

TITLE V MINOR MODIFICATION (without construction) APPLICATION REVIEW

Facility Name: **Packaging Corporation of America**

City: Clyattville

County: Lowndes

AIRS #: 04-13-185-00001

Application #: 14783

Date SIP Application Received: n/a

Date Title V Application Received: October 20, 2003

Permit No: 2631-185-0001-V-01-3

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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/proposed 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 proposed 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 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 and minor and significant modifications and 502(b)(10) changes. Comments are listed in Table 2 below.

Table 1: Current Title V Permit and Amendments

Permit/Amendment Number	Date of Issuance	Comments	
		Yes	No
2631-185-0001-V-01-0	July 16, 2002	x	
2631-185-0001-V-01-1	November 23, 2003	x	
2631-185-0001-V-01-2	n/a (Note: This will be issued prior to the issuance of the proposed permit number 2631-185-0001-V-01-3).	x	

Table 2: Comments on Specific Permits

Permit Number	Comments
2631-185-0001-V-01-0	Original Title V Permit
2631-185-0001-V-01-1	Amendment for the construction and operation of two electrostatic precipitators on the recovery furnaces at the facility
2631-185-0001-V-01-2	Amendment for change of deadline of required performance test for the redesigned ESP for No. 2 Recovery Furnace. Also to correct description of the new ESP for No. 3 Recovery Furnace.

B. Regulatory Status

1. PSD/NSR/RACT

This is a PSD facility; however, some limits have been taken to avoid PSD on certain modifications. They are as follows:

Sulfur dioxide emissions from the incineration of Total Reduced Sulfur (TRS) compounds in the NCG Thermal Oxidizer from the LVHC non-condensable gas system, HVLC non-condensable gas system and the foul condensate stripper off gases are limited to 40 tons per 12 consecutive month period.

No. 4 Lime Kiln

- 131.2 tons/12 consecutive months of total particulate matter.
- 119.4 tons/12 consecutive months of PM10.
- 116.7 tons/12 consecutive months of sulfur dioxide.
- 281.3 tons/12 consecutive months of nitrogen oxides.

TITLE V MINOR MODIFICATION (without construction) APPLICATION REVIEW

117.4 tons/12 consecutive months of carbon monoxide.
 81.30 tons/12 consecutive months of volatile organic compounds.

Recovery Furnace No. 1 (Source Code 7000):

Particulate matter emissions are limited to 68.87 tons/12 consecutive months
 TRS emissions are limited to 13.75 tons/12 consecutive months
 Black Liquor Firing Rate is limited to 153,966 tons of black liquor solids per 12 consecutive months

Recovery Furnace No. 3 (Source Code 7020):

Particulate matter (PM) emissions are limited to 25.6 lb/hour

Package Boiler (Source Code 1058)

No.2 Fuel Oil is limited to 950,400 gallons per year
 Hours of operation is limited to 2,160 hours per year

No. 3 Smelt Tank (Source Code 7025)

Particulate matter emissions are limited to 13.7 lb/hour

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	✓		
TRS	Yes	✓		
H ₂ S	Yes	✓		
Individual	Yes	✓		
Total HAPs	Yes	✓		

II. Proposed Modification

A. Description of Modification

Application Number TV-14783 was submitted to incorporate Federal Regulations 40 CFR 63 Subpart MM into PCA's existing Title V Permit. The Subpart MM provisions do not change any existing limits in the current permit. However, they add additional limits along with additional testing, monitoring, and record keeping requirements. Some of these requirements are redundant to current permit requirements.

The application also proposes new language for Condition 6.1.9 pertaining to the SSM reporting provision. The proposed language was approved after reviewing the current regulation (40 CFR 63 Subpart A); and additional reviews from SSCP and Toxics.

B. PSD/NSR Applicability

The proposed permit modification is not subject to any PSD/NSR regulation.

III. Facility Wide Requirements

A. Emission and Operating Caps

Not applicable.

B. Applicable Rules and Regulations

Not applicable.

C. Compliance Status

Not applicable.

D. Operational Flexibility

Not applicable.

E. Permit Conditions

Not applicable.

IV. Regulated Equipment Requirements

A. Brief Process Description

There are no process changes resulting from incorporating 40 CFR 63 Subpart MM into the permit. However, additional limits that are in effect on March 13, 2004 involve the following equipment: No. 1, 2, and 3 Recovery Furnaces (Source Codes 7000, 7010, and 7020); No. 1, 2, and 3 Smelt Dissolving Tanks (Source Codes 7005, 7015, 7025); and No. 4 Lime Kiln (Source Code 6063).

B. Equipment List for the Process

Emission Units		Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	Description	Applicable Requirements/Standards	Corresponding Permit Conditions	ID No.	Description
6063	No. 4 Lime Kiln	40 CFR 60 Subpart BB 40 CFR 63 Subpart MM 391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(g) 391-3-1-.02(2)(gg)	3.3.2, 3.3.28, 4.2.7, 5.2.1, 6.1.7, 6.2.21, 6.2.23	C009	ESP
7000	No. 1 Recovery Furnace	40 CFR 63 Subpart MM 391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(g) 391-3-1-.02(2)(gg)1(i)	3.3.2, 3.3.28, 4.2.7, 5.2.1, 6.1.7, 6.2.21, 6.2.23	C011	ESP
7010	No. 2 Recovery Furnace	40 CFR 63 Subpart MM 391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(g) 391-3-1-.02(2)(gg)1(i)	3.3.2, 3.3.28, 4.2.7, 5.2.1, 6.1.7, 6.2.21, 6.2.23	C013	ESP
7020	No. 3 Recovery Furnace	40 CFR 63 Subpart MM 391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(g) 391-3-1-.02(2)(gg)1(i)	3.3.2, 3.3.28, 4.2.7, 5.2.1, 6.1.7, 6.2.21, 6.2.23	C015-A C015	Primary ESP Standby ESP
7005	No. 1 Smelt Dissolving Tank	40 CFR 63 Subpart MM 391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(gg)1(iii)	3.3.2, 3.3.28, 4.2.7, 5.2.3, 6.1.7, 6.2.21, 6.2.23	C012	Dynamic Scrubber
7015	No. 2 Smelt Dissolving Tank	40 CFR 63 Subpart MM 391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(gg)1(iii)	3.3.2, 3.3.28, 4.2.7, 5.2.3, 6.1.7, 6.2.21, 6.2.23	C014	Dynamic Scrubber
7025	No. 3 Smelt Dissolving Tank	40 CFR 63 Subpart MM 391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(gg)1(iii)	3.3.2, 3.3.28, 4.2.7, 5.2.3, 6.1.7, 6.2.21, 6.2.23	C016	Dynamic Scrubber

* Generally applicable requirements contained in this permit may also apply to emission units listed above.

C. Equipment & Rule Applicability

All affected equipment are considered 'existing' sources (i.e: sources with initial startup date prior to March 13, 2001 – Ref: 40 CFR 63.863(b)). New limits on particulate matter emissions from No. 1, 2, and 3 Recovery Furnaces (Source Codes 7000, 7010, and 7020); No. 1, 2, and 3 Smelt Dissolving Tanks (Source Codes 7005, 7015, 7025); and No. 4 Lime Kiln (Source Code 6063) are adopted from 40 CFR 63.862(a)(1)(i). The Company stated in the application that the facility will be able to comply with the particulate matter emission limits without the need of 'bubble limits'.

D. Compliance Status

The Division has no compliance issues currently with the facility. The compliance date for Subpart MM is March 13, 2004.

E. Operational Flexibility

Not applicable.

F. Permit Conditions

Permit Condition 3.3.2 is modified such that the facility is subject to 40 CFR 63 Subpart A – "General Provisions" as specified in Table 1 of 40 CFR 63 Subpart MM in addition to the applicability of Subpart MM.

Permit Condition 3.3.28 is added for new particulate emission limits on the affected equipment:

- No. 1, 2, or 3 Recovery Furnace: 0.10 g/dscm (0.044 gr/dscf), corrected to 8 percent oxygen
- No. 1, 2, or 3 Smelt Dissolving Tanks: 0.10 kg/Mg (0.20 lb/ton of black liquor solids fired)
- No. 4 Lime Kiln: 0.15 g/dscm (0.064 gr/dscf), corrected to 10 percent oxygen

Permit Condition 3.3.29 is added to define violations as specified in 40 CFR 63.864(k)(2)(i) – (iii):

- a. When the 6-minute average opacity from the No. 1, 2, or 3 Recovery Furnaces (Source Codes 7000, 7010, and 7020) is greater than 35% for 6% or more of the total process operating time in a quarterly period.
- b. When the 6-minute average opacity from No. 4 Lime Kiln (Source Code 6063) is greater than 20% for 6% or more of the total process operating time in a quarterly period.
- c. When the 3-hour average value of scrubber make-up flow is less than 7 gpm or the established value during the IPT required in Condition 4.2.7; or the scrubber recirculation flow is less than 16 gpm or the established value during the IPT required in Condition 4.2.7, for six or more occurrences in a semi-annual period from No. 1, 2, or 3 Smelt Tank (Source Codes 7005, 7015, and 7025).

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

Condition 4.1.3 is modified such that the listed methods of performance tests referenced in Subpart MM have been included.

Condition 4.2.7 requires the facility to conduct performance tests on the affected sources by September 9, 2004 to show compliance with emission limits per Subpart MM.

Condition 4.2.8 requires the facility to establish operating ranges for the required monitoring parameters (in this case for the smelt tank scrubbers). The facility may base operating ranges on values recorded during previous performance tests, as long as the referenced test was conducted using the test methods specified in Subpart MM.

Condition 4.2.9 states that the facility may establish expanded or replacement operating ranges for the monitoring parameter values during the initial performance test as allowed by Subpart MM.

Condition 4.2.10 requires the facility to monitor each parameter continuously and determine the arithmetic average value of each parameter during each performance test. The facility is allowed to conduct multiple performance tests to establish a range of parameter values.

Condition 4.2.11 requires the facility to determine black liquor solids firing rate on a dry basis and the calcium oxide (CaO) production rate during the performance test using process data.

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

Condition 5.2.1.b is modified such that it adds an opacity monitoring requirement for the No. 4 Lime Kiln. The requirement is further detailed, per Subpart MM, that the opacity is to be sampled and analyzed for each successive 10-second period and recorded for each successive 6-minute period.

Condition 5.2.3.c is modified by adding references of Subpart MM to the monitoring requirements for the smelt tanks scrubbers. PCA has been approved for the alternative monitoring for the smelt tank scrubbers to comply with Subpart MM, such that PCA will monitor the make up flow instead of pressure drop across the scrubber. The request was approved by ISMP and the letter was dated May 1, 2003. The monitoring frequency is changed from 2-hour interval to 15-minute interval. Monitoring the make-up and recirculation flows are already required by the current permit, in addition to the scrubbant pH, to comply with other requirements (i.e: Subpart S, etc.)

VI. Other Record Keeping and Reporting Requirements

Conditions 6.1.7.a.viii and ix are added to define excess emission when opacity exceeds 35% for No. 1, 2, or 3 Recovery Furnaces and 20% for No. 4 Lime Kiln for 6 percent or more of the operating time of the equipment.

Condition 6.1.7.c.v is modified to define excursion when six or more 3-hour average values of the scrubber make up and recirculation flow for the smelt tank scrubbers are less than the established values in accordance with Conditions 4.2.8, 4.2.9, and 4.2.10, or 7 gpm for scrubber make up flow rate and 16 gpm for scrubber recirculation flow rate; whichever is greater. The facility is allowed to use the existing ranges (7 gpm for scrubber make up flow rate, 16 gpm for scrubber recirculation flow rate) if they can prove compliance with Subpart MM during the initial performance test required by Condition 4.2.8. The excursion limit for scrubbant pH remains 11.5 because scrubbant pH is not a required parameter to be monitored under Subpart MM.

Condition 6.1.9 pertaining to the SSM reporting requirement is modified per the Company's proposed language in the application. Toxics and SSCP also reviewed the proposed language and granted approval. However, PCA requested that the requirement to submit all revisions to the SSM plan made during the semiannual reporting period to be removed from Condition 6.1.9. This request was rejected and the requirement remains unchanged in Condition 6.1.9.

Condition 6.2.21 requires the Company to implement corrective action when the opacity from No. 1, 2, 3 Recovery Furnaces or No. 4 Lime Kiln is greater than 20%, and when the 3-hr average parameter value for the smelt tank scrubbers are outside the established value in accordance with Conditions 4.2.8, 4.2.9, and 4.2.10.

Condition 6.2.22 requires the Company to develop a written SSM plan per Condition 6.1.9 that contains specific procedures for the recovery furnaces, smelt tanks, and lime kiln. The plan must include the procedures to determine the cause of a parameter exceedance and corrective actions to be taken when parameter exceedance occurs. The plan must also include maintenance and inspection schedules per 40 CFR 63.866(a)(2) that requires the facility to perform routine maintenance per manufacturer's instructions and recommendation, and to inspect once per day each continuous monitoring system to ensure proper operation.

Condition 6.2.23 requires the Company to maintain records of:

- Black liquor firing rates for the three recovery furnaces.
- Calcium oxide production rates for the No. 4 Lime Kiln.
- Parameter monitoring data per Condition 5.2.1.b for opacity from the recovery boilers and No. 4 Lime Kiln; and per Conditions 5.2.3.c.ii and iii for scrubber make-up and recirculation flow rates for the smelt tanks, including all exceedances with explanation on the cause of the deviation, the time the deviation occurred, the time corrective action was initiated and completed, and the corrective action taken. For the recovery furnaces, the facility is required to maintain separate records of deviation to distinguish between deviations that are considered as a violation (i.e: greater than 35% opacity) and deviations that are not considered as a violation but require corrective action (i.e: greater than 20% opacity).
- Documentation of supporting calculations, such as calculations to determine stack gas velocity and volumetric flow rate, particulate matter emissions, oxygen concentration, and black liquor firing rate, for compliance determinations made under Conditions 4.1.3 and 4.2.11.
- Monitoring parameter ranges established for the recovery furnaces, smelt tanks, and lime kiln.

Condition 6.2.24 requires the Company to submit the applicable notifications, such as notification of performance test and notification of compliance status, required by 40 CFR 63 Subpart A – "General Provisions" as specified in Table 1 of 40 CFR 63 Subpart MM.

VII. Specific Requirements

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

A. Operational Flexibility

Not applicable.

B. Alternative Requirements

Not applicable.

C. Insignificant Activities

Not applicable.

D. Temporary Sources

Not applicable.

E. Short-Term Activities

Not applicable.

F. Compliance Schedule/Progress Reports

Not applicable.

G. Emissions Trading

Not applicable.

H. Acid Rain Requirements

Not applicable.

I. Prevention of Accidental Releases

Not applicable.

J. Stratospheric Ozone Protection Requirements

Not applicable.

K. Pollution Prevention

Not applicable.

L. Specific Conditions

Not applicable.

Addendum to Narrative

The 45-day EPA review started on February 17, 2004 and ended on April 2, 2004. Comments were not received by the Division.