

Statement of Basis
Scotch and Gulf Lumber Company, LLC
Mobile, Mobile County, Alabama
Facility/Permit No. 503-2003

This draft Title V Major Source Operating Permit (MSOP) renewal is issued 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 January 7, 2015, and will expire on December 5, 2019. This is the fourth renewal of the facility's Title V MSOP. There have been no changes at the facility since the last Title MSOP renewal other than the shutdown of a lumber treatment plant that utilized alkaline copper quaternary (ACQ). The treatment facility was considered an insignificant source and was therefore not included in the Title V MSOP.

Scotch and Gulf Lumber Company (SGLC) produces southern pine dimensional lumber. The significant sources of air pollutants at this facility are a 68 MMBtu/hr wood-fired boiler, equipped with a multiclone and wet scrubber, which provides indirect heat as steam to three lumber dry kilns, and a planer mill with a high efficiency, closed-loop dual cyclone system. Other insignificant sources of emissions are conveyor belts, a log merchandising process, a 10,000-gallon diesel storage tank, and a 1,000-gallon gasoline storage tank.

Title V

Based on the Title V permit application, this facility is a major source for volatile organic compounds (VOC), carbon monoxide (CO), and methanol (a HAP).

PSD

This facility is located in an attainment area for all criteria pollutants, and its operations are not one of the 28 listed major source categories. It is considered a major source for PSD regulations as its facility-wide potential emissions of VOC and CO are greater than 250 TPY.

When the planer mill and boilers were initially permitted in 1984, Mobile was a non-attainment area for total suspended particulates. The facility therefore took permit limits for particulate emissions from the planer mill and boilers to avoid classification as a major source. The particulate emissions from the wood-waste boiler were limited to no more than 0.147 gr/dscf, adjusted to 50% excess air and/or 91 tons per year. The particulate emissions from the planer mill were limited to no more than 14.5 lb/hr and the planer mill was limited to operating no more than 2,500 hours per year.

In August 2000, the facility proposed to increase the throughput to the mill from 90 MMBF per year to 126 MMBF per year by replacing the two existing steam-heated dry kilns with three new steam-heated dry kilns for drying green lumber, and two gas-fired dry kilns for re-drying CCA treated lumber. An analysis of the proposal indicated that the modifications triggered a PSD review for VOC, NO_x, PM, and CO. The emissions of VOC and PM from the new dry kilns underwent a Best Available Control Technology (BACT) determination. The BACT limits for VOC and PM emissions from the steam-heated dry kilns are 4.52 lb/MBF and 0.022 lb/MBF, respectively.

No other units at the facility were modified, except the planer mill. The facility requested the annual hours of operation for the planer mill be increased to 4,200 to accommodate an increase in lumber

throughput. The facility replaced two existing cyclones that controlled particulate emissions from the planer mill with a high efficiency, closed-loop dual cyclone system, resulting in a decrease in actual particulate emissions. The particulate emissions limit for the planer mill was lowered to 2.5 lb/hr and the PM₁₀ emissions were limited to 1.0 lb/hr. Since the modification resulted in a net emission decrease, BACT did not apply to the planer mill. For modeling purposes, Scotch and Gulf Lumber requested the PM₁₀ emissions from the wood waste boiler be limited to 18.27 lb/hr. The natural gas-fired dry kilns were never constructed.

MACT

Dry Kilns

As a major source of HAP, the dry kilns at this facility are considered affected sources under the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Plywood and Composite Wood Products, 40 CFR Part 63, Subpart DDDD [adopted by reference at ADEM Admin. Code r. 335-3-11-.06(81)], the "PCWP MACT". The PCWP MACT requires facilities which are major sources of HAP and utilize lumber dry kilns to submit a Notice of Compliance Status within 30 days of the applicability date if no performance testing is required. GFL submitted the Notification of Compliance Status on December 14, 2004. No other monitoring or work practice standards are required for dry kilns.

Boiler

The boiler at this facility is subject to 40 CFR Part 63, Subpart DDDDD, the *National Emission Standards for Major Sources: Industrial/Commercial/Institutional Boilers and Process Heaters*. The facility submitted an Initial Notification as required by Subpart DDDDD on May 7, 2013, and a revised notification on June 7, 2013. The boiler is considered an existing source as it was constructed prior to June 4, 2010. The boiler is equipped with a wet scrubber and an O₂ analyzer system.

The boiler is classified as an existing hybrid suspension/grate burner designed to burn wet biomass/bio-based solid. SGLC has elected to demonstrate continuous compliance through initial and ongoing performance stack testing, performing annual/biennial tune-ups, conducting required monitoring, and the submittal of required notifications and reports as specified under Boiler MACT.

The wood-fired boiler is subject to emission limitations for CO and PM as listed in Table 2. The CO emissions must not exceed 3500 ppm by volume on a dry basis corrected to 3 percent oxygen. The PM emissions must not exceed 0.44 lb per MMBtu of heat input. As a unit designed to burn solid fuel, this boiler is subject to an emissions limitation for hydrochloric acid (HCl) and mercury. The HCl emissions must not exceed 0.022 pounds per MMBtu of heat input and mercury must not exceed 0.0000057 pounds per MMBtu of heat input. SGLC has elected to demonstrate compliance with these limitations through stack testing, using the methods listed in Table 2 of Subpart DDDDD.

The wood-fired boiler is subject to work practice standards listed in Table 3 of the subpart. SGLC must conduct a tune-up of the boiler annually as specified in 40 CFR §63.7540. Each annual tune-up must be conducted no more than 13 months after the previous tune-up according to 40 CFR §63.7515(d). Additionally, SGLC must conduct a one-time energy assessment performed by a qualified energy assessor. This assessment was performed on October 20, 2014, in accordance with 40 CFR §63.7510(e) and Table 3 of Subpart DDDDD. The wood-fired boiler is subject to operating limitations listed in Table 4 of Subpart DDDDD. For the PM scrubber control without a PM continuous parameter monitoring

system (CPMS), SGLC must maintain the 30-day rolling average pressure drop and the 30-day rolling average liquid flow rate at or above the lowest one-hour average pressure drop and the lowest one-hour average liquid flow rate, respectively, measured during the performance test demonstrating compliance with the PM, Hg, and HCl emission limitation according to 40 CFR §63.7530(b) and Table 7 of Subpart DDDDD. The facility must maintain the 30-day rolling average operating load of each unit such that it does not exceed 110 percent of the highest hourly average operating load recorded during the performance test. SGLC utilizes an oxygen analyzer system for the wood-fired boiler as specified in 40 CFR §63.7525(a). SGLC must maintain the 30-day rolling average oxygen content at or above the lowest hourly average oxygen concentration measured during the CO performance test.

SGLC has elected to demonstrate continuous compliance through ongoing performance stack testing. Subsequent performance testing must be completed in accordance with 40 CFR §63.7520 and Table 5 of Subpart DDDDD, on an annual basis. Annual performance tests must be completed no more than 13 months after the previous performance test, except as specified in 40 CFR §63.7515(b) through (e). Performance stack testing will be used to establish site-specific operating limits that apply to SGLC in accordance with 40 CFR §63.7530(b). The facility must complete and submit the Notification of Compliance Status according to 40 CFR §63.7530 (e) and (f), and 40 CFR §63.7545(e). A Notification of Intent to conduct performance testing must be submitted at least 60 days before the performance test is scheduled to begin. SGLC has completed the initial testing for compliance with the Subpart.

SGLC must monitor and collect data according to 40 CFR §63.7535 and the site-specific monitoring plan. 40 CFR §63.7540 and Table 8 of Subpart DDDDD provides detailed monitoring requirements for continuous compliance monitoring. Deviations must be reported according to the requirements in 40 CFR §63.7550. Reporting requirements listed in 40 CFR §63.7550 and Table 9 of Subpart DDDDD requires semiannual reporting for the wood-fired boiler. Each compliance report must cover the semiannual reporting period from January 1st through June 30th or July 1st through December 31st. Each semiannual compliance report must be postmarked or submitted no later than July 30th or January 30th, whichever is the first date following the end of the semiannual reporting period. Each semiannual report must contain the information outlined by 40 CFR §63.7550(c).

NSPS

No processes at Scotch and Gulf Lumber are subject to any New Source Performance Standard (NSPS). The boiler is not subject to 40 CFR Part 60, Subpart Dc as it was installed prior to 1989 (ADEM Forms 104). The diesel and gasoline storage tanks are not subject to 40 CFR Part 60, Subpart Kb since the capacity of each tank is less than 19,813 gallons.

State Regulations

Particulate Standard

68 MMBtu/hr Boiler

The particulate emission standard for the wood-fired boiler is 0.20 gr/dscf, adjusted to 50% excess air (ADEM Admin. Code r. 335-3-4-.08(2)(d)). However, the boiler is synthetically limited to 0.147 gr/dscf adjusted to 50% excess air as previously noted.

The sulfur dioxide standard for the boiler is 1.8 lbs/MMBtu (ADEM Admin. Code r. 335-3-5-.01(1)(a)).

Planer Mill

The particulate emission standard for the planer mill is based on the process weight using the formula $3.59(P)^{0.62}$ (ADEM Admin. Code r. 335-3-4-.04(1)). However, as previously noted, the particulate emissions from the planer mill are limited to 2.5 lb/hr, which is lower than the maximum allowable derived utilizing the SIP process weight formula (20.8 lb/hr).

Visible Emission Standard

All processes at Scotch and Gulf Lumber are subject to the visible emission standard as outlined in ADEM Admin. Code r. 335-3-4-.01. The VE standard stipulates that the Permittee shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period from any process. Also at no time shall the Permittee discharge a 6-minute average opacity of particulate emissions greater than 40% from any process.

Emission Testing and Monitoring

68 MMBtu/hr Boiler

CAM

The boiler is equipped with a wet scrubber to control particulate matter. Because the pre-control particulate emissions from the boiler are greater than the applicable major source threshold, the boiler is subject to Compliance Assurance Monitoring (CAM). The permittee is only required to monitor the control device once per 24-hour period because the post-control emissions are less than the major source threshold. As the boiler would be subject to 40 CFR Part 63, Subpart DDDDD, the Boiler MACT, the monitoring requirements for CAM would be satisfied by the MACT monitoring requirements.

If modification or repair of the system is required and such modification or repair significantly affects the operating conditions of the unit (as compared to the conditions under which the most recent emissions testing was performed), then Scotch and Gulf Lumber Company shall conduct a test for visible emissions, particulates, and carbon monoxide (40 CFR Part 60, Reference Methods 1-5, 9 and 10) within 90 days of completing the repair or modification.

Properly maintained devices shall be utilized to monitor the pressure differential across and water flow to the wet scrubber. The devices shall be calibrated in accordance with manufacturer's recommendations and necessary parts maintained for routine repair.

Records, including all available process records and operator's logs verifying the boiler's operating parameters, excursions and corrective action measures, shall be maintained in a form suitable for inspection for a period of five years and be made available upon request.

Periodic Monitoring

The requirements for periodic monitoring for the boiler would be satisfied by the monitoring discussed in the CAM section above. No other periodic monitoring would be required for the boiler.

Testing

During testing conducted on the boiler on June 1 and 2, 2017, the facility demonstrated compliance with the applicable standards for particulate matter (PM), carbon monoxide (CO), mercury (Hg), and hydrogen chloride (HCL). The facility also established parametric monitoring action levels for the scrubber. The testing indicated the following emission rates during the testing period:

Pollutant	Measure Results	Percentage of Limit	Boiler MACT Emission Limit
PM	0.121 lb/MMBtu	27.5%	0.44 lb/MMBtu
HCL	0.00012 lb/MMBtu	0.55%	0.022 lb/MMBtu
Hg	8.36E-07 lb/MMBtu	14.7%	5.7E-06 lb/MMBtu
CO	587.5 ppm @3% O ₂	16.5%	3,500 ppm @ 3% O ₂

No additional testing would be required at this time. However, the facility would be required to conduct testing for the above pollutants in 2020 to demonstrate continuous compliance with the requirements of the Boiler MACT.

Planer Mill

CAM

Since cyclones on wood waste pneumatic systems are considered process equipment, CAM would not be required for the planer mill.

Periodic Monitoring

At a minimum, on a weekly basis the exhaust plume from the planer mill cyclone shall be observed while the unit is operating. If greater than normal emissions are observed (outside of the limits of normal operation), the inspector shall note the occurrence and immediately notify the appropriate operations supervisor. The supervisor shall immediately investigate the cause of the exceedance. If it is determined that the exceedance is caused by operator error, operational procedures shall be modified to prevent a recurrence. If the excursion is determined to be a result of mechanical failure, the system shall be immediately modified or repaired to return the system to its normal operation. The cyclone shall be inspected for proper operation and cleaned at least annually but more frequently whenever visible emissions are greater than normal to ensure that the removal efficiency meets the manufacturer specifications. All observations and corrective measures taken shall be recorded in an operations log for the units. All such records shall be maintained in a form suitable for inspection period of five years and be made available upon request. The monthly and rolling annual total hours of operation for the planer mill shall be determined within 10 days of the end of each month and maintained in a form suitable for inspection for a period of five years.

Testing

On September 10, 2004, Method 5, particulate testing, and Method 9, visible emissions testing, were conducted on the planer mill cyclone system. The Method 5 test results indicated an average PM emission rate of 0.82 lb/hr during the testing period. The Method 9 test results indicated no visible emissions were observed from the cyclone system during the testing period. No further testing would be required for the planer mill.

Dry Kilns

CAM

The dry kilns do not utilize any control devices; therefore CAM is not applicable.

Periodic Monitoring

The dry kiln equipment shall be inspected for proper operation and cleaned at least annually. All observations and corrective measures taken shall be recorded in an operations log for the unit. Records of all observations and corrective measures shall be kept in a permanent form suitable for inspection and retained for at least five years following the date of the recorded information. All reports shall be made available upon request.

Public Notice

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

Recommendation

I recommend that Scotch and Gulf Lumber Company's Title V MSOP be renewed with the requirements noted above pending the resolution of any comments received during the 30-day public comment period and the EPA 45-day review.



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November 7, 2019

Date

VLM/vlm