

Prevention of Significant Air Quality Deterioration Review  
C-E Minerals Plant 2,  
Located in Andersonville, Georgia (Sumter County)

**FINAL DETERMINATION**  
SIP/Title V Permit Application No. 17595  
June 2008



State of Georgia  
Department of Natural Resources  
Environmental Protection Division

Air Protection Branch

Heather Abrams – Chief, Air Protection Branch

Stationary Source Permitting Program

James Capp  
Hamid Yavari  
Steve Neadow

Planning & Support Program

James Boylan  
Peter Courtney

## **BACKGROUND**

On August 9, 2007, C-E Minerals Plant 2 (hereafter C-E Plant 2) submitted an application for an air quality permit to construct and operate a new direct coal-fired kaolin processing Kiln (ID No. 6K) and Caustic Scrubber (ID No. SC06). The facility is located at Highway 195 in Andersonville, Sumter County.

On May 5, 2008, the Division issued a Preliminary Determination stating that the modifications described in Application No. 17595 should be approved. The Preliminary Determination contained a draft Air Quality Permit for the construction and operation of the new direct coal-fired kaolin-processing kiln.

The Division requested that C-E Plant 2 place a public notice in a newspaper of general circulation in the area of the existing facility notifying the public of the proposed construction and providing the opportunity for written public comment. Such public notice was placed in *Americus Times Recorder* (legal organ for Sumter County) on May 9, 2008. The public comment period expired on June 9, 2008.

During the comment period, comments were received from the facility. There were no comments received from the U.S. EPA Region IV or the general public.

A copy of the final permit is included in Appendix A. A copy of written comments received during the public comment period is provided in Appendix B.

**C-E Plant 2 COMMENTS**

Comments were received from Chris Ceccarelli, Chief Operating Officer, by letter on May 16, 2008.

**Comment 1**

We request that Condition No. 4.2.5 be modified to delete the language pertaining to the determination of an hourly emissions rate of HCl in units of pounds per hour. The draft permit specifies that Kiln 6K has a 9.9 tons per 12-month rolling total HCl emissions limit for which compliance is demonstrated on a monthly basis and does not specify an hourly emissions limit for HCl. HCl emissions are calculated based upon the amount of coal combusted in the kiln each calendar month multiplied by the appropriate AP-42 Emission Factor as specified in Chapter 1.1, Table 1.1-15 (1.2 lbs HCl emitted per ton of coal combusted) and multiplied by a HCl control efficiency of the caustic scrubber as determined by performance testing. Parameters such as scrubbant pH, scrubbant flow rate, and pressure drop across the scrubber will be monitored during the performance test in order to establish excursion parameter thresholds that will be used as a surrogate to determine if the scrubber is operating at the tested efficiency. A determination of an hourly HCl emissions rate will not be used to determine monthly HCl emissions and is unnecessary, therefore, Condition No. 4.2.5 should be modified as specified below:

*The Permittee shall conduct, or cause to be conducted a performance test to determine the SO<sub>2</sub> and HCl control efficiency of the caustic scrubber (APCD ID No. SC06). The tests shall be conducted within 180 days of startup of Kiln No. 6. The tests shall be conducted at the maximum anticipated production rate.*

**EPD Response.**

Condition 4.2.5 requires that the facility determine the SO<sub>2</sub> and HCl control efficiency of the caustic scrubber. This control efficiency must be determined on a mass rate (lb/hr) basis and therefore the emission rates at the exhaust of the scrubber will be determined for both HCl and SO<sub>2</sub>. During the testing, the chosen range for the scrubber operating parameters (scrubbant pH, scrubbant flow rate, and pressure drop across the scrubber) will be verified to provide a reasonable assurance of compliance that when operating in these ranges, the scrubber continues to perform as demonstrated in the initial performance testing. Aside from this, the performance testing will be used to demonstrate that Kiln 6K can meet the 9.9 tons per 12-month HCl limit imposed by the permit. Although the ongoing monitoring and recordkeeping relies on AP-42 factors to calculate the 12-month rolling total HCl emissions of the kiln, the validity of the AP-42 factor must be demonstrated through performance testing for this limit. Therefore, no change will be made to this condition.

**Comment No. 2:**

We request that Condition No. 4.2.6 be modified to omit the requirement for a particulate matter (PM) performance test for Apron Dryer No. 3. In previous discussions with Georgia EPD, it was thought by C-E Minerals that if the facility agreed to the lower opacity limit of 10 percent then we could forgo particulate matter testing in lieu of visible emissions checks. We believe that the 10 percent opacity limit (Condition No. 3.2.15) for the apron dryer is a sufficient surrogate for the 20 pounds per hour PM emissions limitation (Condition No. 3.2.14) imposed on the dryer. Therefore, we respectfully request that Condition No. 4.2.6 should be modified as specified below:

*The Permittee shall conduct, or cause to be conducted visible emissions performance test for Apron Dryer #3 to determine compliance with Condition No.. The test shall be conducted within 180 days of startup of Kiln No. 6. The test shall be conducted at the maximum anticipated production rate.*

**EPD Response.**

Condition 4.2.6 requires that a performance test be conducted for particulate matter and visible emissions from Apron Dryer #3 to demonstrate compliance with the respective emission limits. The facility requested that the 10% visible emissions limit be imposed in lieu of a PM<sub>10</sub> emissions rate. The Division disagrees that a 10% opacity limit can be used as a surrogate for a 20-lb/hr PM<sub>10</sub> emission limit. Visible emissions are not adequate to be limited in lieu of PM<sub>10</sub> emissions. In many cases, monitoring visible emissions are used as a surrogate for particulate matter emissions to provide a reasonable assurance of compliance that the particulate matter emission limit is being achieved throughout the life of the permit. However, initial demonstration with the particulate matter emission limit should be performed. Therefore, no change will be made to this condition.

**Comment No. 3:**

We respectfully request the deletion of Condition No. 5.2.20 in its entirety. This permit condition requires that the SO<sub>2</sub> concentration of the scrubbant liquid be monitored and recorded once per week of caustic scrubber operation. Kiln 6K has a 39 ton per 12-month rolling total SO<sub>2</sub> emissions limit in order to avoid PSD review for SO<sub>2</sub> (Condition No. 3.2.12 of draft permit). Compliance with Condition 3.2.12 is demonstrated on a monthly basis by calculating monthly SO<sub>2</sub> emissions from Kiln 6K. As with HCl emissions from Kiln 6K, SO<sub>2</sub> emissions are calculated using the amount of coal combusted each calendar month multiplied by the appropriate AP-42 emissions factor for SO<sub>2</sub> emissions from coal combustion and multiplied by the SO<sub>2</sub> control efficiency of the caustic scrubber as determined from performance testing. Parameters such as scrubbant pH, scrubbant flow rate, and pressure drop across the scrubber will be monitored during the performance test in order to establish excursion parameter thresholds that will be used as a surrogate to determine if the scrubber is operating at the tested efficiency. In that we do not believe that SO<sub>2</sub> (in-and-of itself) can be actually measured in the liquid phase at atmospheric pressure and with the permit adequately addressing measures to comply with the SO<sub>2</sub> emissions limit, we believe Condition No. 5.2.20 should be deleted in its entirety.

**EPD Response.**

Condition 5.2.20 requires that the facility monitor the SO<sub>2</sub> concentration (in parts per million) of the scrubbant in the caustic scrubber and record this value weekly. The Division concurs with the facility that this requirement is unnecessary if the facility is tracking SO<sub>2</sub> emission rates through the use of AP-42 factors and monthly coal usage. The SO<sub>2</sub> concentration in the scrubbant is not correlated in the permit to the SO<sub>2</sub> emissions being exhausted into the atmosphere. (Also, the facility is correct that the SO<sub>2</sub> would not be measured in the liquid phase as it becomes H<sub>2</sub>SO<sub>4</sub> or SO<sub>3</sub>.) The requirement to monitor the scrubbant concentration will not provide any information to ensure the scrubber is being maintained. EPD agrees that Condition 5.2.20 be deleted.

**EPD CHANGES**

Condition 5.2.20 has been deleted.

## **APPENDIX A**

### **AIR QUALITY PERMIT**

**3255-261-0047-V-04-9**

## **APPENDIX B**

### **WRITTEN COMMENTS RECEIVED DURING COMMENT PERIOD**