

Facility Name: **C-E Minerals Plant 6**

City: Andersonville

County: Sumter

AIRS #: 04-13-261-00070

Application #: TV – 16623 & TV-16723

Date SIP Application Received: N/A

Date Title V Application Received: February 23, 2006 and May 1, 2006

Permit No: 3291-261-0070-V-01-2

<b>Program</b>	<b>Review Engineers</b>	<b>Review Managers</b>
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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 for this C-E Minerals Plant 6, 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
3291-261-0070-V-01-0	March 18, 2003	x	
3291-261-0070-V-01-1	December 27, 2004	x	

Table 2: Comments on Specific Permits

Permit Number	Comments
3291-261-0070-V-01-0	Initial Title V Operating permit
3291-261-0070-V-01-1	Permit Amendment to modify Plant 6 to process non-metallic minerals

B. Regulatory Status

1. PSD/NSR/RACT

Plant 1, Plant 2, and Plant 6 (Formerly TSNS Grit Plant) are together considered to be a major source under part 70 and PSD, having the potential to emit PM, PM-10, NO<sub>x</sub>, and SO<sub>2</sub> greater than 250 tpy. This PSD major source is not one of the 28 named source categories under 40 CFR 52.21(b)(1)(i). Plant 6 has taken an avoidance limitation to avoid PSD review.

**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 <sub>10</sub>	Yes	✓		
SO <sub>2</sub>	Yes	✓		
VOC	Yes			✓
NO <sub>x</sub>	Yes	✓		
CO	Yes	✓		
TRS	No			
H <sub>2</sub> S	No			
Individual HAP	Yes	✓		
Total HAPs	Yes	✓		

## II. Proposed Modification

### A. Description of Modification

The facility has submitted application TV-16623 for the removal of the restrictions on the hours of operation for the emission units in Plant 6 including the East Crushing, Screening, and Packaging System (Emission Unit ID No. CS02), West Crushing and Screening System (Emission Unit ID No. CS03), West Packaging System (Emission Unit ID No. PS01), and Rail Car Loading System (Emission Unit ID No. PM03) as specified in Condition No. 3.2.1. Therefore, the above emission units will not be limited to 5,100 hours per year operation and instead will be able to operate at 8,760 hours per year. Emission Units CS02, CS03, PS01, and PM03 were originally permitted as one project with respect to PSD regulations in June 1998. The facility also submitted application TV-16723 to clarify emissions from Railcar 6 Loading System. No particulate matter is emitted directly from the rail car loading system because it is controlled by baghouses that control the east and west crushing lines and are accounted for in the CS02 and CS03 totals. The removal of these restrictions on the hours of operation will not result in this project associated with the above emission units being considered a major modification with respect to prevention of significant deterioration (PSD) regulations (40 CFR 52.21) as the mass emission rate limitations specified in Condition No. 3.2.1 for Emission Unit IS Nos. CS02, CS03, and PS01 will be lowered sufficiently to ensure that the potential particulate matter emissions from the project associated with these emission units are below 15 tpy. This amendment is being processed as a significant modification without construction because any alteration to a PSD avoidance limitation should be processed as a significant modification to a Title V. The change does not involve a modification nor construction of an emission unit.

## B. Emissions Change

**Table 4: Emissions Change Due to Modification**

Pollutant	Is the Pollutant Emitted?	Net Anticipated Actual Emissions Increase (Decrease) <sup>2</sup> (tpy)	Net Potential Emissions Increase (Decrease) <sup>1</sup> (tpy)
PM <sup>3</sup>	Yes	0.84	0.16
PM <sub>10</sub> <sup>3</sup>	Yes	0.84	0.16
SO <sub>2</sub>	No	N/A	N/A
VOC	No	N/A	N/A
NO <sub>x</sub>	No	N/A	N/A
CO	No	N/A	N/A
TRS	No	N/A	N/A
H <sub>2</sub> S	No	N/A	N/A
Individual HAP	No	N/A	N/A
Total HAPs	No	N/A	N/A

Footnotes for Table 4:

- 1 The net potential increase is the difference of the potential PM emissions as permitted in December 2004 and the proposed permit limits. See Tables 5 and 6 below.
- 2 Net Anticipated actual emissions increase is the difference between 8,760 hrs/yr operation and 5,100 hrs/yr operation at the actual emission rates (as specified in the November 2005 performance tests) as calculated in Table 7.
- 3 All PM emissions are considered to be PM-10.

**Potential Emission Calculations:****Table 5: Plant 6 as Permitted in December 2004**

Emission Unit ID No.	Emission Unit Description	Operational Limit (hrs/year)	Mass Emission Rate (lbs PM/hr)	Emissions (tpy)
CS02	East Crushing, Screening and Packaging System	5,100	2.7	6.89
CS03	West Crushing and Screening System	5,100	1.6	4.08
PS01	West Packaging System	5,100	1.3	3.32
<b>Total</b>			<b>5.6</b>	<b>14.29</b>

**Table 6: Plant 6 with Revised PM Limits and without Limits on Hours of Operation**

Emission Unit ID No.	Emission Unit Description	Operation with No Hourly Restrictions (hrs/year)	Mass Emission Rate (lbs PM/hr)	Emissions (tpy)
CS02	East Crushing, Screening and Packaging System	8,760	1.6	7.01
CS03	West Crushing and Screening System	8,760	1.3	5.69
PS01	West Packaging System	8,760	0.4	1.75
<b>Total</b>			<b>3.3</b>	<b>14.45</b>

**Actual Emission Calculations:**

**Table 7: Plant 6 Performance Test Results and Actual Emission Calculations**

Emission Unit ID No.	Baghouse ID No.	Performance Test Date	Performance Test Results (lbs/hr)	Percent of PM Allowable as Specified in Table 6	Actual Emissions Based upon 5,100 hours/year operation <sup>1</sup> (tpy)	Actual Emissions Based upon 8,760 hours/year operation <sup>2</sup> (tpy)
CS02	A1	11/03/2005	0.22	13.8 %	0.56	0.96
CS03	A4	11/01/2005	0.19	14.6 %	0.48	0.83
PS01	A3	11/02/2005	0.05	12.5 %	0.12	0.21
Total Emissions (tpy)					1.17	2.01

1 Actual emissions calculated as follows: CS02 (PM tpy) = (0.22 lbs/hr)\*(5,100 hrs/yr)/(2,000 lbs/ton) = 0.561 tpy

2 Actual emissions calculated as follows: CS02 (PM tpy) = (0.22 lbs/hr)\*(8,760 hrs/yr)/(2,000 lbs/ton) = 0.964 tpy

The increase in PM emissions due to the increase in hours of operation is the difference of the PM emissions before the operational hours limits are removed and after they are removed. Therefore, the PM emissions increase due to the removal of the operational restrictions is 0.84 tpy (2.01 tpy PM – 1.17 tpy PM).

**C. PSD/NSR Applicability**

Removing the operational restrictions on the hours of operation for Emission Unit ID Nos. CS02, CS03, and PS01 will not trigger a 40 CFR 52.21(r)(4) PSD review. With the removal of these restrictions on the hours of operation the above emission units will be able to operate 8,760 hours per year and the potential particulate matter (PM) / PM-10 emissions from this project (construction and operation of Plant 6) will remain below 15 tons per year (tpy) as shown in Table 6.

**III. Facility Wide Requirements**

**A. Emission and Operating Caps:**

There are no additional or modified facility wide emission/operating limits associated with this significant modification.

B. Applicable Rules and Regulations

There are no additional or modified facility wide regulations associated with this significant modification.

C. Compliance Status

Per a review of the Division's files the facility is in compliance with all air quality regulations.

D. Operational Flexibility

The facility has not requested any additional operational flexibility with this significant Title V permit modification.

E. Permit Conditions

None applicable.

**IV. Regulated Equipment Requirements**

A. Brief Process Description

The facility utilizes the process equipment as described below to process Mulcoa grade products.

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
CS02	East Crushing, Screening and Packaging System	391-3-1-.02(2)(b) 391-3-1-.02(2)(p) 40 CFR 60 Subpart LL 40 CFR 60 Subpart OOO	2.2.1, 3.2.1, 3.3.1, 3.3.2, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.2, 5.2.1, 5.2.2, 5.2.3, 5.2.5, 6.1.4, 6.1.7, and 6.2.1	A001	Baghouse (Stack No. ST01)
CS03	West Crushing and Screening System	391-3-1-.02(2)(b) 391-3-1-.02(2)(p) 40 CFR 60 Subpart LL 40 CFR 60 Subpart OOO	2.2.1, 3.2.1, 3.3.1, 3.3.2, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.2, 5.2.1, 5.2.2, 5.2.3, 5.2.5, 6.1.4, 6.1.7, and 6.2.1	A004	Baghouse (Stack No. ST02)
PS01	West Packaging System	391-3-1-.02(2)(b) 391-3-1-.02(2)(p) 40 CFR 60 Subpart LL 40 CFR 60 Subpart OOO	2.2.1, 3.2.1, 3.3.1, 3.3.2, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.2, 5.2.1, 5.2.2, 5.2.3, 5.2.5, 6.1.4, 6.1.7, and 6.2.1	A003	Baghouse (Stack No. ST03)
PM03	Rail Car Loading System	391-3-1-.02(2)(b) 391-3-1-.02(2)(p) 40 CFR 60 Subpart LL 40 CFR 60 Subpart OOO	2.2.1, 3.2.1, 3.3.1, 3.3.2, 3.4.1, 3.4.2, 3.5.1, 3.5.2, 4.2.1, 4.2.2, 5.2.1, 5.2.2, 5.2.3, 5.2.5, 6.1.4, 6.1.7, and 6.2.1	A1 and A4	Baghouses (ST01 and ST02)

C. Equipment & Rule Applicability

**Emission and Operating Caps:**

The following shows how Table 3.2.1 in Permit 3291-261-0070-V-01-2 will be modified.

Source Code	Emission Units	Control Device (Source Code)	Stack	PM Emission Rate Not To Exceed (lbs/hr)	Hours of Operation Not To Exceed during any 12 Consecutive Months (hours)
CS02 & PM03	East Crushing, Screening, Packaging System and Railcar System	Baghouse A001	ST01	<del>2.7</del> 1.60	<del>5,100</del>
CS03 & PM03	West Crushing, Screening System, and Railcar System	Baghouse A004	ST02	<del>4.6</del> 1.3	<del>5,100</del>
PS01	West Packaging System	Baghouse A003	ST03	<del>4.3</del> 0.40	<del>5,100</del>
PM03	Railcar Loading System	None	None	0	5,100

These limits are specified in Condition No. 3.2.1. Table 6 shows the proposed PM mass emission limitations that ensures the potential PM emissions remain below 15 tpy even with the operational restrictions removed (i.e., hours of operation limitation of 5,100 hours/year).

This significant Title V modification will remove the operational limitations for Emission Unit ID Nos. CS02, CS03, PS01, and PM03 so that each of the specified emission units can operate 8,760 hours per year. Removing these operational limitations will not cause the project to be considered major modification with respect to PSD as detailed in Section II.

**Applicable Rules and Regulations:**

State Rules

The emission units associated with this modification are subject to the following Georgia regulations.

391-3-1-.02(2)(b) “Visible Emissions”

391-3-1-.02(2)(p) “Particulate Emissions from Kaolin and Fuller’s Earth Processes”

Modification to the PSD avoidance limits in Condition 3.2.1 will not effect the applicability to state rules.

Federal Regulations

The emission units associated with this modification are associated with subject to the following Federal regulations.

40 CFR Part 60 Subpart LL “Metallic Mineral Processing Plants”

40 CFR Part 60 Subpart OOO “Nonmetallic Mineral Processing Plants”

*NSPS Subpart LL*

Emission Units CS02, CS03, PS01, and PM03 are subject to 40 CFR 60, subpart LL, NSPS for Metallic Mineral Processing Plants. This standard limits the PM emissions from these emission units to below 0.022 gr/dscf and opacity of the emissions is limited to no more than 7 percent.

Removing these limits on the hours of operation for these emission units will not change these emission units’ applicability to NSPS Subpart LL or cause these emission units to be non-compliant with NSPS Subpart LL. The use of baghouses with periodic monitoring including daily visible emission checks and weekly baghouse inspections ensures compliance with NSPS Subpart LL. The facility is currently only processing non-metallic minerals (Mulcoa) but has the flexibility to process metallic minerals (alumina).

*NSPS Subpart OOO*

Emission Units CS02, CS03, PS01, and PM03 are subject to 40 CFR 60, subpart OOO, NSPS for Nonmetallic Mineral Processing Plants. This standard limits the PM emissions from these

emission units to below 0.022 gr/dscf and opacity of the emissions is limited to no more than 7 percent.

Removing these limits on the hours of operation for these emission units will not change these emission units' applicability to NSPS Subpart OOO or cause these emission units to be non-compliant with NSPS Subpart OOO. The use of baghouses with periodic monitoring including daily visible emission checks and weekly baghouse inspections ensures compliance with NSPS Subpart OOO.

D. Compliance Status

The Division files indicate that the facility is in compliance with all air quality regulations.

E. Operational Flexibility

The facility has not requested any additional operational flexibility with this significant Title V permit modification.

F. Permit Conditions

Condition No. 3.2.1 is being modified by removing the operational limitations on the hours of operation adjusting the PM emission rates and reorganizing the table for Emission Unit ID Nos. CS02, CS03, PS01, and PM03.

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

No additional testing is required by this permit amendment since the emission units associated with this modification are existing units and prior testing shows emission rates are only 15 percent of the new limits.

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

No monitoring conditions need to be added or modified in this permit amendment since the current permit has sufficient monitoring for these existing emission units. Condition No. 5.2.2 requiring daily visible emission checks for each baghouse and Condition 5.2.3 requires weekly preventative maintenance inspections for each baghouse will ensure the emission units comply with the applicable requirements. This monitoring satisfying the requirements of periodic monitoring as required by 40 CFR 70.6(a)(3)(i)(B).

**VII. Other Record Keeping and Reporting Requirements**

Condition No. 6.1.9 is being deleted since the facility no longer is required to track hours of operation for Plant 6.

**VIII. Specific Requirements**

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

A. Operational Flexibility

The facility has not requested any additional operational flexibility with this significant Title V permit modification.

B. Alternative Requirements

None applicable per this significant Title V permit modification.

C. Insignificant Activities

No insignificant activities are added as part of this significant Title V permit modification.

D. Temporary Sources

None applicable per this significant Title V permit modification.

E. Short-Term Activities

None applicable per this significant Title V permit modification.

F. Compliance Schedule/Progress Reports

Not applicable.

G. Emissions Trading

Not applicable.

H. Acid Rain Requirements

Not applicable.

I. Prevention of Accidental Releases

This significant Title V permit modification does not change the facility's applicability to Section 112(r) of the CAA.

J. Stratospheric Ozone Protection Requirements

This significant Title V permit modification does not change the facility's applicability to Title VI of the CAA.

K. Pollution Prevention

Not applicable.

L. Specific Conditions

None applicable.

**Addendum to Narrative**

The 30-day public review started on July 14, 2006 and ended on August 12, 2006. Comments were not received by the Division.