the silo, and a new fuel metering bin with a closed-loop cyclone. The existing baghouse and closed-loop cyclone for the planer mill remained unchanged. Additionally, the application stated that West Fraser no longer intended to install the emergency fire pump engine (X007), and would install and operate an electric fire pump in its place. Air Permit No. 206-S004-X007 was voided on January 23, 2014.

3. Air Permit No. 206-S004-X011 was issued for the correction of the burner capacity for each of the direct wood-fired burners associated with the continuous dry kilns. 40 MMBtu/hr burners were installed, as opposed to the originally permitted 35 MMBtu/hr burners. However, the increase in burner capacity did not impact the production capacities of the continuous dry kilns. Also, the only pollutant affected was sulfur dioxide (SO<sub>2</sub>), which did not impact the facility's PSD status for any significant emission rate (SER) increases or applicability under best available control technology (BACT) regulations. Air Permit No. X011 replaced Air Permit No. X005.
4. Air Permit No. 206-S004-X012 was issued for the installation of a new 283 bHp compression ignition, diesel-fired, emergency fire pump engine. Authorization to operate (ATO) the unit was granted on May 10, 2019.
5. Air Permit Nos. 206-S004-X013-X014 were issued for modifications to the existing planer mill and the restoration of the existing batch kiln No. 3 at the facility. After the proposed modifications are complete, the batch kiln would have a production rate of 60 MMBf/yr and would retain the burner rating of 25 MMBtu/hr. Upgrades to the planer mill would include optimizing the dried lumber planing process and flow as well as redesigning the planer mill shavings transfer system. The existing closed-loop cyclone and baghouse (OPBH01) will be replaced with a new cyclofilter (proposed OPCY05). The fuel storage silo system with the cyclone separator (OPCY04) will not be changed. The application also stated the sawmill trim block chipper cyclone is being removed and replaced with mechanical conveyance because the sawmill has been enclosed and climatized. Additionally, because of the enclosure of the sawmill, it has been removed as an emission source. Although this MSOP incorporates the requirements listed under Air Permit Nos. X013 and X014., West Fraser has not yet requested temporary authorization to operate (TAO) because the modifications have not been completed. TAO and ATO would be issued under this MSOP once the modifications are complete.

#### **Applicability: Federal Regulations**

##### *Title V*

This facility is considered a major source under Title V regulations because potential emissions for volatile organic compounds (VOC) exceed the 100 TPY major source threshold. The facility was previously considered an area source of Hazardous Air Pollutants (HAP), however after the construction of the processes associated with Air Permit Nos. 206-S004-X005 through X008 were completed the facility was considered a major source of HAPs because potential emissions of a single HAP (methanol) would exceed the major source threshold of 10 TPY. According to the application, facility potential emissions for total HAPs remain below 25 TPY.

##### *Prevention of Significant Deterioration (PSD)*

This facility is located in an attainment area for all criteria pollutants. The facility operations are not one of the listed 28 major source categories; therefore, the major source threshold of concern is 250 TPY for criteria pollutants. The facility is currently a major source for VOC emissions under PSD regulations.

National Emission Standards for Hazardous Air Pollutants (NESHAP), Subpart DDDD

As a major source of hazardous air pollutants (HAP), this facility is considered an affected source under 40 CFR Part 63, Subpart DDDD, National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products (PCWP MACT). However, the only requirement for lumber kilns is the initial notification of applicability, which was previously submitted to the Air Division.

NESHAP, Subpart ZZZZ

This facility is considered a major source under 40 CFR Part 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (the RICE MACT) because facility-wide potential emissions exceed 10 TPY of a single HAP (methanol). The 238 bHp compression ignition, diesel-fired emergency fire pump engine (OPEG02) is considered an affected source under Subpart ZZZZ. It is classified as a “new” source because the installation date is after June 12, 2006. However, according to §63.6590(c), a new or reconstructed stationary RICE located at a major source must meet the requirements of the RICE MACT by meeting the requirements of 40 CFR Part 60, Subpart III. No further requirements apply to OPEG02 under Subpart ZZZZ.

The 300 Hp diesel-fired emergency fire pump engine (OPEG01) is also considered an affected source under Subpart ZZZZ and is classified as an existing engine since it was constructed before June 12, 2006. According to 40 CFR §63.6602, this unit is subject to the following work practice requirements of Table 2c of the Subpart for existing emergency stationary RICE with a site rating equal to or less than 500 Hp located at a major source of HAP emissions:

- 1) Change the oil and filter every 500 hours of operation or annually, whichever comes first;
- 2) Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary;
- 3) Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary; and
- 4) 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.

In accordance with 40 CFR §63.6625(e), West Fraser is required to operate and maintain the engine according to the manufacturer’s emission-related written instructions or develop a maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. In accordance with 40 CFR §63.6625(f), the engine must be equipped with a non-resettable hour meter. 40 CFR §63.6640(f) limits the operation of the unit to emergency situations, 100 hours per year for maintenance checks and readiness testing, and 50 hours per year for non-emergency situations (not to exceed a combined total of 100 hours during any calendar year).

New Source Performance Standards (NSPS), Subpart Dc

40 CFR Part 60, Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, applies to steam generating units with a heat input capacity greater than or

equal to 10 MMBtu/hr and less than or equal to 100 MMBtu/hr that have been constructed, modified, or reconstructed after June 9, 1989. The kilns and their associated dry shavings burners (OPLK01 through OPLK03) at the facility would not be subject to Subpart Dc because the combustion gases from the fuel directly contact the lumber during the drying process.

### NSPS, Subpart IIII

40 CFR Part 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines applies to owners/operators of stationary CI ICE that commence construction after July 11, 2005, and are manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006 [§60.4200(a)(2)(ii)]. The 238 bHp compression ignition, diesel-fired emergency fire pump engine (OPEG02) was constructed/manufactured in 2018, it is subject to this NSPS. According to §60.4205(c), owners and operators of fire pump engines with a displacement of less than 30 liters per cylinder must comply with the emission standards in Table 4 to this subpart, for all pollutants. The NSPS also has fuel requirements for the sulfur content of the fuel ( $\leq 15$  ppm), and the Cetane index ( $\geq 40$ ) or aromatic content ( $\leq 35\%$  by volume). The engine must be equipped with a non-resettable hour meter. The application received from WF indicated the emergency engine is equipped with a non-resettable hour meter. The NSPS also limits the operation of the engines to emergency situations and 100 hours per year for maintenance checks and readiness testing, and 50 hours per year for non-emergency situations (not to exceed a combined total of 100 hours during any calendar year). The 300 Hp diesel-fired emergency fire pump engine (OPEG01) was constructed pre-1993 and reconstructed in 2002; therefore, OPEG01 would not be subject to this standard.

### **Applicability: State Regulations**

#### Particulate Matter

Emissions from each process are subject to the particulate matter (as TSP) emission limitation of ADEM Admin. Code r. 335-3-4-.04 for Process Industries-General. The allowable emission rate for each of the facility processes is calculated using the following process weight equations:

$$E = 3.59P^{0.62} \quad (P < 30 \text{ tons per hour})$$

Or

$$E = 17.31P^{0.16} \quad (P \geq 30 \text{ tons per hour})$$

where  $E$  = Emissions in pounds per hour  
 $P$  = Process weight in tons per hour

#### Visible Emissions

The facility is subject to the State visible emissions standard of ADEM Admin. Code r. 335-3-4-.01(1) which states that each stationary source at the facility shall not emit particulate of an opacity greater than twenty percent (20%) (as measured by a six-minute average) more than once during any 60-minute period and at no time shall emit particulate of an opacity greater than 40% (as measured by a six-minute average).

### Sulfur Oxides (SO<sub>x</sub>)

The dry shavings burners associated with the kilns do not meet the definition of fuel burning equipment, as defined by ADEM Admin. Code r. 335-3-1-.02, because they provide direct heat to the kilns; therefore, the burners are not subject to any sulfur dioxide (SO<sub>2</sub>) emission limitations of ADEM Admin. Code r. 335-3-5.

### **Emission Testing and Monitoring**

EU 001 – 87.5 MMBF/yr Continuous Direct-Fired Kiln No. 1 with 40 MMBtu/hr Wood-Fired Burner

EU 002 – 87.5 MMBF/yr Continuous Direct-Fired Kiln No. 2 with 40 MMBtu/hr Wood-Fired Burner

EU 003 – 60 MMBF/yr Batch Direct-Fired Kiln No. 3 with 25 MMBtu/hr Wood-Fired Burner

To ensure the combined production limitation of the continuous dry kilns (OPLK01 and OPLK02), and the production limitation of batch kiln No. 3 (OPLK03), is not exceeded, West Fraser would be required to calculate its kiln production for each unit on a monthly and 12-month rolling total basis by the 10<sup>th</sup> day of each calendar month for the previous month and previous consecutive 12-month period. Emissions from the kiln vents are primarily condensed water vapor and VOC driven off from the drying lumber. Due to the nature of the emissions from the kilns, emission testing and monitoring for the SIP visible emission and particulate standards is not considered practical or necessary.

EU 004 – Planer Mill Operations and Biomass Transfer System with High Efficiency Cyclofilter

For compliance with the particulate and visible emission standards, emission monitoring for the high efficiency cyclofilter would be subject to the following monitoring requirements:

- 1) While the process is operating, someone familiar with the process shall observe the visible emissions from the cyclofilter associated with this process a minimum of once weekly during daylight hours for greater than normal visible emissions as determined by previous observations.
- 2) Whenever observed emissions are greater than normal, the permittee shall initiate corrective action as soon as practicable but no longer than 24 hours from the time of observation followed by an additional observation to confirm that visible emissions have been reduced to normal.
- 3) The cyclofilter shall be physically inspected to assure that the device has been properly maintained and operates as designed at least annually, but more frequently whenever observed visible emissions are greater than normal. If the results of the inspection indicate that cleaning or maintenance is needed, such action shall be initiated within 24 hours of completing the inspection.

EU 005 – Fuel Storage Silo with Cyclone

For compliance with the particulate and visible emission standards, emission monitoring for the cyclone would be subject to the following monitoring requirements:

- 1) While the process is operating, someone familiar with the process shall observe the visible emissions from the cyclone associated with this process a minimum of once weekly during

daylight hours for greater than normal visible emissions as determined by previous observations.

- 2) Whenever observed emissions are greater than normal, the permittee shall initiate corrective action as soon as practicable but no longer than 24 hours from the time of observation followed by an additional observation to confirm that visible emissions have been reduced to normal.
- 3) The cyclone shall be physically inspected to assure that the device has been properly maintained and operates as designed at least annually, but more frequently whenever observed visible emissions are greater than normal. If the results of the inspection indicate that cleaning or maintenance is needed, such action shall be initiated within 24 hours of completing the inspection.

EU 006 – 300 Hp Cummins, Compression Ignition, Diesel-Fired Emergency Fire Pump Engine

EU 007 – 238 bHp John Deere, Compression Ignition, Diesel-Fired Emergency Fire Pump Engine

There are no testing requirements applicable to the 300 Hp emergency fire pump engine or the 238 bHp emergency fire pump engine.

### **Compliance Assurance Monitoring (CAM)**

Compliance Assurance Monitoring (CAM), 40 CFR Part 64, applies to any pollutant-specific emission unit at a major source that is required to obtain an operating permit, in accordance with 40 CFR 64.5, if it meets all of 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 of a criteria pollutant, 10 TPY of an individual HAP, or 25 TPY of total HAP.

According to the application, there are no emission sources that have, prior to a control device, the potential to emit greater than 100 TPY of any criteria pollutant. Therefore, West Fraser is not required to submit a CAM plan for this renewal.

### **Recordkeeping and Reporting Requirements**

The facility would be required to maintain records of its actions taken to comply with its proper maintenance and operating practices of the kilns. West Fraser would also be required to keep the combined throughput records of the continuous dry kilns (OPLK01 and OPLK02), and the throughput records of batch kiln No. 3 (OPLK03). These records shall be maintained in a permanent form readily available for inspection. The records shall be retained for a period of five years with the most recent two years being on-site.

The facility is also required to maintain records of the required visible emission observations, inspections, and cleanings in a form suitable for inspection and retain the records for a period of five (5) years from the date of generation of each record. These records must include (as applicable):

- The date, time, and results of each emission observation;

- The date(s), time, nature, and results of any corrective action taken when deviations from an emission monitoring parameter were observed; and
- The date(s) and time each control device was inspected for proper operation and, if the results of the inspection indicated that cleaning or emission-related maintenance was needed, the date(s), time, and nature of the cleaning/maintenance performed.

The facility is required to include the following information (as applicable) in the Semiannual Monitoring Report required by General Permit Proviso No. 21:

- The combined throughput records of the continuous dry kilns (OPLK01 and OPLK02), and the throughput records of batch kiln No. 3 (OPLK03 for each month and consecutive 12-month period during the reporting period;
- A statement as to whether all visible emission observations were completed as required during the reporting period, and if not, the date(s) and reasons(s) why the monitoring was not performed;
- A statement as to whether the annual inspections of the control devices were accomplished during the reporting period, and if so, the date and results of the inspection; and
- The date(s), time, nature, and results of any corrective action taken when (1) a deviation from an emission monitoring parameter was observed or (2) an inspection of the control devices indicated that cleaning or emission-related maintenance was needed.

The facility is required to submit an Annual Compliance Certification for each source to the Air Division as part of the Annual Compliance Certification required by West Fraser's MSOP. This compliance certification must include the following for each source, as applicable:

- The identification of each term or condition of this permit that is the basis of the certification;
- The compliance status, whether continuous or intermittent;
- The method(s) used for determining the compliance status of the source, currently and over the reporting period; and
- Other facts the Department may require to determine the compliance status of the source.

### **Air Quality Impact**

This facility is located in Lee County, which is an attainment area for all criteria pollutants. It is not located within a 100 km radius of any PSD Class I Area. Therefore, the emissions from this facility are not expected to have any significant impact on the area.

### **Public Comment**

The renewal of this Title V MSOP would require a 30-day public comment period and a 45-day EPA review period.

## Recommendation

Based on the above analysis, I recommend West Fraser's Major Source Operating Permit (206-S004) be renewed with the conditions noted above, pending the resolution of any comments received during the 30-day public comment period and 45-day EPA review period.

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