

Facility Name: **Langboard - Willacoochee**

City: Willacoochee

County: Atkinson

AIRS #: 04-13-00300013

Application #: 47682

Date SIP Application Received: July 28, 2017

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Permit No: 2493-003-0013-V-05-1

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Introduction

This narrative is being provided to assist the reader in understanding the content of the referenced SIP permit to construct and draft operating permit amendment. Complex issues and unusual items are explained in simpler terms and/or greater detail than is sometimes possible in the actual permit. This permit is being issued pursuant to: (1) Sections 391-3-1-.03(1) and 391-3-1-.03(10) of the Georgia Rules for Air Quality Control, (2) Part 70 of Chapter I of Title 40 of the Code of Federal Regulations, and (3) Title V of the Clean Air Act Amendments of 1990. The following narrative is designed to accompany the draft permit and is presented in the same general order as the permit. This narrative is intended only as an adjunct for the reviewer and has no legal standing. Any revisions made to the permit in response to comments received during the public comment period and EPA review process will be described in an addendum to this narrative.

I. Facility Description**A. Existing Permits**

Table 1 below lists the current Title V permit, and all administrative amendments, minor and significant modifications to that permit, and 502(b)(10) attachments.

Table 1: Current Title V Permit and Amendments

Permit/Amendment Number	Date of Issuance	Description
2493-003-0013-V-05-0	August 7, 2012	Title V renewal permit

B. Regulatory Status**1. PSD/NSR/RACT**

Langboard – Willacoochee (Langboard) is a minor source under PSD regulations.

Note: Langboard manufactures medium density fiberboard (MDF) which is not one of the 28 named categories whose major source threshold is 100 ton/yr (nitric acid plants).

The facility has taken the following limits to avoid PSD review:

- Particulate matter (PM) emissions from the chip shaker screen area with Emission Unit ID No. EU01 is limited to 1.00 pound per hour (lb/hr).
- PM emissions from the shavings and sawdust relay system with Emission Unit ID No. EU03 is limited to 3.50 lb/hr.
- PM, Volatile organic compound (VOC), and Carbon monoxide (CO) from the outlet of the bioscrubber with Emission Unit ID No. C006 is limited to 25.0, 54.4 and 50.0 lb/hr, respectively.
- PM emissions from each of the face dryer relay system with ID No. EU08, the swing dryer relay system with Emission Unit ID No. EU09, and the core dryer relay system with Emission Unit ID No. EU10 is limited to 1.5 lb/hr.
- PM emissions from the face/core shave-off relay system with Emission Unit ID No. EU11 is limited to 2.3 lb/hr.
- PM emissions from the former vacuum system with Emission Unit ID No. EU12 is limited to 3.00 lb/hr.
- PM emissions from the reject relay system with Emission Unit ID No. EU13 is limited to 3.00 lb/hr and the operation of the unit is limited to 7 hours per week.
- PM emissions from the vacuum relay system with Emission Unit ID No. EU14 is limited to 1.36 lb/hr.
- PM emissions from each of the sanderdust pickup systems with Emission Unit ID Nos. EU15 and EU16 is limited to 2.4 lb/hr.
- PM emissions from the sanderdust relay system with Emission Unit ID No. EU17 is limited to 1.36 lb/hr.
- PM emissions from the saw/sanderdust boiler relay system with Emission Unit ID No. EU18 is limited to 1.36 lb/hr.

- PM emissions from the sawdust pickup system with Emission Unit ID No. EU19 is limited to 1.70 lb/hr.
- PM emissions from the hogged trim relay system with Emission Unit ID No. EU20 is limited to 1.00 lb/hr.
- PM emissions from the saw trim relay system with Emission Unit ID No. EU21 is limited to 1.00 lb/hr.
- Nitrogen oxides (NO_x) emissions from the fluidized bed energy system with Emission Unit ID No. EU24 is limited to 50.0 lb/hr on a 30-day rolling average basis.
- PM emissions from the ash storage silo with Emission Unit ID No. EU26 is limited to 1.00 lb/hr.
- PM emissions from the baghouses that control the TLC sawing and moulding lines with Emission Unit ID No. T001 and the TLC painting and finishing operations with ID No. T002 is limited to 8.00 tons from the baghouse with Emission Unit ID No. TC01 and 2.00 tons from the baghouse with Emission Unit ID No. TC02 during any consecutive 12-month period.
- VOC emissions from the TLC painting and finishing operations with Emission Unit ID No. T002 is limited to 10.30 tons during any consecutive 12-month period.

2. Title V Major Source Status by Pollutant

Table 2: Title V Major Source Status

Pollutant	Is the Pollutant Emitted?	If emitted, what is the facility's Title V status for the Pollutant?		
		Major Source Status	Major Source Requesting SM Status	Non-Major Source Status
PM	Yes	✓		
PM ₁₀	Yes	✓		
PM _{2.5}	Yes	✓		
SO ₂	Yes			✓
VOC	Yes	✓		
NO _x	Yes	✓		
CO	Yes	✓		
TRS	N/A			
H ₂ S	N/A			
Individual HAP	Yes	✓		
Total HAPs	Yes	✓		

II. Proposed Modification

A. Description of Modification

The modification involves changes to the TLC Moulding operations. The proposed modification includes (1) the addition of a new finger-jointing line operation (Emission Unit ID No. T004) resulting in the emission of PM that will be controlled by a new air pollution control device (APCD No. TC03), a baghouse; and (2) the addition of a new paint line to the existing two paint lines (Emission Unit ID No. T002) that will be controlled by the existing baghouse (APCD No. TC02).

The finger-jointing line operation will be a mechanical process that cuts a set of complimentary rectangular cuts into wood to be later interlocked and assembled.

The raw material for the TLC Mouldings operations is principally MDF panels. The panels are first processed through the Sawing and Moulding Lines (Emission Unit ID No. T001). After the cutting and routing operations are complete, the mouldings produced can be transferred to the Paintings and Finishing Operations, or be shipped out unfinished. Currently, there are two painting lines in place. Paint Line 1 consists of initial sanding, primer coating, drying, secondary sanding, secondary coating, drying, buffing, and packaging. Paint Line 2 consists of sanding, coating, drying, buffing, and packaging. The new paint line, Paint Line 3, will also consist of sanding, coating, drying, buffing, and packaging.

The baghouse with APCD No. TC03 has a vendor guaranteed exit grain loading of 0.02 grain per dry standard cubic foot (gr/dscf) and an exhaust flow rate of 22,050 dry standard cubic feet per minute (dscf/m). This results in a predicted PM emission rate of 0.378 pound per hour (lb/hr):

$$\left(0.02 \frac{gr}{dscf}\right) \left(\frac{22,050 dscf}{min}\right) \left(\frac{1 lb}{7,000 gr}\right) \left(\frac{60 min}{1 hr}\right) = 0.378 \frac{lb}{hr} = 1.66 \approx 2.0 \frac{ton}{yr}.$$

Langboard has requested an annual limit of 4.0 tons per year for the new finger jointing line operation (Emission Unit ID No. T004). PM emissions from this unit will be controlled by the baghouse with APCD No. TC03. APCD No. TC03 grain loading of 0.02 gr/dscf is quite typical for baghouses. Therefore, compliance with this limit is likely if the baghouse is maintained properly.

Note that existing Condition No. 3.2.17 reads:

- 3.2.17 The Permittee shall not discharge, or cause the discharge into the atmosphere, from the baghouses that control the TLC sawing and moulding lines with ID No. T001 and the TLC painting and finishing operations with ID No. T002, PM emissions in excess of the following limits during any twelve consecutive months as determined in accordance with the equation in Condition 6.2.8:
[PSD Avoidance - 40 CFR Part 52.21]
- a. 8.00 tons from the baghouse with ID No. TC01.
 - b. 2.00 tons from the baghouse with ID No. TC02.

The proposed new Condition 3.2.17 will read:

3.2.17 The Permittee shall not discharge, or cause the discharge into the atmosphere, from the baghouses that control the TLC sawing and moulding lines with Emission Unit ID No. T001 and the TLC painting and finishing operations with Emission Unit ID No. T002, PM emissions in excess of the following limits during any twelve consecutive months as determined in accordance with the equation in Condition 6.2.8:

[PSD Avoidance - 40 CFR Part 52.21]

- a. 4.00 tons from the baghouse with ID No. TC01.
- b. 4.00 tons from the baghouse with ID No. TC02.
- c. 4.00 tons from the baghouse with ID No. TC03

Note that there is a facility-wide PM increase of $1.66 \approx 2$ ton/yr. As indicated below, the facility-wide PM emission rate after this modification will be 245 ton/yr, less than the PSD major source threshold of 250 ton/yr. Therefore, the facility remains a PSD minor source.

Existing and Proposed PM PSD SM Limits					
ID No.	Emission Unit Description	Existing PM Limit		Proposed PM Limit	
		lb/hr ^a	tpy ^a	lb/hr ^a	tpy ^a
EU01	Chip Shaker Screen Area	1.00	4.38	N/A	N/A
EU03	Shavings and Sawdust Relay System	3.50	15.3	N/A	N/A
EU05	Flash Tube Dryer #1	25.0	110	N/A	N/A
EU06	Flash Tube Dryer #2				
EU07	Flash Tube Dryer #3				
EU24	Fluidized Bed Energy System				
EU22	Press Vent System				
EU08	Face Dryer Relay System	1.50	6.57	N/A	N/A
EU09	Swing Dryer Relay System	1.50	6.57	N/A	N/A
EU10	Core Dryer Relay System	1.50	6.57	N/A	N/A
EU11	Face/Core Shave-off Relay System	2.30	10.1	N/A	N/A
EU12	Former Vacuum System	3.00	13.1	N/A	N/A
EU13 ^b	Reject Relay System	3.00	0.546	N/A	N/A
EU14	Vacuum Relay System	1.36	5.96	N/A	N/A
EU15	Sanderdust Pickup Systems #1	2.40	10.5	N/A	N/A
EU16	Sanderdust Pickup Systems #2	2.40	10.5	N/A	N/A
EU17	Sanderdust Relay System	1.36	5.96	N/A	N/A
EU18	Saw/Sanderdust Boiler Relay System	1.36	5.96	N/A	N/A
EU19	Sawdust Pickup System	1.70	7.45	N/A	N/A
EU20	Hogged Trim Relay System	1.00	4.38	N/A	N/A
EU21	Saw Trim Relay System	1.00	4.38	N/A	N/A
EU25 ^c	Wax Plant Boiler	0.0803	0.352	N/A	N/A
EU26	Ash Storage Silo	1.00	4.38	N/A	N/A
T001	Saw and Moulding Lines		8.00		4.00
T002	Painting and Finishing Operations		2.0		4.00

Existing and Proposed PM PSD SM Limits					
ID No.	Emission Unit Description	Existing PM Limit		Proposed PM Limit	
		lb/hr ^a	tpy ^a	lb/hr ^a	tpy ^a
T004	Finger-Jointing Line				4.00
T003 ^d	Pellet Mill Operations	None	0	None	0
Total =			243		245

N/A - Not applicable.

- The PM PSD SM limits are in bold. PM emissions in the unit of tpy are obtained by multiplying the hourly emission rates by 8,760, with year round operation assumed. The potential emissions of emission units that are not subject to a PM cap are also included in the table in order to generate facility-wide emission data.
- Please note that EU13 is subject to an operating limit of 7 hours of operation per calendar week. Therefore, its annual PM emissions are capped by both the hourly emission limit and the operating restriction.
- EU25 is not subject to any PSD PM limit; it is subject to only the GA State Rule (d) PM limit. Its hourly PM emission rate is estimated by applying the PM emission factor found in U.S. EPA AP-42 Chapter 1.5.
- PM emissions from T003 are first collected by a cyclone; exhaust from that cyclone is routed to the pneumatic system under the baghouse (TC01) that controls T001. Therefore, PM emissions from T001 (via Baghouse TC01) includes PM emissions from T003.

B. Emissions Change

Table 3: Emissions Change Due to Modification

Pollutant	Is the Pollutant Emitted?	Net Actual Emissions Increase (Decrease) (tpy)	Net Potential Emissions Increase (Decrease) (tpy)
PM	Yes	1.66	1.66
PM ₁₀	Yes	1.66	1.66
PM _{2.5}	Yes	1.66	1.66
SO ₂			
VOC			
NO _x			
CO			
TRS			
H ₂ S			
Individual HAP			
Total HAPs			

C. PSD/NSR Applicability

The modification is not a major new source or a major modification with regards to PSD rules. Therefore, PSD rules do not apply.

III. Facility Wide Requirements

A. Emission and Operating Caps

Not applicable.

B. Applicable Rules and Regulations

Not applicable.

C. Compliance Status

The facility has not indicated any non-compliance.

D. Operational Flexibility

None requested.

E. Permit Conditions

None.

IV. Regulated Equipment Requirements

A. Brief Process Description

This modification involves the addition of a new finger-jointing line (Emission Unit ID No. T004) and a third painting line which will be a part of the existing painting and finishing operations (Emission Unit ID No. T002). In the finger-jointing line operation, a set of complimentary rectangular holes is cut into wood. The PM generated from this cutting will be controlled by the new baghouse (APCD No. TC03). The PM generated from the third painting line will be controlled by the existing baghouse (APCD No. TC02). Negligible amount of VOC is also generated from the third painting line.

B. Equipment List for the Process

Table 5: Modified Emission Unit Description					
Emission Units		Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	Description	Applicable Requirements/Standards	Corresponding Permit Conditions	ID No.	Description
T001	TLC Sawing and Moulding Lines	40 CFR 63, Subpart A 40 CFR 63, Subpart DDDD 391-3-1-.02(2)(b)1. 391-3-1-.02(2)(e)1.(i)	3.2.17, 3.3.5, 3.4.1, 3.4.3, 4.2.2, 5.2.2, 5.2.7, 5.2.8, 6.1.7, 6.2.2, 6.2.6 through 6.2.8	TC01	Baghouse
T002	TLC Painting and Finishing Operations	40 CFR 63, Subpart A 40 CFR 63, Subpart QQQQ 391-3-1-.02(2)(b)1. 391-3-1-.02(2)(e)1.(i)	3.2.17, 3.2.18, 3.3.14, 3.3.15, 3.3.16, 3.4.1, 3.4.3, 4.2.2, 5.2.2, 5.2.7, 5.2.8, 6.1.7, 6.2.2, 6.2.5 through 6.2.8, 6.2.19 through 6.2.25	TC02	Baghouse
T004	Finger-Jointing Line	40 CFR 63, Subpart A 40 CFR 63, Subpart DDDD 391-3-1-.02(2)(b)1. 391-3-1-.02(2)(e)1.(i)	3.2.17, 3.3.5, 3.4.1, 3.4.3, 4.2.2, 5.2.2, 5.2.7, 5.2.8, 6.1.7, 6.2.2, 6.2.6 through 6.2.8	TC03	Baghouse

C. Equipment & Rule Applicability

TLC Painting and Finishing Operation

As indicated, the facility is adding a third paint line to the existing emission unit with Emission Unit ID No. T002. The input material for this operation is MDF produced in the facility. Note that the facility has not increased the MDF production capacity. The emissions from this unit are PM and VOC. The PM emissions from the new painting line will be controlled by the existing APCD No. TC02, a baghouse. The VOC emission rate is negligible. The TLC painting and finishing operation with ID No. T002 is subject to the following rules:

40 CFR 63, Subpart A
40 CFR 63, Subpart QQQQ
391-3-1-.02(2)(b)1.
391-3-1-.02(2)(e)1.(i)

The facility will continue to comply with Georgia Rules (b) and (e) with the baghouse with APCD No. TC02 and will continue to comply with Subpart QQQQ with the compliant material option.

Finger-Jointing Line Operation.

The facility is also adding a new finger-jointing line operation with Emission Unit ID No. T004. The input material for this operation is MDF produced in the facility. Note that the facility has not increased the MDF production capacity. The emission from this unit is PM produced during cutting. The PM emission from the new finger-jointing line operation will be controlled by the new APCD No. TC03, a baghouse. The emission unit with ID No. T004 is subject to the following rules:

40 CFR 63, Subpart A
40 CFR 63, Subpart DDDD
391-3-1-.02(2)(b)1.
391-3-1-.02(2)(e)1.(i)

The facility will continue to comply with Georgia Rules (b) and (e) with the baghouse with APCD No. TC03. There are no Subpart DDDD compliance or work practice standards for the finger-jointing line operation.

D. Permit Conditions

Pursuant to PSD avoidance, modified Condition No. 3.2.17 limits PM emission to the indicated rates. Note that the new finger-jointing line operation is limited to 4.00 tons during any 12-consecutive month period.

Condition No. 4.1.4 was updated to the new version.

Pursuant to PSD avoidance, modified Condition No. 4.2.2 requires PM performance tests be conducted at least once every 48 months for each of the indicated emission units. This is necessary to demonstrate compliance with Condition No. 3.2.17.

Pursuant to PSD avoidance, new Condition No. 4.2.7 requires the Permittee to conduct a PM performance test for the new finger-jointing line operation controlled with Baghouse TC03 to verify compliance with Condition No. 3.2.17.c.

Existing Condition No. 5.2.2 is modified by requiring that the pressure differential across the indicated baghouses, including new Baghouse TC03, be measured and recorded continuously.

Existing Condition No. 5.2.7 is modified by requiring that a preventive maintenance program be used for the indicated baghouses, including new Baghouse TC03.

Existing Condition No. 5.2.8 is modified by requiring a visible emissions check on the indicated baghouses, including new Baghouse TC03.

Existing Condition No. 6.1.7.c.xiii defines excursion as any visible emissions from each of the indicated baghouses, including new Baghouse TC03.

Pursuant to PSD avoidance, modified existing Condition No. 6.2.6 requires the monthly recording of the hours of operation of the indicated emission units, including the new finger-jointing line operation.

Pursuant to PSD avoidance, modified existing Condition No. 6.2.7 requires the calculation and recording of the monthly PM emission rate from the indicated emission units, including the new finger-jointing line operation.

Pursuant to PSD avoidance, modified existing Condition No. 6.2.8 requires the calculation of the rolling 12-month total PM emissions from each baghouse with ID Nos. TC01 through TC03 for each calendar month.