

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
NOTICE OF FINAL PERMIT

In the Matter of an  
Application for Permit by:

Mr. John D. Baker, President  
Florida Rock Industries, Inc.  
155 East 21st Street  
Jacksonville, FL 32206

DEP File No. 0010087-006-AC, PSD-FL-228C  
Thompson S. Baker Cement Plant  
Newberry, Alachua County

Enclosed is Final Permit Number 0010087-006-AC (PSD-FL-228C). This permit authorizes an increase in clinker production limits at the Florida Rock Industries, Inc., Thompson S. Baker Cement Plant located at 4000 NW County Road 235 in Newberry, Alachua County. This permit also reduces the allowable emissions of air pollutants per unit of production. This permit is issued pursuant to Chapter 403, Florida Statutes.

Any party to this order has the right to seek judicial review of it under section 120.68 of the Florida Statutes, by filing a notice of appeal under rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel, Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000, and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within thirty days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida.



Trina Vielhauer, Chief  
Bureau of Air Regulation

CERTIFICATE OF SERVICE

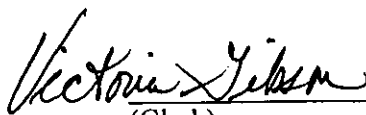
The undersigned duly designated deputy agency clerk hereby certifies that this Notice of Final Permit (including the Final permit) was sent by certified mail (\*) and copies were mailed by U.S. Mail before the close of business on 12/11/02 to the person(s) listed:

Cary O. Cohrs, Florida Rock (\*)  
Steven Cullen, P.E., Koogler & Associates

Christopher Kirts, DEP NWD  
Lalit Lalwani, Alachua County EPD

Clerk Stamp

**FILING AND ACKNOWLEDGMENT**  
**FILED**, on this date, pursuant to §120.52,  
Florida Statutes, with the designated  
Department Clerk, receipt of which is hereby  
acknowledged.

  
(Clerk) December 11, 2002  
(Date)

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1. Article Addressed to:

Mr. John D. Baker  
 President  
 Florida Rock Industries, Inc.  
 155 E. 21st Street  
 Jacksonville, FL 32206

2. 7001 0320 0001 3692 7423

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly) B. Date of Delivery  
 14/3/02

C. Signature  
*M. D. Baker*  Agent  Addressee

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Sent To  
 John D. Baker  
 Street, Apt. No., or PO Box No. 155 E. 21st St.  
 City, State, ZIP+4 Jacksonville, FL 32206

7001 0320 0001 3692 7423

**SENDER: COMPLETE THIS SECTION**

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1. Article Addressed to:

Mr. Cary O. Cohrs  
 Vice President of Operations  
 Florida Rock Industries, Inc.  
 Cement Group  
 PO Box 459  
 Newberry, FL 32669

2. 7001 0320 0001 3692 7393

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly) B. Date of Delivery  
 Becky Harley 12/16

C. Signature  
*Becky Harley*  Agent  Addressee

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Sent To  
 Cary O. Cohrs  
 Street, Apt. No., or PO Box No. PO Box 459  
 City, State, ZIP+4 Newberry, FL 32669

7001 0320 0001 3692 7393

**FINAL DETERMINATION**

**FLORIDA ROCK INDUSTRIES, INC.  
THOMPSON S. BAKER CEMENT PLANT  
NEWBERRY, ALACHUA COUNTY, FLORIDA**

**Portland Cement Manufacturing Facility  
Production Increase and Finalization of Emission Limits**

DEP File Nos. 0010087-006-AC  
PSD-FL-228C

Department of Environmental Protection  
Division of Air Resources Management  
Bureau of Air Regulation

December 9, 2002

# FINAL DETERMINATION

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## I. INTRODUCTION

The Florida Department of Environmental Protection (Department) distributed an "Intent to Issue Permit" package for a proposed production increase at the Thompson S. Baker Cement Plant in Newberry, Alachua County, on November 19, 2002. (The package included one copy of the Department's draft air construction permit, the "Intent to Issue Air Construction Permit," the "Technical Evaluation and Preliminary Determination," and the "Public Notice of Intent to Issue Air Construction Permit.") The applicant published the Public Notice in the Gainesville Sun on November 20, 2002. The Department received the proof of publication on December 5, 2002.

The Department did not receive comments on the draft air construction permit from the public, the National Park Service, nor the U.S. Environmental Protection Agency (EPA). The Department received comments from Mr. Fred Cohrs on November 26, 2002 and from Koogler & Associates, the applicant's consultant, on December 5, 2002. The following sections summarize the Department's response to the comments, the resulting revisions to the air construction permit, and the final determination of emission limits applicable to the plant.

## II. RESPONSE TO COMMENTS

### Comments regarding the preheater feed rate:

Mr. Fred Cohrs, recently retired from Florida Rock Industries (FRI) and formerly president of Polysius USA, is an acknowledged expert in cement manufacturing. Mr. Cohrs submitted comments on the draft permit that clarify raw material handling.

As noted in Mr. Cohrs' comments, physical losses of feed are recaptured in the pollution control devices, including the ESP and the nuisance dust collector. This recycled dust is combined with "virgin" raw materials before being fed into the preheater tower. Depending on plant configuration and operation, the recycled dust can be input into the raw mill/feed storage silos or it can be combined with the material withdrawn from the raw mill/feed storage silos prior to being fed into the preheater tower. The weigh scales are downstream of the recycled dust addition; in other words, Florida Rock measures the material that is input into the preheater, which can be greater than the output from the feed storage silo. To reflect the recycled feed, Mr. Cohrs suggested that the kiln feed limit be raised to 183.4 tons of preheater dry feed per hour to produce the permitted 110.2 tons of clinker per hour (approximately 1.66 tons of kiln feed per ton of clinker produced).

### Response:

The Department recognizes that the "preheater dry feed rate" should be specified for the Florida Rock facility to represent the mass of material (on a dry basis) entering the preheater/kiln, as opposed to the mass of material exiting the raw mill/kiln feed storage silo. Because the recirculation patterns for the recycled dust vary, it is difficult to set a meaningful limit otherwise. Sometimes the recycled dust is added to virgin material prior to the raw mill/kiln feed storage silo; sometimes it is added to the material withdrawn from the feed storage silo.

The Department accepts the applicant's argument that, on average, 183.4 tons of preheater dry feed (i.e., the mass of material – on a dry basis – that is actually fed into the preheater tower

## FINAL DETERMINATION

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and the kiln) are required to produce 110.2 tons of clinker. The final permit will be revised to incorporate into all feed rate limits this ratio of “preheater dry feed” to clinker.

### REVISED PERMIT:

**Specific Condition 1.** The kiln clinker production rate shall not exceed 110.2 tons per hour (TPH) on a 24-hr rolling average, 115.0 TPH (peak hourly rate), and 2650 tons per day (TPD). On an annual basis, the clinker production rate shall not exceed 800,000 tons per year (TPY). The clinker production rate will be determined as a function of the preheater dry feed rate. The preheater dry feed rate is the mass of material (on a dry basis) entering the preheater/kiln. The preheater dry feed rate is limited to ~~173~~ 183.4 TPH on a 24-hr rolling average, ~~180~~ 191.4 TPH (peak hourly rate), and ~~1,360,000~~ 1,331,000 TPY. Continuous operation is allowed (8,760 hours per year) as long as the 800,000 TPY clinker limit is not exceeded.

### Comments regarding the continuous emissions monitoring systems (CEMS) specifications:

The applicant’s consultant noted two minor typographical errors and suggested one other change to the specifications for the CEMS (specific condition 3 of the draft permit). In specific condition 3(a), the reference to Performance Specification 4A should refer to Performance Specification 2; Performance Specification 4A is the specification for carbon monoxide (CO) monitors while Performance Specification 2 is the correct specification for nitrogen oxide (NO<sub>x</sub>) and sulfur dioxide (SO<sub>2</sub>) monitors. Also, in specific condition 3(e), the reference to “specific condition 6.c(4)” should instead refer to “specific condition 3(d).”

Specific condition 3(d) specifies the minim valid CEMS hourly averages (i.e., “uptime”) both on a daily basis (75 percent of the operating hours per day) and a quarterly basis (90 percent of the operating days per calendar quarter). The applicant’s consultant noted that it would be less confusing to make these operating requirements consistent with similar operating requirements of Federal air rules (New Source Performance Standards, NSPS, and National Emission Standards for Hazardous Air Pollutants, NESHAP). In other words, the commenter requested an elimination of the daily operating requirement along with making the quarterly “uptime” requirements consistent with the Federal programs.

### Response:

The Department is revising the specifications for specific condition 3 to address the two minor typographical errors.

Regarding the CEMS operating requirements, the Department believes that a quarterly minimum valid “uptime” requirement is sufficient to assure adequate operation of the CEMS. The Department will revise the permit to remove the daily uptime requirement and tighten the quarterly uptime requirement to 95 percent. Although the NO<sub>x</sub> and SO<sub>2</sub> CEMS are not required pursuant to rule, this revision is nevertheless consistent with the approach followed for CEMS subject to the NSPS General Provisions [see 40 CFR 60.7(d)(2)]. This revision is also more stringent than the requirements for CEMS pursuant to the NESHAP for Portland Cement Plants [see 40 CFR 63.1354(b)(10)].

## FINAL DETERMINATION

### REVISED PERMIT:

**Specific Condition 3(d).** At a minimum, valid continuous emission monitoring system hourly averages shall be obtained for ~~75 percent of the operating hours per day, and for 90~~ 95 percent of the operating ~~days~~ hours per calendar quarter that the plant is producing clinker. If less than ~~90~~ 95 percent of the hourly averages for the operating ~~days~~ hours for any given calendar quarter is available, within 45 days following the end of the quarter, the permittee will provide a report with corrective actions.

### III. FINAL EMISSION LIMITS

The emission limits proposed in the Technical Evaluation and Preliminary Determination are hereby finalized. Table 1 lists the new limits finalized by the Department for comparison with the emission limits previously applicable to the plant.

**Table 1. Previously Permitted and New Final Emission Limits – FRI Newberry**

Pollutant	Previously Permitted Limits		New Final Limits		
	lb/ton clinker	TPY <sup>1</sup>	lb/ton clinker	TPY <sup>1</sup>	Basis <sup>2</sup>
PM (kiln)	0.31	110	0.23	94	Non-BACT
PM <sub>10</sub> (kiln)	0.26	94	0.20	80	Non-BACT
PM (cooler)	0.16	56	0.14	56	Non-BACT
PM <sub>10</sub> (cooler)	0.13	47	0.12	47	Non-BACT
SO <sub>2</sub> (kiln) <sup>3</sup>	0.28	109	0.16	64	BACT
NO <sub>x</sub> (kiln) <sup>4</sup>	2.80	1018	2.45	980	BACT
H <sub>2</sub> SO <sub>4</sub> (kiln)	0.0025	1	0.0025	1	BACT
CO (kiln)	3.60	1289	2.5	1000	Non-BACT
VOC (kiln)	0.12	43	0.11	43	Non-BACT
Beryllium (kiln)	Emission limit to be determined; emissions ~ 5x10 <sup>-7</sup> lb/ton clinker.		No emissions limit will be set.		

Notes:

- <sup>1</sup> The kiln emission rate includes fuel oil combustion emissions from the raw mill air heater.
- <sup>2</sup> “Non-BACT” implies emission limits previously set as BACT were revised downward to avoid triggering a significant net emissions increase – and therefore a Prevention of Significant Deterioration (PSD) review – upon the production increase. “BACT” values are those limits for which the original permit’s BACT determination required the Department to re-address the emission limit after verification of actual operation through stack tests and CEMS data. “BACT” values are therefore representative of a kiln permitted in 1996 and are reflective of the as-built configuration of Florida Rock. The above listed “BACT” values would not necessarily be applicable to a new kiln undergoing a BACT review today or in the future.
- <sup>3</sup> Represents revised SO<sub>2</sub> limit (24-hour rolling average) based on compliance tests and continuous monitoring data.
- <sup>4</sup> Represents revised NO<sub>x</sub> limit (30-day rolling average) based on continuous monitoring data covering the period January 1 – March 31, 2002.

**FINAL DETERMINATION**

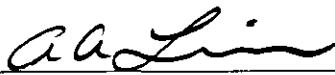
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**IV. CONCLUSION**

The Department concludes that the final limitations for SO<sub>2</sub> and NO<sub>x</sub> are 0.16 and 2.45 lb/ton clinker respectively. The revised values are well within the ranges of the most recent BACT determinations made in the United States. The Department concludes as well that it is not necessary to set a limit for beryllium and will modify the requirement as requested by FRI.


The Department has reasonable assurance that the proposed emission rates can be maintained at the increased operation levels requested by FRI. Conditions are included in the final permit to incorporate the requested production increases, the revised emission limitations, and the corresponding CEMS specifications for demonstrating compliance.


**V. DETAILS OF THE ANALYSIS MAY BE OBTAINED BY CONTACTING:**

Greg DeAngelo, Permit Engineer  
A. A. Linero, P.E. Administrator   
New Source Review Section  
Department of Environmental Protection  
Bureau of Air Regulation  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Recommended By:

Approved By:

  
Trina Vielhauer, Chief  
Bureau of Air Regulation

  
Howard L. Rhodes, Director  
Division of Air Resources Management

12/10/02  
Date

12/10/02  
Date



# Department of Environmental Protection

Jeb Bush  
Governor

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

David B. Struhs  
Secretary

## PERMITTEE

Florida Rock Industries  
155 East 21<sup>st</sup> Street  
Jacksonville, Florida 32206

Permit No. 0010087-006-AC (PSD-FL-228C)

Expires: June 30, 2003

Production Increase and Emission Limit Revisions

## PROJECT AND LOCATION

This permit authorizes a production increase and revises emission limits for the existing kiln and associated equipment at the Thompson S. Baker Cement Plant in Alachua County. The facility is off of County Road 235 approximately 2.5 northeast of Newberry, Florida. The map coordinates are: UTM Zone 17, 346.8 km East and 3287.0 km North.

## STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to conduct the work specified in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department. This permit supplements all other air construction and operation permits for the subject emissions unit and does not alter any requirements from such previously issued air permits.

## APPENDICES

The following appendices are attached as part of this permit.

Appendix GC - Construction Permit General Conditions

Howard L. Rhodes, Director  
Division of Air Resources Management

"More Protection, Less Process"

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## SECTION I. FACILITY INFORMATION

### FACILITY DESCRIPTION

Florida Rock Industries, Inc. owns and operates the Thompson S. Baker Cement Plant in Newberry, Alachua County. The facility consists of raw material handling and storage, a raw mill system, kiln system, clinker handling, finish grinding operations, cement handling, loading, and bagging operations, and coal handling and grinding operations.

The key component is the kiln that is presently permitted to make 2300 tons per day of clinker, 712,500 tons per year, and which has an hourly clinker production limit of 95.83 tons per hour.

The facility first produced clinker in December 1999. It operated under the provisions of original Air Construction Permit AC01-267311 (renumbered 0010087-001-AC) issued in December 1996 (as amended in August 2001) until issuance of the facility Title V Operation Permit in January 2002.

### PROJECT

The project is to increase the allowable production rate of clinker to 2650 tons per day, 800,000 tons per year, and a peak hourly clinker production limit of 115 tons per hour. Following is the description of the key emission unit affected by the modification:

ID No.	Emission Unit Description
003	Kiln system. The kiln system (or pyroprocessing system) includes the 156.5 foot kiln, a four-stage preheater tower, a 25,300 cubic foot multi-stage combustion (MSC) calciner, a tire feed system, two coal burners and ancillary equipment. Particulate emissions are controlled by an electrostatic precipitator.

### REGULATORY CLASSIFICATION

Regulatory classification and applicable requirements are listed in the applicable Title V Operation Permit and the previously-issued construction permit.

Title III: Based on the initial Title V permit application received October 1, 1999 and the permit issued January 2002.

Title V: Based on the initial Title V permit application received October 1, 1999, this facility is a major source of sulfur dioxide (SO<sub>2</sub>), carbon monoxide (CO), particulate matter (PM/PM<sub>10</sub>), and nitrogen oxides (NO<sub>x</sub>).

PSD: The project is located in an area designated as "attainment" or "unclassifiable" for each pollutant subject to a National Ambient Air Quality Standard. The facility is considered a "portland cement plant", which is one of the 28 Prevention of Significant Deterioration (PSD) source categories with the lower PSD applicability threshold of 100 tons per year. Potential emissions of at least one regulated pollutant exceed 100 tons per year. Therefore, the facility is classified as a PSD-major source of air pollution with respect to Rule 62-212.400 F.A.C., PSD.

NSPS: This facility is subject to 40 CFR 60, Subpart OOO (New Source Performance Standards For Nonmetallic Mineral Processing Plants) adopted and incorporated by reference in Rule 62-204.800, F.A.C.

This facility is subject to 40 CFR 60, Subparts A, F and Y (Standards of Performance for New Stationary Sources – General Provisions, Standards of Performance for Portland Cement Plants and Standards of Performance for Coal Preparation Plants) adopted and incorporated by reference in Rule 62-204.800, F.A.C. Certain requirements from Subpart F are replaced by requirements from 40 CFR 63, Subpart LLL.

## SECTION I. FACILITY INFORMATION

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NESHAP: This facility is subject to the "Existing Major Source" provisions of 40 CFR 63 Subparts A and LLL (National Emission Standards for Hazardous Air Pollutants – General Provisions; and National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry).

### RELEVANT DOCUMENTS

- Comments submitted by Florida Rock on November 22, 2002.
- Technical Evaluation and Preliminary Determination issued on November 19, 2002.
- Additional Information submitted by Florida Rock on September 5, 2002.
- Application received June 14, 2002.
- Current Title V Operation Permit 0010087-002-AV issued January 11, 2002.
- Construction permit modification (PSD-FL-228B and 0010087-004-AC) issued on August 20, 2001, to extend the permit expiration date to December 31, 2001, install VOC monitor, and install multi-stage combustion (MSC) calciner.  
{Permitting Note: This permit modification was originally issued as 0010087-003-AC, PSD-FL-228A.}
- Construction permit modification (PSD-FL-228A and 0010087-003-AC) issued on July 13, 2000, to add EPA Test Method 25A to measure volatile organic compounds (VOC) emissions.  
{Permitting note: This permit modification was originally issued as 0010087-003-AC, PSD-FL-228.}
- Original Air Construction Permit AC01-267311 (renumbered 0010087-001-AC) issued in December 1996 (as amended in August 2001). Also known as PSD-FL-228.

## SECTION II. ADMINISTRATIVE REQUIREMENTS

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### GENERAL AND ADMINISTRATIVE REQUIREMENTS

1. **Permitting Authority:** All documents related to applications for permits to construct, modify or operate this emissions unit shall be submitted to the Bureau of Air Regulation (BAR), Florida Department of Environmental Protection ("Department"), at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 and phone number 850/488-0114. Copies of these documents shall be submitted to the Compliance Authority.
2. **Compliance Authority:** All documents related to compliance activities such as reports, tests, and notifications should be submitted to the Northeast District Office at 7825 Baymeadows Way, Suite 200B, Jacksonville, Florida 32256-7590. The phone number is 904/807-3300 and the fax number is 904/448-4363.
3. **General Conditions:** The owner and operator are subject to, and shall operate under, the attached General Conditions listed in *Appendix GC* of this permit. General Conditions are binding and enforceable pursuant to Chapter 403, F.S. [Rule 62-4.160, F.A.C.]
4. **Applicable Regulations, Forms and Application Procedures:** Unless otherwise indicated in this permit, the construction and operation of this project shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296, and 62-297, F.A.C. The permittee shall use the applicable forms listed in Rule 62-210.900, F.A.C. and follow the application procedures in Chapter 62-4, F.A.C. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting or regulations. [Rules 62-204.800, 62-210.300 and 62-210.900, F.A.C.]
5. **Permit Expiration:** For good cause, the permittee may request that this air construction permit be extended. Such a request shall be submitted to the Department's Bureau of Air Regulation at least sixty (60) days prior to the expiration of this permit. [Rules 62-4.070(4), 62-4.080, and 62-210.300(1), F.A.C.]
6. **New or Additional Conditions:** For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]
7. **Modifications:** No emissions unit or facility subject to this permit shall be constructed or modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]
8. **Title V Permit:** This permit authorizes construction of the proposed project and initial operation to determine compliance with Department rules. Upon completion of construction of this project, a Title V operation permit revision is required for regular operation of the new equipment. The permittee shall apply for a revised Title V operation permit prior to expiration of this permit. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. [Rules 62-4.030, 62-4.050, 62-4.220, and Chapter 62-213, F.A.C.]

## SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS

### EU 003. KILN SYSTEM

The proposed project affects the following existing unit:

ID No.	Emission Unit Description
003	Kiln system. The kiln system (or pyroprocessing system) includes the 156.5 foot kiln, a four-stage preheater tower, a 25,300 cubic foot multi-stage combustion (MSC) calciner, a tire feed system, two coal burners and ancillary equipment. Particulate emissions are controlled by an electrostatic precipitator.

#### ADMINISTRATIVE REQUIREMENTS

Previous Permit Conditions: Previous permit conditions (as previously amended) apply. This permit authorizes a production increase from the kiln and associated equipment. The following conditions are in addition to or replace those of the previous air construction permit.

#### CONSTRUCTION ACTIVITIES

Production Increase: No physical construction activities will be conducted in association with the production increase. The increase reflects the as-built capabilities of the kiln and of the pollution control systems.  
[Application]

#### NOTIFICATIONS AND REPORTS

Notifications: Within one week of increasing production rates to levels greater than previously permitted, the permittee shall notify the Compliance Authority that the project has commenced and provide a general schedule of activities associated with operation and testing (including test protocols) at the revised production rates.

#### SPECIFIC CONDITIONS

1. The kiln clinker production rate shall not exceed 110.2 tons per hour (TPH) on a 24-hr rolling average, 115.0 TPH (peak hourly rate), and 2650 tons per day (TPD). On an annual basis, the clinker production rate shall not exceed 800,000 tons per year (TPY). The clinker production rate will be determined as a function of the preheater dry feed rate. The preheater dry feed rate is the mass of material (on a dry basis) entering the preheater/kiln. The preheater dry feed rate is limited to 183.4 TPH on a 24-hr rolling average, 191.4 TPH (peak hourly rate), and 1,331,000 TPY. Continuous operation is allowed (8,760 hours per year) as long as the 800,000 TPY clinker limit is not exceeded.

{Permitting note: Replaces Specific Condition 3 of the original Air Construction Permit AC01-267311 (renumbered 0010087-001-AC as amended) that read as follows: "The kiln clinker production rate shall not exceed 95.8 tons per hour (TPH) and 2300 tons per day (TPD). On an annual basis, the clinker production rate shall not exceed 712,500 tons per year (TPY). The clinker production rate will be determined as a function of the preheater dry feed rate. The preheater dry feed rate is limited to 149.9 TPH and 1,114,350 TPY. Continuous operation is allowed (8,760 hours per year) as long as the 712,500 TPY clinker limit is not exceeded. [Rule 62-210.200(225), F.A.C.]"} }

2. Emissions from the facility shall comply with the pollutant limits specified in attached Tables I and II.

{Permitting note: Replaces Specific Condition 5 and Tables I and II of the original Air Construction Permit AC01-267311 (renumbered 0010087-001-AC as amended in August 2001) that read as follows: "Emissions from the facility shall comply with the pollutant limits specified in attached Tables I and II. Following completion of the performance tests required herein, the interim SO<sub>2</sub> emission limit may be revised downward based on the test results (and continuous emission monitoring data) such that overall

## SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS

### EU 003. KILN SYSTEM

control attained for all air pollutants including, SO<sub>2</sub>, NO<sub>x</sub>, VOC, and CO, is optimized. The Department shall issue the final SO<sub>2</sub> emission limits within 120 days following receipt of all test results required by this permit. Any changes will be publicly noticed. FRI will install any additional control equipment during the two year optimization period to insure compliance with the NO<sub>x</sub> limit of 2.8 lb/ton clinker by the end of the period.”}

3. Permittee shall operate the NO<sub>x</sub> and SO<sub>2</sub> continuous monitoring equipment in accordance with the following:
  - (a) During each relative accuracy test run of the continuous emission monitoring system required by Performance Specification 2 in Appendix B of 40 CFR 60, adopted by reference at 62-204.800(7)(e), F.A.C., data shall be collected concurrently by both the continuous emission monitors and the reference test methods.
  - (b) The span value of the continuous emission monitoring system shall be no less than 150 percent and no greater than 250 percent of the maximum permitted emissions of the inline kiln/raw mill.
  - (c) The 24-hour daily arithmetic averages shall be calculated from 1-hour arithmetic averages expressed in parts per million by volume (dry basis). The 1-hour arithmetic averages shall be calculated using the one-minute data points generated by the continuous emission monitoring system. At least two data points separated by a period of 15 minutes or more shall be used to calculate each 1-hour arithmetic average.
  - (d) At a minimum, valid continuous emission monitoring system hourly averages shall be obtained for 95 percent of the operating hours per calendar quarter that the plant is producing clinker. If less than 95 percent of the hourly averages for the operating hours for any given calendar quarter is available, within 45 days following the end of the quarter, the permittee will provide a report with corrective actions.
  - (e) All valid continuous emission monitoring system data must be used in calculating the emissions averages. When continuous emission data are not obtained because of continuous emission monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, for periods of time in excess of those described in specific condition 3(d), emissions data shall be obtained using other monitoring systems as approved by the Department (e.g., the reference methods in 40 CFR 60 Appendix A, Method 19, such as equation 19-19 where  $E_{ij}$  is in terms of lbs/ton clinker) to provide, as necessary, reasonable assurance.
  - (f) In the event the plant is not in operation and there is no data, the system records zeroes. In the event the plant is firing fuel but producing no clinker, the system records pollutant mass emissions rates (i.e., lbs/hour), but the system records zeroes for the production-normalized emission rates (i.e., lbs/ton clinker). These zeroes are not included in the calculations of rolling averages, and are removed from the tabulation.
  - (g) 30-day NO<sub>x</sub> rolling average is calculated through the integrated and automated data acquisition and handling system of the continuous emission monitoring system, according to the procedures in 40 CFR 60 Appendix A, Method 19.

{Permitting note: This specific condition is in addition to the requirements of Tables I and II of this permit as well as Specific Condition 6 of the original Air Construction Permit AC01-267311 (renumbered 0010087-001-AC as amended in August 2001), as incorporated into the final Title V Air Operation Permit No. 0010087-002-AC.}

### SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS

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#### EU 003. KILN SYSTEM

4. Testing to demonstrate compliance with each emission standard specified in Tables I and II shall be conducted within 90 days of issuance of this permit. Results shall be submitted to the compliance authority within 135 days of issuance of this permit.

## APPENDIX GC

### CONSTRUCTION PERMIT GENERAL CONDITIONS [RULE 62-4.160, F.A.C.]

- G.1 The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
- G.2 This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings or exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
- G.3 As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey and vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.
- G.4 This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
- G.5 This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
- G.6 The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
- G.7 The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:
- (a) Have access to and copy and records that must be kept under the conditions of the permit;
  - (b) Inspect the facility, equipment, practices, or operations regulated or required under this permit, and,
  - (c) Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

- G.8 If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
- (a) A description of and cause of non-compliance; and
  - (b) The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

APPENDIX GC

CONSTRUCTION PERMIT GENERAL CONDITIONS [RULE 62-4.160, F.A.C.]

The permittee shall be responsible for any and all damages, which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

- G.9 In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.
- G.10 The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.
- G.11 This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.
- G.12 This permit or a copy thereof shall be kept at the work site of the permitted activity.
- G.13 This permit also constitutes:
- (a) Determination of Best Available Control Technology (not applicable to project);
  - (b) Determination of Prevention of Significant Deterioration (not applicable to project); and
  - (c) Compliance with New Source Performance Standards (not applicable to project).
- G.14 The permittee shall comply with the following:
- (a) Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
  - (b) The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application or this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
  - (c) Records of monitoring information shall include:
    - 1. The date, exact place, and time of sampling or measurements;
    - 2. The person responsible for performing the sampling or measurements;
    - 3. The dates analyses were performed;
    - 4. The person responsible for performing the analyses;
    - 5. The analytical techniques or methods used; and
    - 6. The results of such analyses.
- G.15 When requested by the Department, the permittee shall within a reasonable time furnish any information required by law, which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.



**TABLE I**  
**ALLOWABLE OPACITY LIMITATIONS**

Stack #	Description	Grain Loading	OPACITY
Emission Unit 1: Raw Material Process Rate = 1,331,000 TPY Dry Feed			
Fugitive	Material Processing		10
Fugitive	Handling and Storage		10
Fugitive	Crusher		15
Emission Unit 2: Raw Mill System Process Rate = 255 TPH Recycle Dust plus Raw Meal (peak)			
E-28	Recycle dust + raw meal to homogenization silo	0.01 gr/dscf	5
G-07	Recycle dust + raw meal to homogenization silo	0.01 gr/dscf	5
H-08	Raw meal + recycle dust to preheater	0.01 gr/dscf	5
Emission Unit 3: Kiln System Process Rate = 364 MMBTU/hr heat input			
E-21	Kiln Operations (ESP)		10
E-21	In-process fuel: coal		10
E-21	In-process fuel: tires		10
	Tires (30 % of total heat input)		
Emission Unit 4: Clinker Handling 115 TPH Clinker (peak)			
L-03	Clinker cooler discharge and breaker	0.01 gr/dscf	5
L-06	Clinker into clinker silos	0.01 gr/dscf	5
K-15	Clinker Cooler (ESP)		10
Emission Unit 5: Finish Grinding Operations Process Rate = 136 TPH Clinker			
M-08	Clinker to finish mill	0.01 gr/dscf	5
N-09	Finish mill air separator	0.01 gr/dscf	5
N-12	Finish mill	0.01 gr/dscf	5
N-19	Cement handling in finish mill	0.01 gr/dscf	5
Q-25	Cement storage silos	0.01 gr/dscf	5
Q-26	Cement storage silos	0.01 gr/dscf	5
Emission Unit 6: Cement Handling Process Rate = 500 TPH Cement Unloading			
Q-14	Cement silo loadout	0.01 gr/dscf	5
Q-17	Cement silo loadout	0.01 gr/dscf	5
Q-21	Cement silo loadout	0.01 gr/dscf	5
R-12	Cement bagging operation	0.01 gr/dscf	5
Emission Unit 7: Coal Handling and Grinding Process Rate = 14 TPH Pulverized Coal			
S-17	Coal Mill	0.01 gr/dscf	5
S-21	Pulverized coal storage bin	0.01 gr/dscf	5
Fugitive	Coal Handling and Storage		5/20

**TABLE II**  
**ALLOWABLE EMISSIONS**

Pollutant	BACT Emission Limit		Emission Rate*		Basis**
	lb/ton clinker	lb/ton dry feed	lb/hr	ton/yr	
PM (kiln)	0.23	0.14	25.9	94	BACT
PM <sub>10</sub> (kiln)	0.20	0.12	22.1	80	BACT
PM (cooler)	0.14	0.08	15.4	56	BACT
PM <sub>10</sub> (cooler)	0.12	0.07	13.0	47	BACT
SO <sub>2</sub> (kiln) +	0.16	0.10	17.7	64	BACT
NO <sub>x</sub> (kiln)**	2.45	1.50	271	980	BACT
H <sub>2</sub> SO <sub>4</sub> (kiln)	0.0025	0.0016	0.25	1	BACT
CO (kiln)	2.50	1.55	276	1000	BACT
VOC (kiln)	0.11	0.075	11.8	43	BACT

Notes:

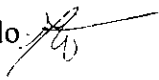
- \* The kiln emission rate includes fuel oil combustion emissions from the raw mill air heater.
- \*\* Represents revised NO<sub>x</sub> limit (30-day rolling average) based on continuous monitoring data.
- + Represents revised SO<sub>2</sub> limit (24-hour rolling average) based on compliance tests and continuous monitoring data.
- ++ BACT values are representative of kiln permitted in 1996 and reflective of as-built configuration and not as a new kiln.

# Florida Department of Environmental Protection

## Memorandum

TO: Howard Rhodes

THRU: Trina Vielhauer ✓  
Al Linero

FROM: Greg DeAngelo 

DATE: December 6, 2002

SUBJECT: Florida Rock Thompson S. Baker Cement Plant – Newberry, Alachua County  
Production Increase and Emission Limit Finalization  
DEP File No. 0010087-006-AC (PSD-FL-228C)

The Final Permit for this project is attached for your approval and signature. This permit authorizes:

- Increasing the daily clinker production limit from 2,300 tons per day (TPD) to 2,650 TPD and the annual clinker production limit from 712,500 tons per year (TPY) to 800,000 TPY.
- Increasing the dry preheater feed rate limits to correspond with the new clinker production rate limits. Defining more clearly what is meant by “dry preheater feed rate” and how it should be measured.
- Setting (lowering) the final NO<sub>x</sub> limitation at 2.45 lb/ton of clinker.
- Setting (lowering) the final SO<sub>2</sub> limitation at 0.16 lb/ton clinker.
- Revising other emission limitations downward (on a lb/ton basis) to avoid significant increases in allowable annual emissions.
- Following completion of the quarterly testing program required by Florida Rock’s current permit, removing the beryllium limit (in accordance with guidance from EPA that removed beryllium as a pollutant regulated under the PSD program).
- Adopting continuous emissions monitoring system operation and reporting protocols to complement the new, lower emission limits for NO<sub>x</sub> and SO<sub>2</sub>.

The production increase and the final emission limits represent the as-built capacity and capabilities of the plant and its pollution control equipment.

We set final limits for various pollutants as required by the original permit issued for the project. PSD/BACT review was avoided based on the presumption that the existing allowable emission limits represent present actual emissions. The rule-based rationale is detailed in the technical evaluation and preliminary determination dated November 19, 2002.

Stack particulate emissions are controlled by electrostatic precipitators that have performed very well. The main pollutants of concern are nitrogen oxides (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), and volatile organic compounds (VOC). The final NO<sub>x</sub> limitation of 2.45 lb/ton of clinker is lower than any 30-day limitation in the country including new kilns authorized since the construction of the FRI plant. A few may have a slightly lower limit based on a less stringent 12-month averaging time. Suwannee-American and Rinker/FCS have greater limits (2.8 to 2.9 lb/ton of clinker), but a more stringent averaging time (24-hours).

The SO<sub>2</sub> and VOC standards are very stringent and reflect the excellent raw materials. The SO<sub>2</sub> limit is the lowest in the country. Most new projects require large scrubbers to control SO<sub>2</sub> caused by naturally occurring pyrites in the limestone (not the fuel) and still emit thousands of tons of the pollutant compared with less than 100 tons from FRI.

Similarly VOC emissions are only about 40 tons per year and are achieved by very careful selection of mill scale sources. In some parts of the country (such as Michigan) where there is naturally occurring kerogene in the raw materials, it is necessary to install very expensive regenerative thermal oxidizers to avoid potential emissions of thousands of tons per year and odor problems.

The permit firmly establishes that the source is subject to the major source NESHAP for the cement industry. We recommend your approval of the attached permit.

Attachments

TTV/AAL/gpd