**INFORMATION RELATIVE TO**

**THE TITLE V OPERATING PERMIT**

**October 20, 2021**

GENERAL FACILITY INFORMATION

**Facility Name:** Georgia Pacific Wood Products, LLC – Taylorsville

**Facility Address:** Highway 28 West; Taylorsville, MS 39168

**County:** Smith

**SIC Code(s):** 2436; 2421

**NAICS Code(s):** 321212; 321219

APPLICATION SUMMARY

|  |  |
| --- | --- |
| **Permit No.:** 2500-00002**Permit Action:** Renewal (with modifications)**Permit Folder:** PER20150002**Application Receipt Date:** 07/29/2015**Application Deemed Complete:** 09/02/2015**CBI Submitted?:**  No | **NSPS (Part 60):** KKKK**NESHAP (Part 61):** N/A**NESHAP (Part 63):** DDDD, YYYY, ZZZZ, DDDDD**112(r) / RMP:** N/A**Other:** N/A |

FACILITY DESCRIPTION

Georgia Pacific Wood Products, LLC – Taylorsville (i.e. “GP – Taylorsville”) is an existing facility that primarily manufactures plywood panels (at ⅜-inch thickness). The facility also manufactures kiln-dried dimensional softwood lumber as a secondary product. On-site operations are generally separated into two (2) distinct functions: Studmill Operations and Plywood Mill Operations.

The Plywood Mill Operations receive logs, which are debarked and cut to the desired length. The waste materials generated in this area are routed to either the truck load-out area to be shipped off-site (chips) or to the boiler fuel house for use as a fuel source in the wood-fired boiler (fines). The processed logs are soaked in log vats prior to being peeled by lathes. The peeled veneer sheets are then cut into manageable widths. Reject logs and the log cores that remain after the veneer is peeled are sent to either the core chipper or transported to the Studmill Operations for the production of dimensional lumber.

The quality veneer product is routed through dryers (four in total). Afterwards, the dried veneer is sent to the lay-up / gluing lines where glue is applied to the top side of the veneer and then additional layers of veneer are added to the desired thickness. Once the plywood is trimmed, the sheets are sent to presses where the plywood is bonded under heat and pressure.

Bonded plywood panels are sent to the patch line, specialty machine, tongue and groove machine, or the sanders for further processing. Wood waste from these processes (sawdust and sander dust) is sent to the boiler fuel house. Some of the plywood panels are oil coated for concrete release or the edges of these panels are painted in the edge seal paint booth. Finished panels are bundled and stored in the warehouse prior to shipment offsite.

The Studmill Operations receives log cores from the Plywood Mill Operations and other nearby plants. The log cores are trimmed to the desired length and then cut into green lumber. Rejected log cores are sent to the core chipper and lilypads generated by the trim saw are sent to the Lilypad Chipper. The chips and sawdust generated from these chippers are sent to the Chip Truck Bin to be shipped offsite and the sawdust is routed to either the Plywood Plant fuel house or the adjacent particleboard plant. The green lumber is stacked and stored until ready for drying in the dry kilns. Once dried, the rough cut lumber is sent to various saws for further processing. The trimmed material from the sawing operations is sent to the trim hog while the shavings and sawdust are routed to either the Plywood Plant fuel house or the adjacent particleboard plant. Finished lumber is either treated at the edge seal booth or sent directly to storage prior to shipment off-site.

TITLE V SOURCE APPLICABILITY

The facility’s potential-to-emit (PTE) exceeds the Title V major source threshold of 100 tons per year (tpy) for each of the following criteria air pollutants: nitrogen oxides (NOX), carbon monoxide (CO), particulate matter (PM), particulate matter less than 10 microns (PM10), particulate matter less than 2.5 microns (PM2.5), and volatile organic compounds (VOCs). The facility’s potential-to-emit hazardous air pollutants (HAPs) exceeds the Title V major source thresholds of 25 tpy of total HAPs and 10 tpy for the following individual HAPs: formaldehyde, hydrogen chloride, methanol, and phenol.

**Facility-Wide Potential-to-Emit Summary1**

| Pollutant | PTE Emissions(tpy) |
| --- | --- |
| Particulate Matter (TSP) | 753.5 |
| PM10 | 560.3 |
| PM2.5 | 480.8 |
| Sulfur Dioxide (SO2) | 35.6 |
| Nitrogen Oxides (NOX) | 726.5 |
| Carbon Monoxide (CO) | 3,259 |
| Volatile Organic Compounds (VOCs) | 924.5 |
| Total Reduced Sulfur (TRS) | 0.00 |
| Lead | 0.02 |
| CFC / HCFC | 0.00 |
| Total HAPs | 244.2 |

1 The PTE emissions reflect any emission limits or enforceable restrictions included in the proposed permit.

PREVENTION OF SIGNIFICANT DETERIORATION (PSD) APPLICABILITY

Given that the facility is not one (1) of the twenty-eight (28) categorical stationary sources listed in 40 CFR 52.21(b)(1)(i)(c)(iii), the initial applicable PSD threshold is 250 tpy. As such, the facility has the respective potential to emit more than the noted threshold for PM, PM10, PM2.5, NOX, CO, and VOCs since its commencement of operations; therefore, the facility is considered a major stationary source. However, this permitting action will not change the current PSD status of the facility.

FACILITY MODIFICATIONS AND/OR PERMIT CHANGES

On July 29, 2015, GP – Taylorsville submitted an application requesting the reissuance of its Title V Operating Permit (TVOP). Since the submission of that initial renewal application, the facility has underwent several modifications through the issuance of separate Permits to Construct Air Emissions Equipment and 502(b)(10) modification requests. As a result, the following changes will be incorporated into the renewed TVOP:

* *502(b)(10) modification requests*:
1. The application of a new release agent (Utility Release Concrete from Nox-Crete) onto plywood panels used to form poured concrete [received on December 13, 2011];
2. The replacement of the existing PLC-based Elliot Bay dryer control system on the plywood veneer dryers No. 1, 3, and 4 with the Ventek Sequoia package and the installation of new cooling fans to the dryer controls on all four (4) dryers [received on September 10, 2012];
3. The upgrade of the hydraulic systems on three (3) of the four (4) existing plywood presses, the replacement of a shaker screen, and the replacement of a baghouse blower fan [received on November 28, 2012];
4. The addition of a patch line in the finishing department [received on February 6, 2013];
5. Install new variable frequency drives (VFD) to control the existing ID fan motors on Boilers No. 1 and 3 [received on April 3, 2013];
6. The replacement of the East Bark Hog, the rebuild of three (3) sander heads for plywood panel production (from a total of six), and the replacement of the sander dust cyclone [received on April 25, 2013];
7. The installation of a knife hog (i.e. a re-chipper) and an associated cyclone to process oversized green chips produced on-site [received on May 29, 2013];
8. The collective replacement of the bark hog shaker screen, the No. 1 boiler feeder conveyor shaft, the fuel conveyor chain, and the No. 2 and No. 3 return trays / runners in addition to the use of an automatic stacker device on the No. 3 dryer and the rebuild of the No. 4 plywood press hydraulic power system [received on November 18, 2013];
9. The use of a resin formulation in the glue line that contains up to five percent (5%) urea [received on February 4, 2014];
10. The installation of a new ladder in-feed to allow green lumber to bypass the core machine and go straight into the sorter system [received on March 21, 2014];
11. The replacement (or rebuilding) of three (3) existing air compressors, the installation of a new auto feed and accumulator on dryer No. 3, the installation of a new accumulator on dryer No. 4, the replacement of the existing flying cut-off system, and the replacement of the existing east bark hog [received on September 15, 2014];
12. The replacement of the two (2) existing veneer chippers and the upgrading of the Top / Bottom Sander Baghouses [received on March 3, 2015];
13. Increase the speed of the fan used for the pneumatic system for the top heads on the sander [received on July 13, 2015];
14. Use of a portable and temporary horizontal tub grinder to grind solid bark waste on-site approximately four (4) times each year for a two-day period [received on October 21, 2015];
15. Use of an emergency back-up cyclone for green chip bin loading operations and the replacement of existing motors associated with the fans using the veneer dryers No. 1 through 3 [received on October 29, 2015];
16. The upgrading of the wood residuals cyclone system and the replacement of the sheaves on the fans associated with the Top / Bottom Sander Operations to increase air flow [received on January 7, 2016];
17. Combine the Top / Bottom Sander Baghouses into a single system and implement upgrades / modifications [received on May 6, 2016];
18. Change the method in which plywood trim is routed to the fuel boiler house to optimize the moisture content of the boiler fuel [received on May 15, 2017];
19. Replace the dryer control system and add cooling fans to the dryer system.
20. Replace 27% of the tubes in the No. 3 Boiler (Emission Point AA-700) and the associated water softener system (used to treat boiler feed water) [received on September 1, 2021]; and
21. Replace the existing fly saw and side shift accumulator that are part of the Glueline Operations (Emission Point AA-314) [received on September 1, 2021]
* *Administrative Amendment Requests*:

(1) Repurpose the fuel storage bin previously associated with the No. 1 boiler as a secondary fuel supply source for the No. 3 boiler, which will include the installation of a new fuel chute and two (2) new bark conveyors [received on February 11, 2019].

* *Incorporation of Permit to Construct Air Emissions Equipment*

(1) The facility was issued a Permit to Construct on July 8, 2016 to construct and operate a natural gas-fired Combined Heat and Power (CHP) System, which consists of a combustion turbine and heat recovery steam generating (HRSG) unit. Upon construction, the facility shut down and removed the No. 1 Boiler (Emission Point AA-500). The CHP System began operation March 9, 2018, and the facility submitted an application to modify the TVOP on March 6, 2019 (in order to incorporate the complete construction project).

 As a result, the TVOP no longer mentions the No. 1 Boiler (Emission Point AA-500) and now includes the CHP system (Emission Point AA-900). With the inclusion of the CHP system, applicable requirements found in 40 CFR Part 60, Subpart KKKK – Standards of Performance for Stationary Combustion Turbines 40 CFR Part 63, Subpart YYYY – National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Combustion Turbines.

(2) The facility was issued a Permit to Construct on April 22, 2019 to replace the No. 1 Veneer Dryer (Emission Point AA-404), replace the four (4) existing 36-opening plywood presses (Emission Point AA-315) with three (3) new 40-opening presses, and add a manual glue spreader to the existing Glueline Operation (Emission Point AA-314). The new veneer dryer began operation on October 18, 2019, and the facility submitted an application to modify the TVOP on October 14, 2020 (in order to incorporate the new veneer dryer).

 As of the issuance of this permit, the facility has not completed construction of an addition of the new manual spreader or the replacement of the presses. Construction for the other portion of the project (i.e. the replacement of the No. 1 Veneer Dryer) was completed on October 14, 2019. However, the PTC is still active, as additional construction activities are still on-going.

* *Changes Requested by the Facility*:

(1) The facility requested the on-spec. used oil be removed as a potential fuel for the No. 3 Boiler because it is no longer utilized. All references to on-spec. used oil has been removed from the TVOP.

(2) The facility requested that the “Main Manufacturing Building” (Emission Point AA-800) be removed from the permit given that the emission sources listed in the description are accounted for individually. As such, Emission Point AA-800 has been removed from the TVOP as a regulated emission source.

(3) The facility requested that the “Glue Line Layup Operation” (previously permitted as Emission Point AA-301) be removed from the permit because the emissions from this source are accounted for in the “Glueline and Layup Operations” (now identified as Emission Point AA-314 in the TVOP).

(4) The facility requested that the existing biennial testing requirements for Emission Points AA-305, AA-306, AA-307, and AA-409 be removed. Based on historical stack testing data over the past ten (10) years, the frequency for which GP – Taylorsville must conduct performance stack testing to evaluate pollutant-specific emissions from the applicable emission source will be modified as follows:

(i) *For Emission Point AA-305*: As the historical margin of compliance has (on average) been equal to eighty-five percent (85%) for the specified limitation on filterable PM / PM10 emissions, the facility will no longer be required to conduct performance stack testing on Emission Point AA-305 in order to demonstrate compliance with the applicable emission limitations.

(ii) *For Emission Points AA-306 and AA-307*: As it has been determined that an explicit short-term (i.e. pounds per hour) emission limitation was never formally established for the each source (particularly for filterable PM and/or PM10), the facility will no longer be required to conduct stack testing to evaluate PM / PM10 emissions from each source.

(iii) *For Emission Point AA-409*: Based on the historical margin of compliance [i.e. fifty-eight percent (58%) (on average) for the specified filterable PM / PM10 limit] and in coordination with the Environmental Compliance & Enforcement Division (ECED), GP – Taylorsville is no longer required to conduct stack testing to evaluate filterable PM / PM10 emissions from the unit.

COMPLIANCE ASSURANCE MONITORING (CAM) APPLICABILITY

40 CFR Part 64 specifies the requirements for CAM. The general applicability of this rule can be found in 40 CFR 64.2 and requires a Title V source to comply with the CAM requirements if all three of the following criteria are met for a pollutant-specific emission unit (PSEU):

1. The unit is subject to an emission limitation or standard for a regulated air pollutant other than exemptions under 40 CFR 64.2(b)(1);
2. The unit uses a control device to comply with the standard; and
3. The unit has pre-control emissions exceeding Title V major source threshold.

| **Emission Point ID** | **Control Device** **(not including inherent controls)** | **Applicable Limit / Standard** | **Is standard exempt? (Yes/No)** | **Pre-Control > 100 tpy (Yes / No)** | **Post-Control > 100 tpy (Yes / No)** | **CAM Applies? (Yes / No)** | **Type of CAM PSEU****(Large/Other)** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| AA-404 | Regenerative Thermal Oxidizer (RTO) | 90% VOC Destruction Efficiency | No | Yes | Yes | Yes | Large |
| AA-700 | Dry Electrostatic Precipitator (ESP) | 122.8 lbs. / hour;537.9 tpy(PM / PM10 Combined) | No | Yes | Yes | Yes | Large |

Because the noted emission sources subject to CAM, the applicable CAM requirements will be incorporated into the draft permit [specifically for the continuous monitoring of the combustion chamber temperature for the RTO and the continuous monitoring of opacity for the ESP [analyzed via a continuous opacity monitoring system (COMS)].

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP) APPLICABILITY

* **40 CFR Part 63, Subpart DDDD – NESHAP for Plywood and Composite Wood Products** – The provisions of Subpart DDDD are applicable to plywood and composite wood products manufacturing facilities located at a major source of HAP emissions. The facility is a plywood and composite wood products manufacturing facility and is considered a major source of HAP emissions; therefore, the provisions of Subpart DDDD are applicable to operations at the facility. The facility has softwood plywood presses and lumber kilns that are considered affected sources; however, there are no applicable requirements. The applicable requirements of Subpart DDDD for the veneer dryers and Group 1 Miscellaneous Coatings are included in the proposed permit.
* **40 CFR Part 63, Subpart YYYY – NESHAP for Stationary Combustion Turbines** – The provisions of Subpart YYYY are applicable to stationary combustion turbines located at major sources of HAP emissions. The facility is considered a major source of HAP; however, the affected unit is considered a new, lean premix gas-fired stationary combustion turbine and per 40 CFR 63.6095(d), the affected unit is not required to comply with any other requirement of Subpart YYYY until EPA takes final action to require compliance and publishes a document in the Federal Register.
* **40 CFR Part 63, Subpart DDDDD – NESHAP for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters** – The provisions of Subpart DDDDD are applicable to industrial, commercial, or institutional boilers or process heaters located at a major source of HAP emissions. The facility is considered a major source of HAP and Boiler No. 3 (Emission Point AA-700) is considered an existing boiler in the hybrid suspension/grate burners designed to burn we biomass/bio-based solid subcategory. The applicable requirements of Subpart DDDDD have been included in the proposed permit.
* **40 CFR Part 63, Subpart ZZZZ – NESHAP for Stationary Reciprocating Internal Combustion Engines –** The provisions of Subpart ZZZZ are applicable to stationary reciprocating internal combustion engines located at area and major sources of HAP emissions. The facility is considered a major source of HAP and has an existing, emergency engine subject to the maintenance and operating provisions of Subpart ZZZZ that have been incorporated into the proposed permit.

NEW SOURCE PERFORMANCE STANDARDS (NSPS) APPLICABILITY

* **40 CFR Part 60, Subpart D, Standards of Performance for Fossil-Fuel-Fired Steam Generators** – The provisions of Subpart D are applicable to fossil-fuel-fired and fossil-fuel and wood residue fired steam generating units with a heat input rate greater than 250 MMBTU / hour that commenced construction or modification after August 17, 1971. While the boiler was constructed after the applicability date (1978), the boiler is **not** subject to the provisions of Subpart D since the heat input capacity is less than 250 MMBTU / hour.
* **40 CFR Part 60, Subpart Db, Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units** – The provisions of Subpart Db are applicable to each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and has a heat input capacity greater than 100 MMBTU / hour. Boiler No. 3 was constructed in 1978 and has not had any modifications made to it that meet the definition of modification or reconstruction. As such, the provisions of Subpart Db are **not** applicable to the boiler.
* **40 CFR Part 60, Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units** – The provisions of Subpart Dc are applicable to each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989, and that has a maximum design heat input capacity of 100 MMBtu / hour or less but greater than 10 MMBTU / hour. The maximum design heat input capacity of Boiler No. 3 is greater than the applicability range; therefore, the boiler is **not** subject to the provisions of Subpart Dc.
* **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 provisions of Subpart Kb are applicable to storage vessels with a capacity greater than or equal to 75 cubic meters (~19,813 gallons) that are used to store volatile organic liquids. None of the storage vessels at the facility exceed the applicability threshold; therefore, the storage vessels are **not** subject to the provisions of Subpart Kb.
* **40 CFR Part 60, Subparts IIII and JJJJ – Standards of Performance for Stationary Compression Ignition and Spark Ignition Internal Combustion Engines** – The provisions of Subpart IIII are applicable to stationary compression ignition internal combustion engines that commence construction after July 11, 2005, where the engine was manufactured after April 1, 2006 (not a fire pump engine), or after July 1, 2006 (fire pump engines). The provisions of Subpart JJJJ are applicable to stationary spark ignition internal combustion engines that commence construction after June 12, 2006, where the engine was manufactured on or after the dates for specific size and types of engines. The facility has one existing engine that was constructed/installed in 1985. Since the engine was installed prior to the applicability dates in Subparts IIII and JJJJ, the provisions of **neither** standard are subject to the engine.
* **40 CFR Part 60, Subpart KKKK, Standards of Performance for Stationary Combustion Turbines –** The provisions of Subpart KKKK are applicable to stationary combustion turbines that commenced construction, modification, or reconstruction after February 18, 2005. The facility has a natural gas combustion turbine that was constructed in March 2018; therefore, the combustion turbine is subject to the provisions of Subpart KKKK. The applicable provisions of Subpart KKKK are included in the proposed permit.

SPECIFIC APPLICABLE REQUIREMENTS

| **Emission Point No.** | **Pollutant / Parameter** | **Draft Permit Emission Limits** | **Monitoring Requirements** |
| --- | --- | --- | --- |
| AA-000 | PM(filterable) | E = 4.1(p0.67) | The margin of compliance for this standard is expected to be significant given that the facility has equipped several process equipment with control devices to minimize the emission of PM. Therefore, no monitoring requirements are necessary. |
| **Studmill Operations** |
| AA-409 AA-410 | Opacity | ≤ 40% | The facility will conduct weekly visible emission observations and perform weekly inspections on the corresponding control devices. |
| **Plywood Mill Operations** |
| AA-303throughAA-306AA-321 | Opacity | ≤ 40% | The facility will conduct weekly visible emission observations and perform weekly inspections on the corresponding control devices. |
| AA-320 | PM(filterable) | 0.6 lbs. / MMBTU | The margin of compliance for this standard is expected to be significant given that the facility must conduct routine maintenance on the engine. |
| Operational Requirements | 100 Hours / Calendar Year for Maintenance and Readiness Testing; and 50 Hours / Calendar Year for Non-Emergency Situations | The facility will monitor and record the hours of operation on a monthly basis (both for emergency and non-emergency service). |
| AA-404 | VOCs(as carbon) | 90% Destruction Efficiency (Minimum) | The facility will demonstrate compliance with this standard by conducting routine performance testing required by MACT – Subpart DDDD. |
| HAPs | Reduce Total HAP Emissions by 90% (Minimum) | The facility must conduct routine performance testing once every five years. |
| Maintain 3-Hour Block Average Firebox Temperature | The facility will continuously monitor the combustion chamber temperature of the RTO. |
| AA-700 | PM (filterable) | 0.30 Grains / Dry Standard Cubic Foot | The margin of compliance for this standard is expected to be significant given that the boiler is equipped with a dry ESP. Therefore, no monitoring requirement is necessary. |
| SO2 | 4.8 lbs. / MMBTU | The facility will monitor the sulfur content of each fuel source combusted.  |
| AA-700 | Fuel Restriction | Only Combust Bark, Wood Residuals, and Natural Gas | The facility will monitor and record the quantity of each fuel combusted on a monthly basis. |
| PM / PM10(filterable) | 122.8 lbs. / hour; and 537.9 tpy (Rolling 12-Month Total) | The facility will demonstrate compliance with this limit by conducting routine performance testing required by MACT – Subpart DDDDD. |
| HCl | 0.022 lbs. / MMBTU of Heat Input | The facility will demonstrate compliance by conducting routine performance testing (either biennial or once every three years). |
| Hg | 0.0000057 lbs. / MMBTU of Heat Input | The facility will demonstrate compliance by conducting routine performance testing (either biennial or once every three years). |
| CO | 3,500 ppm By Volume on a Dry Basis Corrected to 3% Oxygen (3-Run Avg.) | The facility will demonstrate compliance by conducting routine performance testing (either biennial or once every three years). |
| PM (filterable) | 0.44 lbs. / MMBTU of Heat Input |
| Oxygen Content | Maintain the Oxygen Content At or Above the Lowest Hourly Average Oxygen Content Measured During a CO Performance Test | The facility will demonstrate continuous compliance with the operating limits by monitoring and recording data from applicable continuous parameter monitoring systems. |
| Opacity | Maintain the Opacity to Less Than or Equal to Either 10% or the Highest Hourly Average Opacity Reading Measured During a PM or Hg Performance Test |
| Boiler Load | Maintain the 30-Day Rolling Average Operating Load Such That It Does Not Exceed 110% of the Highest Hour Average Operating Load Recorded During a Performance Test |
| AA-900 | PM(filterable) | E = 0.8808(I-0.1667) | The margin of compliance for these standards is expected to be significant given that the turbine solely combusts natural gas. |
| SO2 | 4.8 lbs. / MMBTU |
| NOX | 25 ppm at 15% Oxygen (Combustion Turbine); and54 ppm at 15% Oxygen (HRSG Operating Independently) | The facility will demonstrate compliance by conducting performance testing on an annual basis. |
| SO2 | 0.060 lbs. / MMBTU Heat Input | The facility will maintain documentation on the fuel quality characteristics. |

OTHER REQUIREMENTS:

The proposed permit contains requirements for the facility to calculate and maintain the annual emission of PM10, PM2.5, and VOCs (based on a 12-month calendar year basis) as a result of the construction project approved in the Permit to Construct Air Emissions Equipment issued April 22, 2019. This evaluation will be conducted for a 5-year period once operations resume after the permitted modifications are completed. The facility will submit a report to the MDEQ no later than March 1 of each year for the preceding calendar year if the calculated annual emissions meet the criteria specified in the permit once all projects are complete.