

Facility Name: **J.M. Huber Corporation – Sandersville Plant**
City: Sandersville
County: Washington
AIRS #: 04-13-303-00035

Application #: TV- 13374 & SIP Application No. 13282
Date SIP Application Received: October 23, 2001 and September 7, 2001
Date Title V Application Received: October 25, 2001 and September 12, 2001
Date of Draft Permit: August 28, 2003
Permit No: 3925-303-0035-V-01-1

Program	Review Engineers	Review Managers
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Toxics	NA	NA

Introduction

This narrative is being provided to assist the reader in understanding the content of the attached SIP permit to construct and/or draft/proposed operating permit amendment. Complex issues and unusual items are explained herein simpler terms and/or greater detail than is sometimes possible in the actual permit. This permit amendment is being issued pursuant to: (1) Georgia Air Quality Act, O.C.G.A § 12-9-1, et seq. (2) Georgia Rules for Air Quality Control, Chapter 391-3-1, and (3) Title V of the Clean Air Act Amendments of 1990. Section 391-3-1-.03(10) of the Georgia Rules for Air Quality Control incorporates requirements of Part 70 of Chapter I of Title 40 of the Code of Federal Regulations promulgated pursuant to the Federal Clean Air Act. The primary purpose of this permit amendment is to identify state and federal air requirements applicable to the modification/construction to be performed at **J.M. Huber Corporation – Sandersville Plant** and to provide practical methods for determining compliance with these requirements. The following narrative is designed to accompany the draft permit amendment and is presented in the same general order as the permit amendment. It initially describes the facility receiving the permit amendment, the applicable requirements and their significance, and the methods for determining compliance with those applicable requirements. This narrative is intended as an adjunct for the reviewer and to provide information only. It has no legal standing. Any revisions made to the permit amendment in response to comments received during the public participation and EPA review process will be described in an addendum to this narrative.

I. Facility Description

A. Existing Permits

Table 1: Current Title V Permit and Amendments

Permit/Amendment Number	Date of Issuance	Comments	
		Yes	No
3295-303-0035-V-01-0	June 03, 2002		X

B. Regulatory Status

1. PSD/NSR

J. M. Huber Corporation – Sandersville Plant is a major source as defined by the PSD/NSR regulations since Potential Particulate Matter (PM) and Particulate Matter less than 10 microns (PM₁₀) emissions exceed 250 tons/year.

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	---			
H ₂ S	---			
Individual HAP	---			
Total HAPs	---			

Condition 3.5.3c limits consumption of No. 2 fuel oil in Spray Dryer #5 to 700,000 gallons per year to limit SO₂ emission increase to less than 40 tons/year (the PSD significance level).

Regulatory Analysis

II. Proposed Modification

A. Description of Modification

The proposed modification is a replacement-in-kind whereas the existing oil burner nozzle in Spray Dryer #5 will be replaced with a new nozzle capable of better atomization of the fuel oil. The new atomizer will utilize eight small orifices and plant air to thoroughly atomize the fuel oil.

A booster pump installed in the fuel oil supply header will increase the fuel oil supply pressure from 45 psig to 90 psig. The higher pressure is required as a direct result of the increase from one to eight orifices. Plant air for the new oil burner will remain at 50 psig. Fuel oil consumption will remain at 9.5 gallons per minute yielding the same maximum output of 80 MMBtu/hr. The new atomizer is expected to increase the overall burner fuel oil combustion efficiency. Thus, this modification is expected to decrease the fuel oil consumption and actual emissions due to improved fuel oil combustion efficiency.

B. Emissions Change

Note that Table 4 indicates increase in actual and potential emissions from burning of No. 2 fuel oil in the new oil burner in Spray Dryer #5. Actually there will be no increase in emissions of any pollutant due to the replacement of the existing oil burner in Spray Dryer #5. The potential and actual emissions of all pollutants from the new oil burner will be lower than the emission from the existing oil gun since the new oil burner is rated 20 MMBtu/hour lower than the existing oil burner and burns the fuel more efficiently than the existing gun. The emission increases were determined using AP-42 emission factors for fuel oil consumption

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	0.7	0.7
PM ₁₀	Yes	0.7	0.7
SO ₂	Yes	24.85	24.85
VOC	Yes	0.07	0.07
NO _x	Yes	7	7
CO	Yes	1.75	1.75
TRS	No		
H ₂ S	No		
Individual HAP	No		
Total HAPs	No		

C. PSD/NSR Applicability

Installation of the new oil gun/burner in Spray Dryer # 5 is not classified as a major modification as defined by PSD because the potential increase in emissions of all pollutants due to this change is less than PSD significance levels for those pollutants. In particular, Condition 3.5.3c limits consumption of No. 2 fuel oil in Spray Dryer #5 to 700,000 gallons per year to limit SO₂ emission increase to less than 40 tons/year (the PSD significance level). Thus, potential SO₂ emissions with the above fuel consumption cap are 24.5 tons/year.

III. Facility Wide Requirements

A. Emission and Operating Caps:

Not Applicable.

B. Applicable Rules and Regulations

Rules and Regulations Assessment – This replacement will not result in any new rule or regulation becoming applicable to Spray Dryer #5.

Emission and Operating Standards – None Applicable.

C. Compliance Status

Not Applicable.

D. Operational Flexibility

Not Applicable.

E. Permit Conditions

No new and modified facility wide permit conditions will be included in Part 2.0 of the Title V permit in this Permit Amendment.

IV. Regulated Equipment Requirements

A. Brief Process Description

Kaolin Clay Slurry is pumped to the No. 5 Spray Dryer (Source code SD5) where it is atomized and dried by heated counter-flow air. While natural gas is the primary fuel fired in the Spray Dryer # 5, fuel oil is used as the alternate fuel. The proposed modification will include replacing the existing inefficient oil burner rated at 100 MMBtu/hour with a new efficient oil burner/gun rated at 80 MMBtu/hour.

B. Equipment List for the Process (Amendments to Spray Dryer No. 5)

Emission Units		Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	Description	Applicable Requirements/Standards	Corresponding Permit Conditions	ID No.	Description
SD5	Spray Dryer No. 5	391-3-1-.02(2)(b) 391-3-1-.02(2)(g) 391-3-1-.02(2)(p)1 NSPS UUU 40 CFR Part 52.21	3.3.2, 3.3.3, 3.4.1, 3.4.2, 3.4.4, 3.5.1, 3.5.2, 3.5.3, 4.2.1, 5.2.1, 5.2.2, 5.2.5, 5.3.1, 6.1.7, 6.2.1, 6.2.2, 6.2.4, 6.2.8	SD5C	Baghouse

Note: Spray Dryer No. 5 is subject to an additional condition 5.2.2 in this amendment.

C. Equipment & Rule Applicability

Emission and Operating Caps –

The No. 2 fuel oil consumption in Spray Dryer No. 5 is limited to 700,000 gallons in any consecutive 12 month period in order to keep the increase in Potential SO₂ emissions to 24.85 tons/year which is below the PSD significance level of 40 tons/year.

Applicable Rules and Regulations -

Rules and Regulations Assessment: No new rules or regulations apply due to the proposed amendment.

Emission and Operating Standards: No new emission and operating standards apply as a result of this permit amendment.

D. Compliance Status

No non-compliance issue currently exists or is expected to develop as a result of this permit amendment.

E. Operational Flexibility

Not applicable.

F. Permit Conditions

Condition 3.5.3c is added limiting fuel oil consumption in the No. 5 Spray Dryer to 700,000 gallons in any consecutive 12 months.

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

A. Individual Equipment: There are no new or modified testing (and associated record keeping and reporting) requirements for the Spray Dryer No. 5 due to this permit amendment.

B. Equipment Groups (all subject to the same test requirements): No new or modified testing (and associated record keeping and reporting) requirements apply due to this permit amendment.

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

- A. Individual Equipment: Condition 5.2.2d requires continuous monitoring of the quantity of fuel oil in gallons burned in Spray Dryer No. 5 (source code SD5). Permittee is required to record on a monthly basis the fuel oil consumption in Spray Dryer No. 5 each month and for the last 12 consecutive months. Permittee is required by Condition 6.1.7b. vi to report exceedance of the 700,000 gallons fuel oil consumption limit in Spray Dryer No. 5 within 30 days of exceedance.
- B. Equipment Groups (all subject to the same monitoring requirements): Not Applicable.

VII. Other Record Keeping and Reporting Requirements

- 1. Plant wide : No new requirements are added in this amendment
- 2. Individual Equipment: Permittee shall keep records of the volume of the No. 2 fuel oil burned in Spray Dryer No. 5 as per Condition 6.2.10. Condition 6.2.5 requires a certification that each shipment of fuel oil is distillate, which assures that the sulfur content of the fuel oil will not exceed 0.5 % by weight.
- 3. Equipment Groups: Not Applicable.

VIII. 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

J.M. Huber public noticed the significant Permit Amendment in the November 12, 2003 issue of the “Sandersville Progress”. The public comment period expired on December 12, 2003 and no comments were received either from the Public, J.M. Huber or from EPA during the public comment period. EPA’s 45 day comment period expired on December 27, 2003 without any comments from EPA. Hence no changes were made to the proposed Permit Amendment No. 3295-3-3-0035-V-01-1.