Department of Environmental Protection

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

Jeb Bush
Governor

Colleen M. Castille
Secretary

June 10, 2005

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Tom Messer, Plant Manager
Suwannee American Cement, LLC
P.O. Box 410
Branford, FL 32008

Re: Request for Additional Information
DEP File No. 1210465-014-AC (PSD-FL-352)
Proposed New Kiln at the Branford Cement Plant in Suwannee County, Florida

Dear Mr. Messer:

On April 28 and May 11, 2005, we received your response to the Department's request for additional information regarding the construction of a second kiln at the existing cement plant, which is located in Branford at US 27 and CR 49 in Suwannee County. The application remains incomplete. In order to continue processing your application, the Department will need the additional information requested below. Should your response to any of the items below require new calculations, please submit the new calculations, assumptions, reference material and appropriate revised pages of the application form.

1. The application requests a carbon monoxide (CO) standard of 3.6 lb/ton of clinker based on an annual stack test conducted in accordance with EPA Method 9.

   a. The application indicates that CO emissions will be controlled as a function of raw materials and combustion practices. It is noted that other recent kiln designs have incorporated a much longer loop of duct work between the calciner and the lower cyclone to provide a longer residence time and enhance carbon burnout. For example, F.L. Smidth guaranteed a CO value of 1.77 lb/ton of clinker for the existing Titan plant in Medley, which utilizes such a design. Also, in a recent application to the Department, Titan has requested a long-term CO standard of 1.33 lb/ton of clinker while achieving a NOx emission rate of 2.1 lb/ton of clinker. Please discuss the implications of providing for additional residence time in this manner, the affect on CO emissions, and the costs related to the additional level of control.

   b. The request CO value appears high compared to actual emissions from some of the newer plants. In addition, data gathered during recent SNCR testing does not appear to support a claim that ammonia injection for NOx control results in elevated CO emissions. Please discuss the basis of the proposed CO emissions rate and compare to recent projects.

   c. The Department has recently issued draft air construction permits for two new kilns that require the installation of a Continuous Emissions Monitoring System (CEMS) to demonstrate compliance with the CO standard. Propose a CO standard based on compliance demonstrated with a CEMS. The following items should be considered: additional residence time for burnout by extending the loop of duct work between the calciner and lower cyclone; the numerical value for the standard; the averaging period for the standard; and periods of startup, shutdown, and malfunction.

   [Rule 62-4.055, F.A.C.; Rule 62-4.070(3), F.A.C.; and Rule 62-212.400(6), F.A.C.]

2. The application indicates that mercury emissions will be monitored by a conservative calculation of the potential emissions based on the sampling and analysis of raw materials and fuels. This method is used for the existing kiln. For this project, please identify the following: specific sampling and analysis methods used; frequency of sampling;

the calculation method; and an example calculation from the existing kiln. In addition, discuss the procedure used when results are below the detectable levels of the analytic method.

[Rule 62-4.055, F.A.C.; Rule 62-4.070(3), F.A.C.; and Rule 62-212.400, F.A.C.]

3. Please provide a detailed discussion regarding additional truck traffic that will be generated from the construction and operation of the new kiln. Compare and contrast the future operations with existing plant operations including the number of additional trucks needed, the number of additional truck trips, reasonable precautions that will be taken to minimize fugitive dust emissions from vehicular traffic, and emissions from vehicular fuel combustion. Please discuss the feasibility and impacts of adding a rail spur to tie into the existing rail system. Please link the potential road emissions estimates to the road segment information provided in Tables 3-2 and 3-5.

   [Rule 62-4.055, F.A.C.; Rule 62-4.070(3), F.A.C.; and Rule 62-212.400, F.A.C.]

4. The emission sources used for both the NAAQS and PSD compliance modeling were selected based on the 20D rule. Suwannee's use of this rule did not consider the additive effects of the sources located at the same facility or general location. The Department's review of the 20D rule-eliminated-sources in Attachment A in the original modeling submittal reveals a few PM_{10} sources that may need to be included in the impact modeling emission inventories and in the modeling results. Application of the 20D rule starts at the edge of the significant impact area (3.4 km in this case) instead of at the center of the facility. This means that all sources within the significant impact area, if any, should be modeled. Please see the attached North Carolina 20-D method. Also, please submit Appendix B to the additional information dated May 9, 2005. This is titled, "20D Analysis for SAC – FDEP Inventory and 20D Distances to SAC". The document was missing from the submittal.

   [Rule 62-4.055, F.A.C.; Rule 62-4.070(3), F.A.C.; and Rule 62-212.400, F.A.C.]

5. Please provide a table in Section 6 of the Class I impacts section summarizing all of the pollutant emissions rates that were included in the Class I area PSD increment, visibility and deposition modeling. Submit a detailed discussion of the methodology used to determine the representative combined emission rates that were used in the Class I impact analysis.

   [Rule 62-4.055, F.A.C.; Rule 62-4.070(3), F.A.C.; and Rule 62-212.400, F.A.C.]

6. Please provide larger copies of Figures 2-2 and 2-3. These figures represent the SAC facility building, source configuration and structure identification figures.

   [Rule 62-4.055, F.A.C.; Rule 62-4.070(3), F.A.C.; and Rule 62-212.400, F.A.C.]

We will forward any comments received from other agencies as soon as we receive them. This request for additional information will be sent to the Federal Land Manager and the Department's Florida Park Service for review. 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 Federal Land Manager is responsible for demonstrating to the Department whether emissions from the facility will have an adverse impact on the air quality-related values (AQRV) including visibility of the Federal Class I Areas. 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.

The Department will resume processing your application after receipt of the requested information. 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. For any material changes to the application, please include a new certification statement by the authorized representative or responsible official. You are reminded that Rule 62-4.055(1), F.A.C. requires applicants to respond to requests for information within 90 days or provide a written request for an additional period of time to submit the information. If there are any questions, please call Bobby Bull at 850-921-9585.

Sincerely,

Jeffery F. Koerner, P.E.
Bureau of Air Regulation, Permitting North

cc:

Joe Horton, SAC
Stephanie Brooks, P.E., Brooks and Associates
Chair, Suwannee County Board of County Commissioners
Kent Berry, CAA Program Manager, Environmental Quality Management
Mark Latch, DEP - FPS
Albert Gregory, DEP - FPS
Don Forgione, DEP - FPS
Chris Kirts, NED
John Bunyak, NPS
Jim Little, EPA Region 4

REGION IV

345 COURTLAND STREET

SEP 3 1985

REF: APT-AP

SEP 12 1985

AIR QUALITY

Eldewins Haynes
Air Permit Unit
State of North Carolina Department of
Natural Resources & Community Development
512 North Salisbury Street
Raleigh, North Carolina 27611

Subject: A Screening Method for PSD

Dear Mr Haynes:

This is to acknowledge receipt of your July 22, 1985, letter containing a screening procedure for eliminating sources from the emission inventory for modeling purposes. EPA has reviewed your submittal and has determined that your screening procedure is consistent with the PSD Workshop Manual. Therefore, approval is hereby given to use the screening procedure.

Sincerely yours,

Bruce P. Miller, Acting Chief
Air Programs Branch

State of North Carolina
Department of Natural Resources and Community Development
Division of Environmental Management
512 North Salisbury Street • Raleigh, North Carolina 27611

James G. Martin, Governor
S. Thomas Rhodes, Secretary

R. Paul Wilms
Director

July 22, 1985

Mr. Lewis Nagler
Air Management Branch
EPA Region IV
345 Courtland Street
Atlanta, Georgia 30365

Dear Mr. Nagler:

Subject: A Screening Method for PSD

A simple screening procedure which is applicable to PSD has been developed by the North Carolina Air Quality Section. The "Screening Threshold" method is designed to rapidly and objectively eliminate from the emissions inventory those sources which are beyond the PSD impact area yet within the screening area, but are not likely to have significant interaction with the PSD source. Sources which are flagged by this procedure may then be evaluated with conventional screening techniques, or else be included in refined modeling.

Page I-C-18 of the PSD Workshop Manual does state "A simple screening model technique can be used to justify the exclusion of certain emissions...Such exclusions should be justified and documented." The "Screening Threshold" method is documented in the attachment.

We would very much appreciate your comments and ultimate approval. Please feel free to direct any questions or comments to me in writing or by phone at (919) 733-7015.

Sincerely,

Eldewins Haynes

Eldewins Haynes, Meteorologist
Air Permit Unit

Attachment

cc: Mr. Ogden Gerald
Mr. Mike Sewell
Mr. Sammy Amerson
Mr. Jerry Clayton
Mr. Richard Laster
Regional Air Engineers

"Screening Threshold" Method for PSD Modeling
North Carolina Air Quality Section

This method is best suited for situations where a PSD source has several sources outside its impact area, but within its screening area. The object is to find an effective means to minimize the number of such sources in a model, yet to include all sources which are likely to have a significant impact inside the impact area.

As a first-level screening technique, it is suggested to include those sources within the screening area when

$$Q = 20D$$

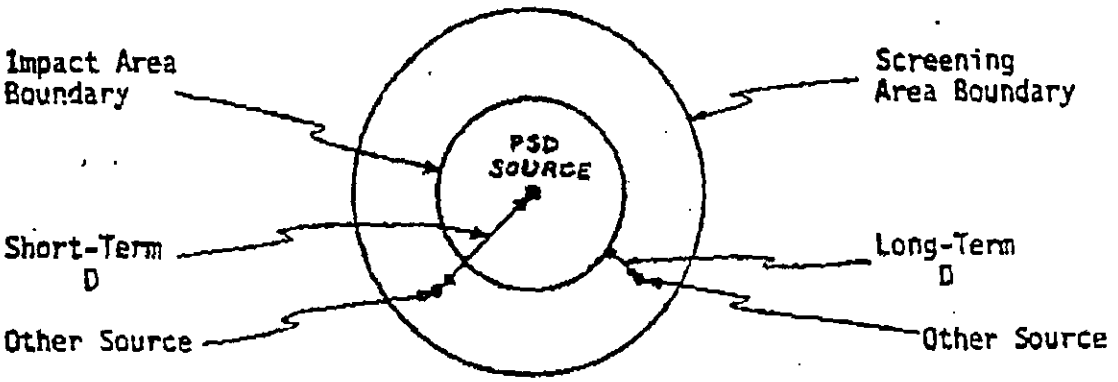
where Q is the maximum emission rate, in tons/year, of the source in the screening area; and D is a distance, in kilometers, from either:

a. the source in the screening area to the nearest edge of the impact area, for long-term analyses

or

b. the source in the screening area to the PSD source defining the impact area, for short-term analyses.

The figure below illustrates the difference between the long-term D and the short-term D.



This method does not preclude the use of alternate screening techniques or of more sophisticated screening techniques given the approval of the review agency. Also, this method does not prevent the review agency from specifying additional sources of interest in the modeling analysis.

The justification for this "Screening Threshold Method" rests upon the following assumptions:

a. effective stack height = 10 meters
b. stability class D (neutral)
c. 2.5 meter/second wind speed
d. mixing height = 300 meters
e. Q = 200 = critical emission rate for a given pollutant
f. one-hour concentrations derived from figure 3-5D in Turner's WADE or from PTDIS.
g. 3-hour and 24-hour concentrations estimated using "Vol. 10R". Annual impacts are 1/7 of 24 hour impacts.

The results, for various distances, are shown in the table below:

D (km)	Q (T/yr)	1-hr Conc. (ug/m^3)	3-hr Conc. (ug/m^3)	24-hr Conc. (ug/m^3)	Annual Conc. (ug/m^3)
0.5	10	47	42	19	2.7
1.0	20	32	29	13	1.9
1.5	30	27	24	10	1.4
2.0	40	23	21	9	1.3
3	60	18	16	7	1.0
4	80	17	15	7	1.0
5	100	14	13	6	1
6	120	13	12	5	1
10	200	10	9	4	1
20	400	7	6	3	1
30	600	6	6	3	1
40	800	6	6	3	1
50	1000	7	6	3	1

The "Screening Threshold" method is conservative. Most sources either have effective stack heights greater than 10 meters, or they have several short stacks spread out over an industrial complex. Thus, actual modeled concentrations will most likely be lower than the "Screening Threshold" would indicate in the table above. One implication of the table is that all major sources within 5 km of the subject PSD source or within 5 km of the PSD source's impact area should be scrutinized before being exempted from the final emissions inventory.

The "Screening Threshold" method is in qualitative agreement with the suggestions on page I-C-18 of the Prevention of Significant Deterioration Workshop Manual (1980). On that page, it is suggested that a 100 T/Y source 10 km outisde the impact area may be excluded from the analysis. The above table would exclude a 100 T/Y source more than 5 km beyond the impact area for long-term analyses or more than 5 km away from the PSD source for short-term analyses; if the source is inside the impact area, it must be included regardless of the "Screening

Factor: 1/2 - 3hr 0.90
1/2 - 24hr 0.40
1/2 - Annual 0.20

Threshold". The PSD Workshop Manual also states on page I-C-18 that a 10,000 T/Y source 40 km outside the impact area would probably have to be included in the increment analysis. By the "Screening Threshold" method, the critical distance D = Q/20 * 10,000/20 = 500 km. Thus a 10,000 T/Y source within 500 km would always be included for short-term and long-term analyses if within the screening area.

This "Screening Threshold" method is quick, inexpensive to execute, conservative, and consistent with the intent of the PSD Workshop Manual.

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1. Article Addressed to:

Mr. Tom Messer, Plant Manager
Suwannee American Cement, LLC
Post Office Box 410
Branford, Florida 32008

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Mr. Tom Messer, Plant Manager
Suwannee American Cement, LLC
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