

SIP CONSTRUCTION & OPERATING PERMIT AND TITLE V 502(b)10 CHANGE APPLICATION REVIEW

Facility Name: C-E Minerals Plant 2

City: Andersonville

County: Sumter County

AIRS #: 04-13-261-00047

Application #: 17290

Date SIP Application Received: March 6, 2007

Date Title V Application Received: March 6, 2007

Permit No: 3255-261-0047-V-04-8

Program	Review Engineers	Review Managers
SSPP	Steve Neadow	Hamid Yavari
SSCP	Farhana Yasmin	Doug Waldron
ISMP	Dan McCain	DeAnna Oser
TOXICS	N/a	N/a

Introduction

This narrative is being provided to assist the reader in understanding the content of the referenced SIP permit to construct and operate and Section 502(b)(10) change to the Part 70 source. 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), 391-3-1-.03(2), 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 permit and is presented in the same general order as the permit amendment. This narrative is intended only as an adjunct for the reviewer and has no legal standing.

I. Facility Description

The facility utilizes equipment to process Mulcoa grade products.

A. Existing Permits

Table 1 below lists the current Title V permit, administrative amendments, minor modifications, significant modifications, and 502(b)(10) changes. Comments are listed in Table 2 below.

Table 1: Permit and Date Issued

Permit/Amendment Number	Date of Issuance
3255-261-0047-V-04-0	December 19, 2002
3255-261-0047-V-04-1	October 20, 2004
3255-261-0047-V-04-2	March 9, 2005
3255-261-0047-V-04-3	January 19, 2005
3255-261-0047-V-04-4	May 16, 2005
3255-261-0047-V-04-5	August 8, 2005
3255-261-0047-V-04-6	January 30, 2006
3255-261-0047-V-04-7	February 12, 2007

Table 2: Comments on Specific Permits

Permit Number	Comments
3255-261-0047-V-04-0	Initial Title V Operating permit
3255-261-0047-V-04-1	Permit Amendment to resolve appeal of initial Title V operating permit
3255-261-0047-V-04-2	Retro-active PSD permit amendment for relaxation of PSD avoidance limits on Emission unit ID Nos. BC13, IC40, and IC43.
3255-261-0047-V-04-3	Section 502(b)(10) change for additional process equipment and the use of silane solution
3255-261-0047-V-04-4	Removal of hours of operation limitation for the IC Plant Jaw Crusher (I10), Barmac Crushing Circuit (I12), and Sizing and Bagging Operation (I13), the Rotary Dryer (BD2), Loading Chute (BD5) and increase of PM emissions for Barmac Crushing Circuit (I12) from 0.40 lbs/hr to 1.0 lbs/hr. Condition No. 3.2.2 is amended to delete applicability of limitations on the hours of operation for Emission Unit ID No. I10, I12, I13, BD2 and BD5 and authorize PM emissions increase. Condition Nos. 6.1.7 and 6.2.3 are amended accordingly. Condition 4.2.2 is added to require PM emission testing.
3255-261-0047-V-04-5	The facility was emitting greater than 10 tpy of an individual HAP, therefore, this limit needs to be removed. The facility has filed application No. 16066 to modify Condition No. 3.2.8 from a facility-wide HAP limitation to a HAP limitation on Emission Units associated with the silane project.

3255-261-0047-V-04-6	The increase of the SO ₂ emissions limitation in Condition No. 3.2.1 for Kilns 1K, 2K, 3K, 4K, and 5K from 80 pounds per hour to 116 pounds per hour. Modification of General Record keeping Requirements Condition No. 6.1.7. Changes to permit limits and record keeping shall occur upon completion of stack height modifications.
3255-261-0047-V-04-7	Modification of PSD avoidance limitations present in Condition 3.2.2 for Roller Mill Number 3 (Emission Unit ID Number RM3)

B. Regulatory Status

1. PSD/NSR/RACT

Plant 1, Plant 2, and Plant 6 are considered to be part of the same site, which is a major source under PSD because its potential emissions of PM, PM₁₀, NO_x, and SO₂ are greater than 250 tpy (it is not one of the 28 named source categories under PSD).

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	No			
H ₂ S	No			
Individual	Yes	✓		
Total HAPs	Yes	✓		

II. Proposed Modification

A. Description of Modification

C-E Minerals requests to install and operate a new Ball Mill system IC45 to increase production capacity and a Baghouse BH47 for controlling particulate matter emissions.

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	+13.91	+13.91
PM ₁₀	Yes	+13.91	+13.91
SO ₂	Yes	0	0
VOC	Yes	0	0
NO _x	Yes	0	0
CO	Yes	0	0
TRS	No	0	0
H ₂ S	No	0	0
Individual	Yes	0	0
Total HAPs	Yes	0	0

C. Title I Modification

- PSD/NSR Applicability

Pollutant	Emissions Increase (tpy)	NSR Significant Modification Threshold (tpy)
PM	+13.91	15.0
PM ₁₀	+13.91	15.0
SO ₂	0	40
VOC	0	40
NO _x	0	40

The Prevention of Significant Deterioration (PSD) program applies to the construction of new major stationary sources and to major modifications of existing major stationary sources. PSD also applies to modifications of existing minor stationary sources if the modification itself would constitute a major source.

The basic goals of the PSD program are to:

- ensure that economic growth will occur in harmony with the preservation of existing clean air resources;
- protect the public health and welfare from any adverse effects that might occur, even at air pollution levels better than the NAAQS; and
- preserve, protect, and enhance the air quality in areas of special natural, recreational, scenic or historic value, such as national parks and wilderness areas (Class I Areas).

Because PSD is pollutant-specific, significant net emissions increase of one-pollutant subjects an affected source to PSD for that pollutant only. It is important to note that a source that is major for one pollutant can trigger PSD requirements due to a significant net emissions increase of any NSR regulated pollutant. For this modification, since plant emissions of PM, SO₂, and NO_x exceed 250 TPY each, a 15 TPY net increase in PM₁₀ emissions would be subject to PSD review, even if facility-wide PM₁₀ emissions are below the PSD major stationary source threshold. However, since the combined PM emissions increase is 13.91 tons/yr, this modification does not trigger a PSD review.

- NSPS Modification

New Ball Mill IC45 is subject to New Source performance Standards (NSPS) per 40 CFR Part 60 Subpart OOO, "*New Source Performance Standards (NSPS) for non-metallic mineral processing plants*". According to NSPS Subpart OOO, stack emissions from this facility cannot contain particulate matter in excess of 0.02 gr/dscf. Condition 3.3.1(b) of the existing Title V Operating Permit limit these emissions to 0.02 gr/dscf. The facility will comply with NSPS Subpart OOO through the use of a baghouse BH47. Compliance with NSPS Subpart OOO will be demonstrated through an initial performance test.

- NESHAP Modification

The source is not subject to the provisions of Part 61.

III. Facility Wide Requirements

A. Emission and Operating Caps

None.

B. Applicable Rules and Regulations

None.

C. Compliance Status

The facility is operating in compliance with all of the rules or regulations described above.

D. Operational Flexibility

Not applicable.

E. Permit Conditions

None.

IV. Regulated Equipment Requirements

A. Brief Process Description

C-E Minerals is proposing to add a Ball Mill system to the Plant 2 investment casting area. The new ball mill system will be designated IC45. The particulate matter (PM) emissions from the new ball mill system will be controlled by a baghouse BH47.

B. Equipment List for the New or Modified Process(es)

Emission Units		Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	Description	Applicable Requirements/Standards	Corresponding Permit Conditions	ID No.	Description
IC45	Ball Mill System	391-3-1-.02(2)(b) 391-3-1-.02(2)(p) 40 CFR 60 Subpart OOO	3.3.1, 3.4.1, 5.2.1, 5.2.16, 5.2.17, 6.1.18	BH47	Baghouse

C. Equipment & Rule Applicability

New Ball Mill System IC45 will comply with the provisions of 40 CFR, Part 60, Subpart OOO, "Standards of Performance for Nonmetallic Mineral Processing Plants". For sources subject to Subpart OOO, the Ball Mill System IC45 will not discharge or cause the discharge into the atmosphere, any fugitive emissions greater than 10 percent opacity and stack emissions which contain particulate matter in excess of 0.05 g/dscm (0.02 grains/dscf) exhibit greater than 7 percent opacity. Ball Mill System IC45 is also subject to Georgia Rules 391-3-1-.02(2)(p). The emission limitation imposed by NSPS OOO ensures compliance with Georgia Rule (p). The annual stack emissions from this emission unit have been calculated to be 12.20 tons per year taking into consideration its operational limit and the NSPS OOO emission factor. A previously submitted off permit change (addition of screening equipment) will add 1.71 tons/yr thus increasing total PM emissions to 13.91 tons/yr.

D. Compliance Status

The facility is operating in compliance with all of the rules or regulations described above.

E. Operational Flexibility

C-E Minerals requested no operational flexibility for this process equipment in the application.

F. Permit Conditions

These modifications can be processed as a Section 502(b)(10) change because no permit conditions contained in the initial TV permit or subsequent amendment are being modified. This 502(b)(10) permit and respective conditions do not:

- Change any existing federally enforceable monitoring, recordkeeping, reporting or compliance certification permit conditions
- Allow an exceed of any allowable limit in the permit
- Authorize a Title I Modification (PSD, NSPS, NESHAP)

New Permit Conditions

1. Condition 5.2.16 requires C-E Minerals perform a check of visible emissions from the Ball Mill Baghouse (APCD ID No. BH47). C-E Minerals must retain a record in a daily visible emissions (VE) log suitable for inspection or submittal. The check will be conducted at least once for each day or portion of each day of operation except when atmospheric conditions or sun positioning prevent any opportunity to perform the daily VE check.
2. Condition 5.2.17 requires C-E Minerals within 60 days of the issuance of this permit, develop and implement a Preventive Maintenance Program for the baghouse specified in condition 5.2.1 to assure that the provisions of condition 8.17.1 are met. The program will be subject to review and modification by the Division and shall include the pressure drop ranges that indicate proper operation for each baghouse.

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

New Ball Mill IC45 is subject to New Source performance Standards (NSPS) per 40 CFR Part 60 Subpart OOO, "*New Source Performance Standards (NSPS) for non-metallic mineral processing plants*". According to NSPS Subpart OOO, stack emissions from this facility cannot contain particulate matter in excess of 0.02 gr/dscf. Condition 3.3.1(b) of the existing Title V Operating Permit limit these emissions to 0.02 gr/dscf. The facility will comply with NSPS Subpart OOO through the use of a baghouse BH47. Compliance with NSPS Subpart OOO will be demonstrated through an initial performance test. An initial performance test is required in Condition 4.2.1 of the existing permit.

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

Particulate matter emissions from Ball Mill system IC45 is controlled by Baghouse BH47. Baghouse BH47 is subject to Georgia Rules 391-3-1-.02(b) and 391-3-1-.02(p) and Federal Rule 40 CFR Part 60 Subpart OOO. Visible emissions is a better indicator of baghouse condition and performance than the more conventional methods of monitoring pressure drop and temperature since the temperature in some baghouses is due to friction from grinding and would not cause significant bag degradation.

Baghouse BH47 visible emissions are checked at least once each day of operation. The visible emissions must be below a given opacity action level or corrective action is required. The opacity action levels vary based on the particulate matter emission limits (i. e. NSPS or SIP). The opacity action levels are however, lower than the opacity limitations in the SIP visible emissions rule and NSPS. The opacity action levels selected correspond to properly operated baghouses that is indicative of compliance with the applicable particulate matter standard. A Preventive Maintenance Program is also required on the larger frequently operated baghouses. The program requires weekly monitoring of pressure drop and maintenance checks. Each time that problems are revealed by the visible emissions check that are not corrected within 24 hours. The information gathered by the Preventive Maintenance Program is not reported on any set schedule. This information is retained by C-E Minerals and must be provided upon request by the Division. These requirements provide a reasonable assurance of compliance with the particulate matter and opacity standards.

VII. Other Record Keeping and Reporting Requirements

Revised Condition No. 6.1.8 specifies the exceedances and excursions for the new equipment.

VIII. Specific Requirements

A. Operational Flexibility

None.

B. Alternative Requirements

None.

C. Insignificant Activities

None.

D. Temporary Sources

None.

E. Short-Term Activities

None.

F. Compliance Schedule/Progress Reports

None.

G. Emissions Trading

None.

H. Acid Rain Requirements

Not applicable.

I. Prevention of Accidental Releases

Not applicable.

J. Stratospheric Ozone Protection Requirements

Not applicable.

SIP CONSTRUCTION & OPERATING PERMIT AND TITLE V 502(b)10 CHANGE APPLICATION REVIEW

K. Pollution Prevention

Not applicable.

L. Specific Conditions

None.