

**STATEMENT OF BASIS  
STELLA-JONES CORPORATION  
MONTEVALLO, SHELBY COUNTY, ALABAMA  
FACILITY/PERMIT NO. 411-S001**

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 August 25, 2015, and will expire on September 9, 2019.

**Facility Operations**

Stella-Jones Corporation (Stella-Jones) operates a wood preserving facility specializing in railroad products in Montevallo, Shelby County. The significant sources of air pollutants include a 29.5 MMBtu/hr wood-fired boiler, a 21.5 MMBtu/hr dual-fired (natural gas or No. 2 fuel oil) boiler, creosote treating and wood preservation operations, a wastewater treatment system, and re-saw operations. Insignificant emissions sources at this facility include miscellaneous operations such as ash handling, end sizing and trimming, wood hog operations, borate treatment, stamping, parts washing, a cooling tower, organic liquid storage tanks, mobile vehicle internal combustion engines, and unpaved roads.

**Proposed Changes for MSOP Renewal**

The MSOP Renewal would incorporate the following changes:

1. The 7.5 MMBtu/hr portable diesel-fired boiler was removed from the facility; therefore, the emission unit will be removed from the MSOP.
2. On December 28, 2015, Stella-Jones was issued Air Permit No. X010 for the installation of a 21.5 MMBtu/hr dual-fuel (natural gas and fuel oil No. 2) boiler to replace the existing 19.7 MMBtu/hr wood-fired boiler (formerly Emission Unit (EU) 017). Authorization to operate for the 21.5 MMBtu/hr dual-fuel boiler was granted on June 30, 2016.
3. On May 8, 2017, Stella-Jones was issued Air Permit No. X011 for the utilization of creosote treating cylinder #6 as a copper naphthenate treating cylinder. The facility used the emission factors from creosote treating to calculate a worst-case scenario for potential emissions in order to maintain flexibility to switch cylinder #6, if necessary, back to a creosote treating cylinder. The application also included the installation of a wood hog, two new organic liquid storage tanks, and a change in products stored in the existing tanks associated with cylinder #6. Although changes were only made to cylinder No. 6, Air Permit No. X011 includes the entire wood preserving and storage operation.

**Applicability: Federal Regulations**

*Title V*

After Air Permit No. X010 was issued, Stella-Jones became a minor source under Title V regulations because potential emissions no longer exceeded the 100 TPY major source threshold;

however, Stella-Jones elected to retain its Major Source Operating Permit (MSOP). It is currently a synthetic minor source of Hazardous Air Pollutants (HAP) because the facility has a naphthenate creosote preservative content limit to keep individual HAP potential emissions below 10 TPY and total HAP potential emissions below 25 TPY. The facility is required to maintain records of the creosote preservative used and is not allowed to use preservative containing greater than 15% by weight of naphthalene.

#### Prevention of Significant Deterioration (PSD)

The facility operations are not one of the 28 listed major source categories, and the facility is located in an attainment area for all criteria pollutants. Therefore, the major source thresholds of concern are 250 TPY for criteria pollutants. The facility is a minor source under PSD regulations, as no criteria pollutant potential emissions exceed the major source thresholds.

#### NSPS

Both boilers are greater than 10 MMBtu/hr but less than 100 MMBtu/hr in capacity, and both were constructed after June 9, 1989. Based on the size and manufacture date of the two boilers, the units are subject to 40 CFR Part 60, Subpart Dc, Standards of Performance for Small Industrial, Commercial, and Institutional Steam Generating Units. Records of monthly fuel usage are required to be kept in a permanent form suitable for inspection. The NSPS particulate and visible emission standards do not apply, as the capacity for each boiler is less than 30 MMBtu/hr.

#### NESHAP

Stella-Jones is an area source of HAP; therefore, both boilers are subject to 40 CFR 63, Subpart JJJJJ, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers at Area Sources. The 29.5 MMBtu/hr wood-fired boiler (EU 002) is classified as an existing source. The 21.5 MMBtu/hr dual-fired boiler (EU 003) is classified as a new oil-fired boiler since it was constructed after June 4, 2010. EU 003 is subject to PM (Filterable) emission limit of 0.03 lb per MMBtu of heat input in accordance with 40 CFR §63.11201(a) and Table 1 of the Subpart. According to 40 CFR §63.11201(b) and Table 2 of the Subpart. EU 002 is subject to work practice standards requiring biennial tune-ups, conducted in accordance with 40 CFR §63.11223. Its first biennial tune-up required by 40 CFR §63.11196 was conducted on September 2, 2014. EU 003 is subject to work practice standards, emission reduction measures, and management practices which require the facility to minimize the boiler's startup and shutdown periods and to conduct startups and shutdowns according to the manufacturer's recommended procedures (40 CFR §63.11214). If a manufacturer's recommended procedures are not available, the facility must follow recommended procedures for a unit of similar design for which a manufacturer's recommended procedures are available. 40 CFR §63.11213(b) and Table 2 of the Subpart require biennial tune-ups of each boiler to be conducted with no more than 25 months after the previous tune-up, in accordance with 40 CFR §63.11223. The first biennial tune-up of EU 003 was conducted on September 23, 2016. In accordance with 40 CFR §63.11201(d), the applicable standards referenced in 40 CFR §§63.11201(a) through (c) apply at all times each boiler is operating, except for periods of startup and shutdown, during which time the facility must comply with Table 2 of the Subpart. The boilers are also subject to 40 CFR §63.11205(a), which requires the facility to operate and maintain the affected units, including associated air pollution

control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions.

For EU 003, Stella-Jones is required to comply with the performance stack testing requirements for particulate matter listed in 40 CFR §63.11212 and Table 4 of the Subpart. It should be noted that according to 40 CFR §63.11210(e), EU 003 is not subject to the PM emission limit in Table 1 of the Subpart until September 14, 2019, after which, Stella-Jones is required to demonstrate compliance with the aforementioned PM limit listed in Table 1 no later than March 12, 2020. 40 CFR §63.11201(c) requires boilers with emission limits to comply with applicable operating limits specified in Table 3 of the Subpart. In accordance with 40 CFR §63.11210(a) Stella-Jones will demonstrate initial compliance with the PM (Filterable) emission limit by conducting performance stack testing. Therefore, in accordance with Table 3 of the Subpart, the facility must maintain the operating load of EU 003 so that it does not exceed 110 percent of the average operating load recorded during the most recent performance stack test. According to 40 CFR §63.11211, in addition to conducting the initial performance stack test, Stella-Jones is required to establish operating limits according to 40 CFR §63.11222 and Table 6 of the Subpart. Specifically, a unit-specific limit for maximum operating load of the boiler must be established using data from the operating load monitors (fuel feed monitors or steam generation monitors) during the performance test. According to 40 CFR §63.11220, triennial performance stack tests must be conducted no more than 37 months after the previous performance stack test. However, according to 40 CFR §63.11220(b), if the performance test results for EU 003 show that PM emissions are equal to or less than half of the applicable PM emission limit, Stella-Jones may choose to conduct performance stack tests for PM every five years. Each stack test must be conducted no more than 61 months after the previous test. If performance stack test results show that PM emissions are greater than half of the PM emission limit, Stella-Jones would be required to conduct subsequent performance tests on a triennial basis. In accordance with 40 CFR §63.11220, if Stella-Jones intends to burn a new type of fuel, a performance stack test must be conducted within 60 days of burning the new fuel-type. The facility is required to submit the results of performance tests, following the procedures specified in 40 CFR §63.11225(e).

For EU 003, in accordance with 40 CFR §63.11222 and Table 7 of the Subpart, Stella-Jones must demonstrate continuous compliance with the PM emission limit by collecting the operating load data, reducing the data to 30-day rolling averages, and maintaining the 30-day rolling average at or below the operating limit established during the most recent performance test. Stella-Jones is required to monitor and collect the monitoring data according to 40 CFR §63.11221. Because Stella-Jones demonstrates compliance with the PM emission limit through stack testing and Table 7 requires subsequent compliance with operating limits, a site-specific monitoring plan must be developed in accordance with 40 CFR §63.11224(c). Each continuous parameter monitoring system (CPMS) required for operating limits listed in Tables 3 and 6 of the Subpart must be installed, operated, and maintained in accordance with 40 CFR §63.11224(d).

Stella-Jones is required to comply with the notification, reporting, and recordkeeping requirements outlined in 40 CFR §63.11225. An Initial Notification of Applicability was submitted to the US EPA prior to the March 21, 2014 compliance date specified in 40 CFR §63.11196. For EU003, the facility submitted an Initial Notification of Applicability to the US EPA within 120 days of issuance of the Air Permit No. X010. For EU 002, the Notification of Compliance Status (NOCS)

was submitted on June 2, 2015, via the CDX system. For EU 003, the NOCS was submitted within 120 days of startup as specified in 40 CFR §63.11225(a)(2). Because EU 003 is subject to performance stack testing, the facility is required to submit a Notification of Intent to conduct a performance test at least 60 days prior to the scheduled test. In addition, Stella-Jones will be required to submit an updated (NOCS) for EU 003 within 60 days of completing the initial performance stack test. The NOCS is required to include the information and certifications of compliance listed in 40 CFR §63.11225(a)(4).

For EU 002, the facility is required to submit a biennial compliance certification in accordance with 40 CFR §63.11225(b). The facility must prepare and submit an annual compliance certification for EU 003 by March 1 of each year containing the information specified in 40 CFR §63.11225(b). The facility is required to maintain copies of each notification and report submitted, and all documentation supporting any Initial Notification or NOCS submitted. In accordance with 40 CFR §63.11225(c)(2), the facility must keep records to document compliance with all applicable work practice standards, emission reduction measures, and management practices. The tune-up records must identify the boiler, date of the tune-up, procedures followed during the tune-up, and the manufacturer's specifications to which the boiler was tuned. The facility is required to maintain records of the occurrence and duration of each malfunction of each boiler and monitoring equipment, as well as, records of actions taken during periods of malfunction to minimize emissions, including corrective actions to restore the malfunctioning boiler or monitoring equipment to its normal manner of operation. The facility must keep records of all applicable inspection and monitoring data, including the information identified in 40 CFR §63.11225(c)(6). For EU 003, the facility is required to maintain monthly fuel usage records, including the type(s) and amount of fuel used. The records are required to be maintained in a form suitable and readily available for expeditious review. The records shall be retained for a period of five years following the date of generation, and the most recent two years are required to be kept on-site.

The facility is subject to the area source standard for wood preserving operations under 40 CFR Part 63, Subpart QQQQQQ; however, there are no applicable requirements for wood preserving operations using creosote or copper naphthenate.

### **Applicability: State Regulations**

#### Particulate Matter

The re-saw operation (EU 001) is subject to the particulate matter (as TSP) emission limitations of ADEM Admin. Code r. 335-3-4-.04(1) for Process Industries-General. The allowable emission rate for this unit is calculated using the following process weight equation:

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

Where:  $E$  = Emissions in pounds per hour

$P$  = Process weight in tons per hour

The 29.5 MMBtu/hr boiler (EU 002) is subject to the State particulate emission standard of 0.20 grains per dry standard cubic foot (gr/dscf) adjusted to 50% excess air, as referenced in ADEM Admin. Code r. 335-3-4-.08(2)(d).

The 21.5 MMBtu/hr boiler (EU 003) is subject to the State particulate emission limitations of ADEM Admin. Code r. 335-3-4-.03(4) for new fuel burning equipment. The allowable emission rate is calculated using the following equation:

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

Where:  $E$  = Emissions in pounds per million Btu

$H$  = Heat Input in millions of Btu/hr

In addition to the above limitations, ADEM Admin Code r. 335-3-4-.01(1) sets forth a visible emissions standard which states that each stationary source at the facility shall not emit particulate of an opacity greater than twenty percent (20%), as determined by a six-minute average, with one six-minute period per hour not to exceed 40%.

#### Sulfur Dioxide (SO<sub>2</sub>)

The boilers are each subject to the State SO<sub>2</sub> emission limit of 4.0 lb/MMBtu, as referenced in ADEM Admin. Code r. 335-3-5-.01(1)(b).

### **Emission Monitoring**

#### EU 001 – Re-saw Operation with Cyclone

Stella-Jones is required to perform daily visible emissions observations of the cyclone exhaust. At least daily during daylight hours, while the process is operating, Stella-Jones personnel is required to visually observe each exhaust for the presence of greater than normal visible emissions as determined by previous observations. If visible emissions are determined to be greater than normal, corrective action to reduce the visible emissions must be initiated as soon as practicable but no longer than 24 hours from the time of observation, followed by an additional observation to confirm that the visible emissions were reduced to normal.

#### EU 002 – 29.5 MMBtu/hr Wood-fired Boiler with Multiclone

Stella-Jones is required to perform daily visible emissions observations of the multiclone stack. At least daily during daylight hours, while the process is operating, a qualified visible emissions observer must observe the stack for visible emissions greater than 10% opacity. If visible emissions exceeding 10% opacity are observed, Stella-Jones personnel are required to conduct a Method 9 observation for a minimum of 12 minutes within 30 minutes of the initial observation. If the average opacity from this test period exceeds 10%, corrective action to reduce the visible emissions below 10% opacity is required to be initiated 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 are reduced to no greater than 10% opacity. In addition, Stella-Jones is required to inspect the multiclone for proper operation and cleaned at least annually, but more frequently whenever visible emissions exceed 10% opacity. If the results of the inspection indicates that

cleaning or maintenance is needed, such action must be initiated as soon as practicable but no longer than 24 hours from the completion of the inspection.

The facility is required to maintain daily or monthly fuel usage records for the boiler in accordance with 40 CFR 60, Subpart Dc. These records must be retained for a period of 5 years from the date of generation of each record.

003 – 21.5 MMBtu/hr Dual Fuel Boiler (Fuel Oil No.2 and Natural Gas)

Stella-Jones is required to perform daily visible emissions observations of the boiler stack. At least daily during daylight hours, while the process is operating, a qualified visible emissions observer must observe the stack for visible emissions greater than 10% opacity. If visible emissions exceeding 10% opacity are observed, Stella-Jones personnel are required to conduct a Method 9 observation for a minimum of 12 minutes within 30 minutes of the initial observation. If the average opacity from this test period exceeds 10%, corrective action to reduce the visible emissions below 10% opacity is required to be initiated 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 are reduced to no greater than 10% opacity.

The facility is required to maintain monthly fuel usage records for the boiler in accordance with 40 CFR 63, Subpart JJJJJ, and in accordance with 40 CFR 60, Subpart Dc. Stella-Jones is required to comply with the performance stack testing requirements for particulate matter listed in 40 CFR §63.11212 and Table 4 of Subpart JJJJJ. In accordance with 40 CFR §63.11222 and Table 7 of Subpart JJJJJ, Stella-Jones must demonstrate continuous compliance with the PM emission limit by collecting the operating load data, reducing the data to 30-day rolling averages, and maintaining the 30-day rolling average at or below the operating limit established during the most recent performance test. Stella-Jones is required to monitor and collect the monitoring data according to 40 CFR §63.11221.

004 & 005 – Wood Preserving & Storage (Includes six (6) creosote wood preserving cylinders and one copper naphthenate preserving cylinder with the flexibility to convert between copper naphthenate and creosote. Each cylinder has individual work tanks and storage tanks. The process also includes the treated wood storage and an odor absorber)

Stella-Jones has demonstrated that using creosote in production containing 15% or less of naphthalene will enable the facility to remain within the synthetic minor limits of HAPs. Stella-Jones is required to maintain records of safety data sheets (SDS) or an analysis that the creosote used in production contains 15% by weight or less of naphthalene. The records are required to be maintained in a permanent form suitable and readily available for expeditious review. The records shall be retained for a period of five years following the date of generation, and the most recent two years are required to be kept on-site. Stella-Jones will be allowed to switch cylinder No. 6 between creosote and copper naphthenate preservatives upon providing notification within 30 days of the switch and receiving approval from the Air Division. The aforementioned monitoring requirements will apply to Cylinder No. 6 while operating as a creosote treatment cylinder.

EU 006 – Wastewater Treatment System (Includes a separator, biological treatment unit, clarifier, and several evaporators)

There are no monitoring requirements for this process.

### **Recordkeeping and Reporting Requirements**

Stella-Jones is required to provide SDS information or an analysis that the creosote used in production contains 15% by weight or less of naphthalene. The records are required to be maintained in a permanent form suitable and readily available for expeditious review. The records shall be retained for a period of five years following the date of generation, and the most recent two years are required to be kept on-site.

The facility is required to maintain all applicable 40 CFR Part 63, Subpart JJJJJ records listed below in a form suitable and readily available for expeditious review. The records must be retained for a period of five years following the date of generation and the most two recent years are required to be kept on-site.

- Records of each notification and report submitted to comply with Subpart JJJJJ including all documentation supporting any Initial Notification or NOCS;
- Boiler tune-up records that identify each boiler, the date of the tune-up, the procedures followed for the tune-up, and the manufacturer's specifications to which the boiler was tuned;
- Records of the energy assessment report;
- Records of monthly fuel use of each boiler, including the type(s) and amount(s) used;
- Records of the occurrence and duration of each malfunction of each boiler, associated control device, or monitoring equipment;
- Records of actions taken during period of malfunction to minimize emissions including corrective actions to restore the boiler, associated control device, or monitoring equipment to normal operation; and
- Records of all inspection and monitoring data listed in 40 CFR §63.11225(c)(6).

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:

- A statement as to whether the creosote preservative used contained greater than 15% by weight of naphthalene, and if so, the date(s) of discovery and any corrective actions taken;
- A statement as to whether all 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 cyclone and multiclone 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 cyclone or multiclone indicated that cleaning or emission-related maintenance was needed.

The facility is required to submit an Annual Compliance Certification to the Air Division by November 9<sup>th</sup> of each year for each annual reporting period of the MSOP (September 10<sup>th</sup> – September 9<sup>th</sup>). The compliance certification must include the following:

- The identification of each term or condition of this permit that is the basis of the certification;
- The compliance status;
- The method(s) used for determining the compliance status of the source, currently and over the reporting period consistent with ADEM Admin. Code R. 335-3-16-.05(c) (Monitoring and Recordkeeping Requirements);
- Whether compliance has been continuous or intermittent; and
- Such other facts as the Air Division may require to determine the compliance status of the source.

### **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.



There are no emission sources at the facility that have, prior to a control device, the potential to emit greater than 100 TPY of any criteria pollutant. Therefore, Stella-Jones is not required to submit a CAM plan for this renewal.

### **Air Quality Impact**

This facility is located in Shelby 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 that Stella-Jones Corporation's existing Major Source Operating Permit (411-S001) be renewed with the conditions noted above, pending the resolution of any comments received during the 30-day public notice period and 45-day EPA review.

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DRAFT  
Date