**PERMIT REVIEW SUMMARY**

Permit Writer: Ivelina Pilgrim Date: March 22, 2021

Company Name: J T Shannon Lumber Company, Inc.

Facility Location: 2200 Cole Road

Horn Lake, Mississippi

Source Number: 0680-00041

County: Desoto

FACILITY DESCRIPTION

The J T Shannon Lumber Company (‘J T Shannon’) operates an existing sawmill and produces dimensional lumber from hardwood timber. The facility operates the following air emission sources: fourteen (14) steam-heated lumber dryin kilns, one (1) 28.7 MMBTU/hour wood-fired boiler, one (1) 0.06 MMBTU/hour wood-fired backup boiler, two (2) cyclones controlling emissions from planing and sorting operations, and one (1) baghouse controlling emissions from sawing and sanding operations.

PROJECT/PERMIT ACTION DESCRIPTION

J T Shannon is currently operating under a Title V Operating Permit (TVOP). However, facility operations have reduced and solid / engineered hardwood is no longer manufactured on-site. The facility has applied for a Synthetic Minor Operating Permit (SMOP) and proposed to respectively limit particulate matter less than 10 microns (µm) in diameter (PM10), particulate matter less than 2.5 µm in diameter (PM2.5), and volatile organic compounds (VOCs) below the Title V major source threshold [99.0 tons per year (tpy)]. In addition, the facility will limit the emission of each individual hazardous air pollutant (HAP) to no more than 9.9 tpy and limit the emission of all HAPs combined to no more than 24.9 tpy. In order to comply with the PM, PM10 and PM2.5 limitations, the facility will conduct maintenance on the cyclones and baghouse and record their hours of operation. J T Shannon is expected to have a large margin of compliance with the VOC and HAP limitations, since the facility only dries hardwood.

While particulate matter (PM) is not considered a Title V criteria pollutant, the facility still has the uncontrolled potential to emit PM in excess of the applicable Prevention of Significant Deterioration (PSD) threshold of 250 tpy. Therefore, in order for the facility to avoid PSD applicability, the emission of PM will be limited to no more than 249.0 tpy.

The facility has ceased Shamrock Operations, which include sawing and sanding to produce flooring and architectural molding. However, the facility has requested that the baghouse associated with these operations (Emission Point AA-003) remain in the permit. The facility has discontinued sawdust and wood scraps truck load-out operations (Emission Point AA-026) but requested that this emission source remain permitted.

The following emission sources, previously classified as ‘Insignificant Activities’ under the TVOP, have been listed in the permit table:

* Three (3) 275-gallon oil storage tanks, one (1) 2,000-gallon diesel storage tank and one (1) 8,000-gallon diesel storage tank (Emission Point AA-036);
* Wood-fired barrel stove heater (0.04 MMBTU/hour) (Emission Point AA-037); and
* Facility-wide maintenance activities (which includes welding and metalworking) (Emission Point AA-038).

EMISSION SUMMARY

Table 1: Facility-Wide Emissions

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **PM** | **PM10** | **PM2.5** | **SO2** | **NOX** | **CO** | **VOCs** | **Lead** | **Ind. HAP** | **Total HAPs** |
| Maximum Uncontrolled Emissions (tpy) | 323.7 | 323.7 | 323.7 | 3.2 | 15.5 | 39.4 | 17.0 | 0 | - | 5.0 |
| Emission Limitations (tpy) | **249.0**1 | **99.0**2 | **99.0**2 |  |  |  | **99.02** |  | **9.92** | **24.92** |

1 PSD Major Source Avoidance Limit

2 Title V Major Source Avoidance Limit

Based on its maximum production capability, the facility has the potential to emit PM10 and PM2.5 in excess of the applicable Title V major source threshold (100 tpy). Therefore, in order to be classified as a synthetic minor source, the facility will maintain the noted emission limitations through operational restrictions. Currently, the facility only dries hardwood and the potential to emit VOCs and HAPs is well below the applicable Title V major source thresholds. However, if the facility ever chooses to dry softwood, VOC and HAP emissions could increase significantly and potentially exceed those thresholds. Therefore, VOC emissions and HAP emissions (both individual and combined total) will be limited to ensure that the facility will remain a synthetic minor source despite any future operational flexibility (i.e. drying softwood).

APPLICABLE/PROPOSED PERMIT LIMITATIONS

* 249.0 tpy particulate matter (PM; filterable only)
* 99.0 tpy particulate matter less than 10 µm in diameter (PM10; filterable + condensable)
* 99.0 tpy particulate matter less than 2.5 µm in diameter (PM2.5; filterable + condensable)
* 99.0 tpy volatile organic compounds (VOCs) (Title V Avoidance Limit)
* 9.9 tpy/ for each hazardous air pollutant (HAP) (Title V Avoidance Limit)
* 24.9 tpy for all HAPs combined (Title V Avoidance Limit)

NSPS APPLICABILITY

**40 CFR 60 Subpart Dc, New Source Performance Standards for Small Industrial-Commercial-Institutional Steam Generating Units**

The facility’s wood-fired boiler, Emission Point AA-012, is subject to the requirements of this subpart because it was constructed after June 9, 1989 and has a heat input capacity ≥ 10 MMBTU / hour but < 100 MMBTU / hour. Since the boiler uses wood as the primary fuel source and has a heat input capacity < 30 MMBTU / hour, the facility is only required to monitor the fuel usage of the boiler.

40 CFR Part 60, Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984

The facility has two (2) diesel storage tanks: one 2,000-gallon tank and one 8,000-gallon tank. This subpart applies to tanks with capacities greater than 19,800 gallons; therefore, this subpart is not applicable.

MACT APPLICABILITY

**40 CFR 63 Subpart JJJJJJ - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources**

The facility’s wood-fired boilers (Emission Points AA-012 and AA-027) are subject to the requirements of this subpart. Both boilers are classified as ‘existing sources’ because they were constructed before June 4, 2010. The facility is required to conduct tune-ups every 5 years for Emission Point AA-012 because the unit has an oxygen trim system that maintains an optimum air-to-fuel ratio. The facility conducts tune-ups every 2 years for Emission Point AA-027 because the unit does not have an oxygen trim system. The one-time energy assessment has been completed for Emission Point AA-012 (an energy assessment does not have to be completed for Emission Point AA-027 because it has a heat input capacity less than 10 MMBTU / hour).

40 CFR Part 63, Subpart DDDD – National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products

This subpart regulates plywood and composite wood products manufacturing facilities, which include facilities manufacturing kiln-dried lumber, located at a major source of hazardous air pollutant (HAP) emissions. J T Shannon is classified as an area source of HAPs because it does not emit more than 10 tpy of an individual HAP or more than 25 tpy of all HAPs combined. Therefore, Subpart DDDD is not applicable.

**PUBLIC PARTICIPATION**

The 30-day public notice period began on Mrch 25, 2021, with the publication of a notice in the DeSoto Times-Tribune and ends April 26, 2021.

**RECOMMENDATION**

The staff has preliminarily decided to recommend issuance of the permit to the Mississippi Environmental Quality Permit Board as shown in the draft permit. However, the staff recommendation to the Board will be made only after a thorough consideration of all public comments.