

Facility Name: Norbord Georgia, Inc.

City: Cordele

County: Crisp

AIRS #: 04-13-081-00054

Application #: 16441

Date SIP Application Received: November 9, 2005

Date Title V Application Received: November 9, 2005

Permit No: 2493-081-0054-V-02-2

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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. Comments are listed in Table 2 below.

Table 1: Current Title V Permit and Amendments

Permit/Amendment Number	Date of Issuance	Comments	
		Yes	No
2493-081-0054-V-02-0	June 25, 2002	✓	
2493-081-0054-V-02-1	June 3, 2005	✓	

Table 2: Comments on Specific Permits

Permit Number	Comments
2493-081-0054-V-02-0	Initial Title V permit
2493-081-0054-V-02-1	Significant modification through PSD permit to increase production rate of oriented strandboard

B. Regulatory Status

1. PSD/NSR/RACT

Norbord Georgia, Inc. is a major source with regards to the New Source Review (NSR) Prevention of Significant Deterioration of Air Quality (PSD) Regulations. The facility is a major source because the potential to emit (PTE) particulate matter, nitrogen oxides, carbon dioxide, and volatile organic compounds is each greater than the PSD major source threshold of 250 tons per year (ton/yr).

Note: The manufacture of oriented strandboard is not one of the 28 named categories whose major source threshold is 100 ton/yr.

2. Title V Major Source Status by Pollutant

Table 3: 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	✓		
SO ₂	Yes	✓		
VOC	Yes	✓		
NO _x	Yes	✓		
CO	Yes	✓		

Table 3: 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
TRS	Negligible			
H ₂ S	Negligible			
Individual HAP	Yes	✓		
Total HAPs	Yes	✓		

II. Proposed Modification

A. Description of Modification

The conversion of the Regenerative Thermal Oxidizer (RTO) that controls emissions from Board Press PRES to a Regenerative Catalytic Oxidizer (RCO) by adding a layer of catalyst on top of the existing ceramic saddles.

B. Emissions Change

Table 4: Emissions Change Due to Modification

Pollutant	Is the Pollutant Emitted?	Net Actual Emissions Increase (Decrease) (tpy)	Net Potential Emissions Increase (Decrease) (tpy)
PM	Yes	0	0
PM ₁₀	Yes	0	0
SO ₂	Yes	0	0
VOC	Yes	0	0
NO _x	Yes	0	0
CO	Yes	0	0
TRS	Negligible	0	0
H ₂ S	Negligible	0	0
Individual HAP	Yes	0	0
Total HAPs	Yes	0	0

C. PSD/NSR Applicability

Control device RT63 that is being retrofitted went through a BACT determination as part of a previous PSD application. There is a physical change because a layer of catalyst is being placed on top of the existing ceramic saddles in the RTO. However, it is expected that this physical change will not result in any increase in the emissions of any pollutant and that the retrofitted control device can meet the required destruction efficiency of 95 percent. Assuming each of the assumption that there will be no increase in emissions or that the required destruction efficiency of 95 percent is met, it is the Division's judgment that the retrofitting of the RTO to a RCO should not undergo a new BACT determination and that this can be handled outside the PSD rules.

III. Facility Wide Requirements

- A. Emission and Operating Caps: None.
- B. Applicable Rules and Regulations
Rules and Regulations Assessment – Not applicable.
Emission and Operating Standards – Not applicable.
- C. Compliance Status – See Section VII.F.
- D. Operational Flexibility – See Section VII.A.
- E. Permit Conditions – None.

IV. Regulated Equipment Requirements

A. Brief Process Description

The facility manufactures oriented strandboard (OSB).

B. Equipment List for the Process

Emission Units		Applicable Requirements/Standards	Air Pollution Control Devices	
ID No.	Description		ID No.	Description
PRES	Board Press/Unloader	391-3-1-.02(2)(e) 391-3-1-.02(2)(b) 40 CFR 52.21	RT63	Regenerative Thermal Oxidizer/Regenerative Catalytic Oxidizer

C. Equipment & Rule Applicability

Board Press (PRES)

As already indicated, the modification involves the retrofitting of the existing Regenerative Thermal Oxidizer (RTO) to a Regenerative Catalytic Oxidizer (RCO) by adding a layer of catalyst on top of the existing ceramic saddles on the RTO. The existing rules and regulations will continue to apply after the retrofit. The Permittee will be required to demonstrate through a performance test that the destruction efficiency of the retrofit RCO is equal to that of the RTO to verify that a new BACT analysis was not required.

D. Compliance Status

The facility has not indicated any non-compliance.

E. Operational Flexibility

None requested.

F. Permit Conditions

Condition 3.2.10 is modified to require the formaldehyde destruction efficiency of 95 percent for the oxidizer RT63, whether it is operating as a RTO or a RCO.

Condition 3.2.11 is modified to require the oxidizer retention chamber temperature for RT63 be at least 1500 °F if operating as a RTO and 600 °F if operating as a RCO, or the value determined from the performance test required by Condition 4.2.1.

Condition 3.3.11 is modified to require a VOC destruction efficiency of at least 95 percent for the Oxidizer RT63, whether it is operating as a RTO or a RCO.

Condition 3.3.12 is modified to require the Permittee to route the exhaust of the board press/unloader to the RT63 oxidizer, in either the RTO or RCO mode when the press is in operation.

V. Testing Requirements (with Associated Record Keeping and Reporting)

B. Specific Testing Requirement

Condition 4.2.1 is modified and requires that a performance test be conducted to determine the VOC and formaldehyde destruction efficiencies after the retrofitting of the RTO to be an RCO. The condition specifies that, during the performance test, a minimum retention chamber temperature of 600 °F be maintained while the control equipment is operating in the catalytic mode. The condition requires that the performance test be conducted within 180 days after startup in the catalytic mode.

VI. Monitoring Requirements (with Associated Record Keeping and Reporting)

A. General Monitoring Requirements

Condition 5.1.1 is modified to conform with the wording of this condition in the current Title V template.

B. Specific Monitoring Requirements

Condition 5.2.1 is modified to require a system that continuously monitors and records (1) the combustion zone temperature of the oxidizer retention chamber of RT63 and (2) the gas stream pressure at the inlet of, or the pressure drop across RT63.

Condition 5.2.2 requires the Permittee to establish within 180 days after the retrofitting of the RTO to an RCO, the inlet gas stream pressure range or the pressure drop range that is representative of good operation of RT63 as an RCO.

VII. Other Record Keeping and Reporting Requirements

Condition 6.1.7c.ii is modified by defining as an excursion any 8-hour period during which the average oxidizer retention chamber temperature of RT63 drops below 1500 °F while in the RTO mode, or below 600 °F while operating in the catalytic mode.

Condition 6.1.7c.iii is modified by defining as an excursion any 8-hour period during which the average oxidizer retention chamber temperature of RT63 is 50 °F below the average oxidizer retention chamber temperature obtained during the performance test required by Condition 4.2.1.

Condition 6.1.7c.iv is modified by defining as an excursion any 12-hour average gas stream pressure on the duct plenum at the inlet of RT63 while in the RCO mode that is outside of the range established by Condition 5.2.2.

Condition 6.1.7c.v is modified by defining as an excursion any 12-hour average pressure drop across RT63 while in the RCO mode that is outside of the range established by Condition 5.2.2.

VIII. Specific Requirements

Discuss any of the following specific requirements as they apply to the modification.

- A. Operational Flexibility: None applicable.
- B. Alternative Requirements: None applicable.
- C. Insignificant Activities: None added.
- D. Temporary Sources: None.
- E. Short-Term Activities: None.
- F. Compliance Schedule/Progress Reports: None.
- G. Emissions Trading: None.
- H. Acid Rain Requirements: None.
- I. Prevention of Accidental Releases: None.
- J. Stratospheric Ozone Protection Requirements: None.
- K. Pollution Prevention: None.
- L. Specific Conditions: None.

Addendum to Narrative

The 30-day public comment period started on February 10, 2006 and ended on March 12, 2006. Since March 12, 2006 fell on a Sunday, the effective comment period ended on Monday, March 13, 2006. No comments were received from the public.

Written comments dated February 14, 2006, were received on February 22, 2006, from Norbord.

1. A comment was made that “Part 3.2.10 be removed from the permit and Part 3.2.8 and 3.2.9 (from the current Title V) be restored. Specifically, Part 3.2.10 requires a formaldehyde removal efficiency of 95 percent. Limits in Part 3.2.8 and 3.2.9 (0.35 lbs/hr and 1.6 tpy, respectively) are based solely on the Georgia Air Toxics Guidelines. While meeting the pounds per hour and tons per year limits indicate compliance with the air toxics rule, the removal efficiency requirement is not necessary and an artifact of the original permit.” The Commenter concludes: “...it is Norbord’s opinion that the inlet loading concentrations of formaldehyde to the RTO have dropped due to improvements in the process. These lower concentrations would likely make achieving 95 percent destruction of formaldehyde difficult.”

Response: Condition 3.2.10 has been revoked. The Division agrees that the more important parameter is the mass flow rate of formaldehyde vis-à-vis the destruction efficiency because the mass flow rate hourly limit was used to determine the maximum concentration of formaldehyde at the property boundary during the toxic analysis. The Permittee is now required by modified Condition 4.2.1b to conduct a performance test to determine the formaldehyde mass flow rate from the regenerative catalytic oxidizer (Source Code RT63) to assure that the mass emission limit of Condition 3.2.8 is complied with. As a point of clarification, Conditions 3.2.8 and 3.2.9 remain part of Permit 2493-081-0054-V-02. These conditions were not revoked by Permit Amendment 2493-081-0054-V-02-2.

Condition 3.2.10 had read:

The formaldehyde destruction efficiency of the control device with source code RT63 shall be at least 95 percent during the operation of the Board Press/Unloader (Source Code PRES) for its intended purpose, whether operating in the Regenerative Thermal Oxidizer (RTO) mode or in the Regenerative Catalytic Oxidizer (RCO) mode.
[Georgia Air Toxics Guideline]

Condition 4.2.1b had read:

The Permittee shall conduct a performance test to determine the destruction efficiency of the Regenerative Thermal Oxidizer/ Regenerative Catalytic Oxidizer (Source Code RT63) for formaldehyde and the RT63 shall be operated with a retention chamber temperature of at least 1350 °F when operating in the thermal mode or at least 600 °F when operating in the catalytic mode.

Condition 4.2.1b now reads:

The Permittee shall conduct a performance test to determine the mass emission rate of formaldehyde from the Regenerative Thermal Oxidizer/Regenerative Catalytic Oxidizer (Source Code RT63). The RT63 shall be operated with a retention chamber temperature of at least 1350 °F when operating in the thermal mode or at least 600 °F when operating in the catalytic mode.