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Chem

Georgia Department of Natural Resources
Environmental Protection Division • Air Protection Branch
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Mark Williams, Commissioner
F. Allen Barnes, Director

October 6, 2011

Michael Burgess
Vice President of Manufacturing
Pyramax
161 Britt Waters Rd, NW
Milledgeville, GA 31061

Re: Application No. 20584, dated July 21, 2011
Pyramax
AIRS No: 163-0005

Dear Mr. Burgess:

PyraMax Ceramics, LLC, ("the applicant") is proposing to construct a greenfield ceramic proppant manufacturing facility near Wrens, Jefferson County, Georgia. Technical review of the referenced application has progressed. As a result, the Division has the following comments:

Computation of Emissions

1. Volume I: Dust Collector Flow Rates (Requested by DMU who needs some comfort from SSPP that the PM, PM10, and PM2.5 emissions are appropriate): Proposed particulate matter (PM), particulate matter less than 10 microns in diameter (PM10), and particulate matter less than 2.5 microns in diameter (PM2.5) are based on an outlet grain loading rate in grains per dry standard cubic feet (gr/dscf). Table C-4 provides the dust collector flow rates in dscf while the dust collector flow rates in the SIP Application (Appendix F) are listed in actual cubic feet per minute. Please provide a tabular comparison of these values using dscf and provide the calculations and variables used (moisture content, temp) to covert between these two units.

BACT Emission Proposal

2. Volume I: Chapter 5 – Startup and Shutdown of Catalytic Baghouse: Please provide the time (in minutes) for which the calcining kilns will be operated uncontrolled while the catalytic baghouse is in startup mode. The 1-hr NO2 emission rate during start-up will be reviewed against the modeling guidance for intermittent sources. The more critical item for that particular assessment would be an estimate of how often the process is in start-up mode, which may coincide, at least in part, with the replacement schedule of the ceramic filters. As an alternative, Pyramax can provide evidence that short-term NOx emissions during startup and shutdown (when the catalyst is not fully effective) is still less than the BACT limit, on a lb/hr basis.

3. Volume I: Chapter 5 – Calcining Kilns-CO Emissions: The applicant proposes the use of good combustion practices to minimize CO emissions from the calcining kilns. The applicant proposed a CO BACT limit of 2.21 lb CO/ton of material processed. The PSD CO BACT limit for the calcining kilns at CARBO Ceramics Toomsboro plant is 1.18 lb uncontrolled CO per ton of material processed. Georgia EPD is considering establishing

a CO BACT limit for the proposed calcining kilns of 1.18 lb CO/ton of material processed. Please comment on this draft proposal for CO BACT from the calcining kilns.

4. Volume I: Chapter 5 – Pelletizers – VOC Emissions : The VOC BACT analysis should also include VOC emissions from the dispersant added to the clay slurry (i.e., evaporation of the dispersant impurities such as methanol and methyl acetate).

SIP Application

5. Volume I: Appendix F: SIP Application Form 3.0 for APCD Unit ID BHK1,2: The same temperature was incorrectly listed for both the baghouse (Tri-Mer) inlet and outlet temperature. Based on data provided by the applicant, in a letter to Georgia EPD dated September 15, 2011, the inlet temperature to the Tri-Mer system would be in the optimal operating range of the system (350-700 deg F). Please submit an updated SIP Application Form 3.0 for air pollution control device unit ID BHK1 & 2 with the applicable inlet and outlet temperatures.

Air Impact Assessment – Ambient Air

6. Volume II: Please provide documentation which clearly defines the facility boundary to separate the ambient air and property area, and shows the boundary receptor locations. A large (~ 36"x36") paper site plan (or .dxf file), to scale and showing a true North arrow, should be submitted with the application. The site plan should indicate the fenceline and fenceline-receptors, the boundary, sufficient coordinate and scale information to allow independent confirmation of the BPIP input building coordinates, the building heights should be identified on the plan, and buildings labeled as that in the BPIP file.

Air Impact Assessment – PM10

7. Volume II: A significant impact area (SIA) for the annual PM10 NAAQS should have been determined. If the SIA for the annual PM10 NAAQS is larger than the SIA for the 24-hour PM10, the off-site modeling Increment inventory may be incorrect. Please address this comment by identifying the size of the SIA for the annual PM10 Increment and adjusting the off-site Increment inventory as may be necessary.

Air Impact Assessment – Ozone Impact Analysis

8. Volume II: The applicant should conduct, document, and submit an ozone impact analysis because the projected NOx emission and VOC emission are both greater than 100 tons per year. Please refer to Appendix A of this letter.

Air Impact Assessment

9. Volume II: Chapter 5 Please prepare a table for submission that compares the maximum modeling concentration and the applicable Class I significant impact levels. This table should include a PM2.5 impacts comparison against the Class I PM2.5 SILs as these became effective on 12/20/10, independently of the PM2.5 Increments.

10. Volume II: Appendix D:
    a. The modeling data for all off-site sources included in the cumulative modeling analysis (D-2 ~ D-12, D-14 ~ D-18, D21-D27) should have references regarding the data sources, i.e., stack characteristics and emission derivation.

b. KaMin Wrens – Main: the NOx emissions (g/s) in Table D-3 is about 10 times larger than that in the modeling input files. Please verify the correct emission rate value.
c. KaMin Wrens-Main: Please clarify what is Stack ID-GG1S in Table D-3 and include an explanation on the derivation of its potential emission and stack characteristics.
d. Please submit an electronic copy of the off-site inventory (D-1 ~ D-26) in Excel format.

11. The air impact assessment (modeling) did not model fugitive emissions. Although it is not EPD's intent to require modeling of paved roads, this does not carry forward to automatically to all other fugitive dust sources. Please provide a justification as to why fugitive emissions were not modeled. Specifically, please document the extent and emissions from fugitive sources such as unpaved roads, open stockpiles.

12. The application did not address any growth emissions from increased kaolin clay sales from local contract clay mines. Please provide a list (including location and distance to Pyramax) of the clay mines that may sell to Pyramax Also, please provide an assessment of growth emissions due to increased clay sales.

Conclusion: The Division requests a response to these comments by December 1. If you have any questions or need more information, please contact

Wei-Wei Qiu at (404) 363-7133 or via email at wei-wei.qiu@dnr.state.ga.us
Susan Jenkins at (404) 362-4598 or via email at susan.jenkins@dnr.state.ga.us
Yan Huang at (404) 363-7072 or via email at yan.huang@dnr.state.ga.us

Sincerely,

Eric Cornwell
Manager
Stationary Source Permitting Program

Appendix A

c: Wei-Wei Qiu, Georgia EPD Stationary Source Permitting Program
Susan Jenkins, Georgia EPD Stationary Source Permitting Program
Yan Huang, Georgia EPD Planning & Support Program
Justin Fickas, Trinity Consultants, 53 Perimeter Center East, Suite 230, Atlanta, GA 30346

APPENDIX A

Ozone Ambient Impacts Analysis – DRAFT GA EPD Guidance

The requirement posed in the Draft New Source Review Workshop Manual (EPA, 1990) to conduct this analysis has changed with the promulgation of the New Source Review Reform Act of 2002. The requirement used to be triggered by a proposed project with a projected net increase of VOC emissions in excess of 100 tpy. Since 2002, the requirement is triggered by proposing a project with a projected net increase of VOC or NOx emissions in excess of 100 tpy [40 CFR 52.21(i)(5)(i)].

This analysis consists of 2 parts:
Part 1. Identify existing ozone ambient monitors near the project area. Discuss how the data are:

- Representative. Representative of potential ozone impacts of the facility
- Current. The data have been collected recently (at least 3 of the last 6 years of record exists)
- Collected appropriately. Assure EPD that the data have been collected correctly and subjected to appropriate Quality Assurance and Quality Control measures.

Part 2. List the latest three design values (three-year average of the annual 4th highest 8-hour average ozone concentrations, e.g., year 2006-08, 2007-09, 2008-10) for the past six years from the monitoring site(s) identified above (see Part 1).

- Discuss any trends with respect to attainment status.
- Discuss the estimated influence of the proposed project on the attainment status.

Ozone monitors can be few and far between in Georgia. Applicants may use a nearby monitor(s) to establish an ambient level, and then adjust that level by comparing traffic data, population data, and other emissions-indicator data in the vicinity of the monitor(s) with similar data in the area of their project to suggest that, with more or less population, miles-traveled, and anthropogenic emission sources, higher or lower ozone ambient concentrations would be expected, respectively.