



Jeb Bush
Governor

Department of Environmental Protection

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Colleen M. Castille
Secretary

December 3, 2004

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Gary Sauer, President of Cement and Calcium Group
155 East 21st Street
P.O.Box 4667
Jacksonville, FL 32201

Re: Request for Additional Information
DEP File No. 0010087-013-AC (PSD-FL-350)
Proposed New Kiln at the Thompson S. Baker Cement Plant in Alachua County, Florida

Dear Mr. Sauer:

On November 5, 2004, we received from Koogler and Associates your application for an air construction permit for a new kiln at the Thompson S. Baker Portland cement plant located at 4000 NW County Road 235, Newberry, Alachua County. Also, on November 5th we received the correct PSD permit processing fee from the firm of Oertel, Hoffman, Fernandez, and Cole.

Pursuant to Rule 62-4.055, F.A.C., Permit Processing, the Department requests submittal of additional information prior to processing the application. For responses to any of the items below that require new calculations, please submit the new calculations, assumptions, reference material and appropriate revised pages of the application form.

1. Provide manufacturer's certification that will confirm the maximum design capacity of the kiln in tons per hour of dry feed and in tons per hour of clinker produced. Provide a similar certification for heat input for the kiln and precalciner burners. Rule 62-4.070, F.A.C.
2. Provide details on the kiln burner and describe where air and fuel will be introduced and how they are staged to minimize NO_x formation. Please indicate the type of burner that will be used. Rules 62-212.400 and 62-4.070(1), F.A.C.
3. Describe the manner in which the precalciner vessel(s) will operate at FRI Newberry. Advise how the operation will change to accommodate petroleum coke and high carbon flyash. Indicate where and how tires and flyash will be combusted in the MSC device while maintaining the Low NO_x conditions of the design. Submit the test results from Air Construction Permit 0010087-012-AC. Rules 62-212.400 and 62-4.070(1), F.A.C.
4. Please assess the possibility of lowering CO emissions by employment of the PYROTOP technology or equivalents (if available) from Polysius or other manufacturers. Rule 62-212.400, F.A.C.
5. Please assess the use of "high-efficiency bag filter, outfitted with teflon-coated fiberglass bags" and/or HEPA filters as secondary controls of particulate matter from the kiln system. What percentage, if any, of the collected fines will be recycled into the process? Rule 62-212.400, F.A.C.

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6. Please advise whether fabric filters or an ESP would provide better control of emissions, particularly air toxics. How do particulate emissions from ESPs (on emissions from kilns and coolers) compare with emissions from baghouses during startups, shutdowns, and malfunctions?
7. Please provide information on CO control options, and why CO will require a higher emission limit than is currently permitted.
8. Submit a projected chemical analysis of the raw materials and additives likely to be used at this plant. Provide a proximate and ultimate analysis of the fuels proposed. Rule 62-4.070(1), F.A.C
9. Please indicate if you intend to add any storage tanks meeting the applicability requirements under 40 CFR 60, Subpart Kb.
Rule 62-4.070(1), F.A.C.
10. Describe the primary fuel firing scenarios and describe the ratio of heat input at various fuel mixtures. Detail why heat input ratios might change under normal operating conditions and emissions. Provide an estimate of pollutant emissions under each scenario. Define the combustion practices that will be used to control CO and VOC. Rule 62-4.070(1), F.A.C.
11. Please explain the significant increase in SO₂ emissions in the kiln/raw mill. Provide information on the increase of SO₂ by co-firing petroleum coke and flyash with the coal in the kiln. Consider the possibility of hydrated lime injection for added SO₂ control when the raw mill is off, or raw material with higher sulfur is encountered, or if excess SO₂ from burning high sulfur fuel breaks through the calciner. Rule 62-4.070(1), F.A.C.
12. Provide the volume and residence time of material in the calciner with the production rate of 125 tons per hour for the new kiln.
13. Estimate the impact of mercury deposition in the vicinity of this facility. Please provide reasonable assurance that the 175 lb/year of mercury emissions will not be exceeded. Also, provide reasonable assurance that the lead PSD significance levels will not be exceeded. Advise of any methods that will be undertaken to minimize mercury emissions such as raw material selection or transferring some baghouse dust straight to product. Rule 62-4.070(1), F.A.C.
14. How many startup and shutdown events will normally occur each year? Describe the nature and duration of emissions, particularly from the in-line kiln/raw mill and clinker cooler, during startup and shutdown. Describe procedures used to minimize excess emissions during these events. Rules 62-4.070(1) and 62-210.700, F.A.C.
15. Please provide manufacturer, model numbers and design specifications for the fabric filters, ESPs, continuous monitoring systems used for these systems. Rules 62-4.070 and 62-212.400, F.A.C.
16. Based on the facility's past performance and evaluation of the SNCR testing that is being conducted by FRI in the next few weeks, a re-evaluation of the NO_x BACT proposal and emission limits will be necessary. Based on these test results, reasonable assurance must be given to show that the limit proposed for NO_x is the Best Available Control Technology for this project. Submit the test results from Air Construction permit 0010087-011-AC. Rule 62-4.070, F.A.C.
17. Has Florida Rock Industries or its parent company had any violations of Department regulations at any of their facilities? Please provide all documentation in relation to these violations. Rule 62-4.070(5), F.A.C.
18. Whether or not the 24-hour PSD PM₁₀ increment is exceeded is based on the highest-second highest modeled impact value over 5 years, not the highest sixth high over 5 years. Based on the modeling results you provided to us, the highest-second highest PM₁₀ increment impact in the Class II area is 32.69 ug/m³, which is greater than the 24-hour Class II PSD increment of 30 ug/m³. Please evaluate

ways to reduce the PM₁₀ impacts and remodel to obtain results below the increment. Also provide the master PM₁₀ inventory from which the PM₁₀ 20-D inventory was developed.

19. Please provide data supporting a silt loading factor of 0.14 g/m² in the paved road emissions estimation inputs for use the PM₁₀ modeling. In addition, have all quantifiable fugitive emissions other than paved road emissions been included in the PM₁₀ modeling analysis?
20. The preferred ambient background concentrations for the NAAQS compliance demonstration should be the maximum annual and short-term concentrations measured at a representative monitoring location. The highest-second highest (HSH) can be used for short term values. An average of the highest concentrations over several monitors is not appropriate for this assessment. Rules 62-4.070(1) and 62-212.400, F.A.C.
21. The next two comments are paraphrased from comments provided by the federal land manager. Please address them. The first comment applies to the use of 30 day rolling average emission limits for short term modeling analyses in the Class I areas. "Florida Rock has proposed BACT emission limits of 2.0 lb NO_x/ton clinker and 0.28 lb SO₂/ton clinker, both on a 30-day rolling average. The federal land manager found no short term (24-hour or 3-hour) emission limits discussed for either pollutant. It appears that the grams/second emission rates for each pollutant used in the modeling analyses are direct calculations from these 30-day rolling average limits and the 125 tons clinker/hour capacity for the new line. In order to evaluate potential impacts to short term standards and increments (i.e., 3-hr and 24-hr SO₂), and visibility (analyzed on a 24-hr basis, and looking mainly to SO₂, NO_x and particulate emissions), it is important to use emission rates that are reflective of the potential to emit of the units over a similar averaging time. A 30-day rolling average emission rate smoothes out days with high emissions and therefore may underestimate the predicted visibility impacts. Further, the short term emission rates that are used in the modeling analyses need to be written as enforceable limits in the permit. The applicant should provide FDEP with proposed short-term 3-hr and 24-hr SO₂ and 24-hr NO_x emission limits, and perform modeling using these limits for analyzing impacts to short-term Class I standards and visibility. And, these limits should become part of the BACT determination in the PSD permit action." Please provide those estimates at least on the basis of lb/hour if not lb/ton.
22. This is the second comment from the federal land manager and concerns the use of incremental cost analysis to eliminate BACT alternatives. "Florida Rock's SO₂ BACT analysis showed that use of a wet scrubber in conjunction with balancing alkali and sulfur in the process would yield an emission rate of 0.03 lb SO₂ per ton of clinker, and would cost \$481 per ton of SO₂ removed. However, the applicant eliminated the wet scrubber based upon an incremental cost analysis between using the alkali/sulfur balance alone and using a wet scrubber as well. The resulting BACT limit is proposed as 0.28 lb SO₂/ton clinker - ten times as high. Reliance on the incremental cost of adding a wet scrubber to eliminate this control alternative that is otherwise well within the normal range for total cost analyses may be inappropriate. The applicant should better explain the baseline SO₂ emission scenario that it uses in its control cost effectiveness calculations. (i.e., is the "Inherently Lower-Emitting Process: Alkali/Sulfur Balance in Pyroprocessing System" the base case, or is something different? The "Baseline" case in Table 19-Control Technology Ranking is shown in the text as representing the total SO₂ available for liberation, and the calculations show that all sulfur in the coal and raw meal would be converted to SO₂. Is this realistic considering the raw materials that this line will utilize?) The applicant should then better justify, in comparison to other incremental cost analyses for similar applications, if available, and considering other factors, why it believes that adding a wet scrubber to the alkali/sulfur balance process approach is not BACT".
23. Provide a description of the stack sampling facilities.
Form 62-210.900(1), F.A.C.

24. Provide operation and maintenance plans for all major process and pollution control equipment.
Form 62-210.900(1), F.A.C.

Since the application is not complete, an *incomplete application* has been provided to the Federal Land Manager in accordance with Rule 62-212.400(4)(a)2., F.A.C. Federal Land Manager Participation. The FLM is responsible for demonstrating to the Department whether emissions from the facility will have an adverse impact on the air quality-related values (AQRVs including visibility) of the Federal Class I Area. The Department must consider such a demonstration in its Preliminary Determination if it is received within 30 days after the Department sends a complete application to the FLM.

We will forward any comments received from other agencies as soon as we receive them. Rule 62-4.050(3), F.A.C. requires that all applications for a Department permit must be certified by a professional engineer registered in the State of Florida. This requirement also applies to responses to Department requests for additional information of an engineering nature. Permit applicants are advised that Rule 62-4.055(1), F.A.C. now requires applicants to respond to requests for information within 90 days. If there are any questions, please call Bobby Bull at 850-921-9585. Matters regarding modeling issues should be directed to Cleve Holladay at 850/921-8986.

Sincerely,



James K. Pennington, Administrator
North Permitting Section

JKP/rlb

Chris Horner, Plant Manager, FRI Newberry Plant
Chris Kirts, Florida DEP- NED
Chair, Alachua County Board of County Commissioners
Mayor, City of Newberry
Chris Bird, Alachua County EPD
Steve Cullen, P.E., Koogler and Associates
John Koogler, P.E.
John Bunyak, NPS
Jim Little, EPA



Jeb Bush
Governor

Department of Environmental Protection

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Colleen M. Castille
Secretary

November 9, 2004

Mr. John Bunyak, Chief
Policy, Planning & Permit Review Branch
NPS – Air Quality Division 007-AC
P. O. Box 25287
Denver, Colorado 80225

RE: Florida Rock Industries
Thompson S. Baker Cement Plant
0010087-013-AC, PSD-FL-350

Dear Mr. Bunyak:

Enclosed for your review and comment is a PSD application submitted by Florida Rock Industries to install a new cement manufacturing line (Line 2) at the Thompson S. Baker Cement Plant in Newberry, Alachua County, Florida.

Your comments may be forwarded to my attention at the letterhead address or faxed to the Bureau of Air Regulation at 850/921-9533. If you have any questions, please contact Bobby Bull, review engineer, at 850/921-9585.

Sincerely,

Patricia Adams
for James K. Pennington, P.E., Administrator
North Permitting Section

JKP/pa

Enclosure

cc: B. Bull

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